SDSN Amazonia

FAS Foundation for Amazon Sustainability

Report about the

SDSN AMAZONIA AWARD 2021

SDSN amazonia AWARD

Solutions for a new amazon bioeconomy

Financial Supporters:

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IAMA

Innovative projects, technologies, scientific research, business models, institutional mechanisms, educational models, and political instruments.

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SDSN AMAZONIA AWARD 2021

Solutions for a new Amazon bioeconomy

2022

FOUNDATION FOR AMAZON SUSTAINABILITY (FAS)

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International Cataloging in Data Publication (CIP)
(Brazilian Book Chamber, SP, Brazil)

Report about the SDSN Amazonia Award 2021
[electronic book] / Foundation for Amazon
Sustainability. --
1. ed. -- Manaus, AM: Foundation for Amazon
Sustainability, 2022.
PDF.

Access Mode: World Wide Web
ISBN 978-65-89242-63-5

1. Amazon 2. Bioeconomy 3. Economy -
Environmental aspects 4. Environment - Amazon
5. Technical reports - Manuals I. Foundation
for Amazon Sustainability.

22-103278 CDD-338.981

Indexes for the systematic catalog:

1. Bioeconomy: Brazil: Economic development:
Economy 338,981

Aline Graziele Benitez - Librarian - CRB-1/3129

Foto: Freepik

1. PRESENTATION

The SDSN Amazonia Award 2021 has as its theme “Solutions for a New Amazon Bioeconomy” and aims to honor the solutions – innovative projects, technologies, scientific research, business models, institutional mechanisms, educational models, political instruments or a combination of them – that are being implemented by the members of the Network so as to boost the Amazon Bioeconomy and thus, proposing an economic alternative to the main pressures and unsustainable economic activities in the region such as: deforestation, illegal mining, land grabbing, large-scale farming, among others.

The 2021 edition of the award was held in partnership with the Amazon Green Economy and Bioeconomy Hub, the Foundation for Amazon Sustainability (FAS) as well as having the Green Economy Coalition (GEC) and the Amazon Friends Institute (iAMA) as financial supporters.

The great winner of this edition was the project “Sustainability of the Fish Production Chain with the Use of Residues for the Production of Functional Supplements”, conceived and executed by the Environment and Health Society Coordination of the National Institute for Research in the Amazon (INPA).

Recognizing the need to increase the commercialization and consumption of fish and its derivatives, the research project aims to implement alternatives in order to identify new products and market opportunities for value-added fish products, as well as enhancing current consumption with a source of protein coming from fish residues, one that is currently unexplored.

2. GOALS

In its fourth edition, held in 2021, the SDSN Amazonia Award continued its proposal to recognize and give visibility to the solutions developed by the 208 member organizations of the Solutions Network for the Sustainable Development of the Amazon (SDSN Amazonia).

The award aims to encourage and disseminate successful practices when it comes to facing the most challenging problems for the sustainable development of the Amazon Region, as well as highlighting the most effective and viable solutions found and put into practice by SDSN member organizations.

With the theme "**Solutions for a New Amazon Bioeconomy**", the SDSN Amazonia 2021 Award also aimed to boost and encourage the Amazon Bioeconomy, identifying and giving visibility to ongoing initiatives that have been developed by SDSN Amazonia members.

Also included among the primary objectives of the award is the dissemination of initiatives on the Platform for Sustainable Solutions for the Amazon and on SDSN Amazonia and Amazon Green Economy and Bioeconomy Hub's social networks.

Still on the horizon of objectives of the SDSN Amazonia Award 2021, there is the goal of transforming the deforestation economy into a new, green, regenerative, innovative, fair, and inclusive economy. A new economy based on the valorization of environmental assets, services, and products, as well as on the traditional knowledge of forest peoples.

3. ABOUT SDSN AMAZONIA

208 Members

179 SDSN Amazonia

29 SDSN Young Amazon

Created in 2014 and currently with 208 member organizations, the Solutions Network for the Sustainable Development of the Amazon (SDSN Amazonia) aims to mobilize Amazonian organizations in order to promote practical and viable solutions for the sustainable development of the Amazon region.

3.1. Partnership with the Amazon Green Economy Hub

HUB DE BIOECONOMIA AMAZÔNICA

The SDSN Amazonia Award 2021 had a partnership with the Amazon Green Economy Hub.

The Hub is an initiative linked to the Green Economy Coalition and managed by the Foundation for Amazon Sustainability (FAS) with 54 organizations involved (civil society, companies, workers, governments, UN international agencies and academics). Since September 2020, it has been developing solutions to accelerate the transition to a green, fair and inclusive economy in the Amazon through a systemic approach that operates with four strategic axes: knowledge generation, intersectoral articulation, advocacy and financial mechanisms, thus contributing to leveraging the Amazon bioeconomy, favoring the construction of local capacities and connecting network initiatives that subsidize the incidence of subnational policies and the leading of new financial flows to the Amazon region.

Photo: Robert Coelho

3.2 Award History

In its three previous editions, the SDSN Amazonia Award granted seven awards to members of the network, selected among 40 solutions submitted to the award jury.

The first edition was held in 2015, and among the awarded projects, the big winner of this SDSN Amazonia Award edition which focused on “Solutions for Sustainable Development Goals” was “Rural Family Houses (CFRs)”, from the Association of Rural Family Houses in the State of Pará (Arcafar/Pará).

2015

2019

In the 2019 edition, the second one, whose theme was “Innovative Solutions for the Amazon”, the highlight was the project “Conservation-Flavored Gastronomy”, from the Peruvian institution “Amazonians for the Amazon”.

The third edition of the SDSN Amazonia Award, promoted in 2020, highlighted the project “Sustainable Solutions in order to face COVID-19 in the Amazon”, a collaborative initiative among Ecuador, Peru and Brazil, coordinated by the institution Hivos People Unlimited.

2020

4. REQUIREMENTS TO PARTICIPATE

1

Only initiatives that have been implemented in the Amazon region are eligible to compete for the SDSN Amazonia Award, which includes Brazil, Colombia, Ecuador, Guyana, French Guiana, Peru, Suriname, and Venezuela.

2

Likewise, only ideas that have already been implemented for at least one year will be accepted, superficial ideas or conceptualizations are not eligible for participation.

3

It is also essential to be a member organization of the SDSN Amazonia or the application to join the network should have been submitted before the closing of entries for the award.

4

The solution submitted should directly address a challenge related to at least one award category in the local/regional context.

5

Member organizations were encouraged to submit multiple proposals in different categories. However, they could not submit the same solution to different categories.

6

The project should be scalable, innovative, transformative and its impacts should be measurable.

7

Solutions implemented through partnerships can only be submitted by one organization.

8

Only initiatives that had a focus on Amazonian Bioeconomy were accepted to compete for the award.

9

The proponent has authorized the partial and complete publication of its initiative on the Solutions Platform.

10

The members of the Technical-Scientific Committee did not assess solutions presented by their own organizations or close partners.

11

The Technical-Scientific Committee could request additional information from applicants in order to assess projects.

5. CATEGORIES

The 2021 edition of the SDSN Amazonia Award comprised three categories:

- Production chains based on the management and cultivation of Amazonian biodiversity: such as good practices in the management of products such as meliponiculture, family farming, management of pirarucu, management of wood and non-wood products (nuts, copaiba extraction, etc.).

- Production of bioproducts: biocosmetics, biopharmaceuticals, nutraceuticals, biocolorants, among others.

- Nature-based solutions: ecosystem restoration and conservation, climate adaptation services, natural infrastructure, management of natural resources, among others.

Photo: Dirce Quintino

6. ASSESSMENT CRITERIA

The assessment committee composed of the Technical-Scientific Committee of SDSN Amazonia took the following criteria into account in order to assess the initiatives that were submitted for the award:

- Alignment with the Sustainable Development Goals (SDGs)
- Innovative character and sustainability
- Relevance
- Financial viability
- Scalability
- Current or potential impact

The assessment was conducted by the Technical-Scientific Committee of SDSN Amazonia, chaired by Dr. Adalberto Luis Val (INPA, Brazil). The Committee selected the five (5) best solutions.

Photo: Dirce Quintino

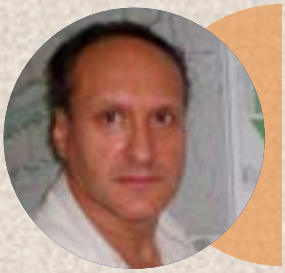
7. TECHNICAL-SCIENTIFIC COMMITTEE OF SDSN AMAZONIA

Responsible for the assessment of the initiatives that were submitted to the SDSN Amazonia Award 2021, the Technical-Scientific Committee of SDSN Amazonia is composed of nine members:

Adalberto Luis Val
National Institute for Research in the Amazon – INPA (Brazil)

Marina Campos
Conexsus (Brazil)

Denis Minev
Bemol and Fogás Group (Brazil)



Juan Fernando Reyes
Herencia (Bolivia)

Jacques Marcovitch
University of São Paulo (Brazil)

Karina Pinasco
Amazonians for the Amazon – AMPA (Peru)

Carlos Bueno
Foundation for Amazon Sustainability - FAS (Brazil)

Marco Ehrlich
Amazonian Institute for Scientific Research – SINCHI (Colombia)

Marianela Curi
Independent Consultant (Bolivia)

8. AWARDS

The SDSN Amazonia Award 2021 granted prizes in cash to the top three spots:

First place: US$ 3,000 (three thousand dollars)

Second place: US$ 2,000 (two thousand dollars)

Third place: US$ 1,000 (one thousand dollars)

In addition to the prize in cash, the solutions approved by the Technical-Scientific Committee were published on the SDSN Amazonia Sustainable Solutions Platform[1].

A virtual awards event to promote the five best initiatives was also held[2].

Sharing the publication, posting the winners on the website and social networks of the Amazon Green Economy and Bioeconomy Hub, as well as on SDSN Amazonia's ones are also part of the advantages that were offered to participants in the award.

Photo: Dirce Quintino

[1]The solutions approved can be checked at the following link: <http://maps.sdsn-amazonia.org/> Accessed on: Feb. 23, 2022.
[2]The event can be seen on the following link: <https://youtu.be/uTpYudohDiA> Accessed on: Feb. 23, 2022.

9. SCHEDULE

- The launch of the fourth edition of the SDSN Amazonia Award was held on August 2nd.
- Initiatives were submitted between August 2 and September 19.
- Between September 19 and October 18, the SDSN Amazonia Technical-Scientific Committee assessed the initiatives that were submitted.
- The announcement of the five finalists was made on October 22.
- On October 26, the online award event was held.

Photo: Dirce Quintino

10. INITIATIVES SUBMITTED

Photo: Dirce Quintino

10.1 Integrated Project for Sustainable Ethnodevelopment

Category: Production chains based on the management and cultivation of Amazonian biodiversity
Organization: Sateré-Mawé Producers Consortium.
Location: Brazil
Outreach Potential: Interstate
Representative: Sérgio Batista Garcia
Position held: President
Representative's email: cpsm@nusoken.com

Problem

The lack of agroforestry systems in indigenous lands in the Amazon ends up depriving entire communities of fundamental requirements for human dignity, such as decent work and economic growth, reduction of inequalities, eradication of hunger, access to health and well-being, among others. This reality was no different in the Indigenous Land Andirá-Marau, which covers five municipalities: Parintins, Maués and Barreirinha, in the state of Amazonas; Itaituba and Aveiro, in the state of Pará. The sustainable management of the forest, therefore, is necessary in that region.

Solution

The Sateré-Mawé Producers Consortium prepared and implemented the Integrated Project for Sustainable Ethnodevelopment to address the issue of sustainable management of the Amazon forest, aiming at the implementation of an Agroforestry Consortium System for the sustainable production and extraction of guaraná, rosewood (Aniba Rosaedora), tonka beans, andiroba, copaiba, pink-trumpet tree, cat's claw, among others.

The initiative was implemented in the Indigenous Land Andirá-Marau, which covers three municipalities in the state of Amazonas: Parintins, Maués and Barreirinha; and two municipalities in the state of Pará: Itaituba and Aveiro.

The Integrated Project for Sustainable Ethnodevelopment has as its primary objectives to ensure the legal recognition of the Andirá-Marau Indigenous Land, guarantee the sustainable use of the Natural Resources of the Amazon Forest and promote income generation, as well as improving the quality of life of the Sateré Mawé Indigenous People.

Impact

In the short term, the expectation is to implement 63 hectares of agroforestry systems, with guaraná as the main system. The long-term expectation is 1,000 hectares. The Internal Control System Courses – SCI, with all the Coordination and Collaborators of the CPSM, which have the aim of technical, territorial, social, economic, and political training of the Sateré-Mawé People in the Indigenous Land Andirá-Marau, also represent a gain for the local community.

Benefits are also brought with the Capacitation Workshops aimed at associates with the objective of implementing guaraná in the agroforestry consortium, aiming at the production of organic Waraná (guaraná) and other products of the consortium system. The production of Herbal Medicines with the Denomination of Origin certification also generates a positive impact for the communities.

The importance of agroforestry systems in the Indigenous Land brings knowledge and management for the sustainable use of products, generating income and consequently health and well-being for indigenous families by means of a Sustainable Agriculture.

Photo: Dirce Quintino

10.2 Sustainability of the Fish Production Chain with the Use of Residues for the Production of Functional Supplements

Category: Production of bioproducts
Organization: National Institute for Research in the Amazon - Environment and Health Society Coordination
Location: Brazil
Outreach Potential: State
Representative: Francisca das Chagas do Amaral Souza
Position held: Technologist/Researcher
Representative's email: francisca.souza@inpa.gov.br

Problem

Sustainability is a topic which is widely discussed by natural, social and technology scientists. This concept is the basis for and reflects on the durability of productive activities, the support capacity of the physical environment, the general population's awareness about environmental problems, the distribution of benefits generated by the exploration of natural resources, and the ethical issue responsibility of current generations in relation to the social and natural environment in which future generations will live.

In this sense, the fish production chain in the Amazon is lacking when it comes to discarding residues generated, since they may represent serious problems of storage, transformation, disposal, as well as ecological and economic problems.

Solution

The Environment and Health Society Coordination of the National Institute for Research in the Amazon (INPA) created the project "Sustainability of the Fish Production Chain with the use of Residues for the Production of Functional Supplements".

The initiative consists of obtaining by-products after the exploration of fish residues, which constitute a very rich and cheap source for the extraction of bioactive and functional products, that could even be used in dietary supplements, cosmetics and as sources of natural bioactive/functional compounds in the food industry.

Impact

Recognizing the need to increase the commercialization and consumption of fish and its derivatives, the research project aims to implement alternatives in order to identify new products and market opportunities for value-added fish products, adding a source of protein to the current consumption by means of the currently unexplored fishing residues.

The main objectives of the initiative are: apply new alternatives for the technological use of residues from Amazonian fish to be processed in the form of flour and gelatin; transfer knowledge and technologies developed to the productive and industrial sector, in order to contribute to the development of functional products from fish residues; and improve the quality of life of the Amazonian population.

Photo: Dirce Quintino

10.3 Urban Agriculture in Family Backyards in the cities of Tabatinga and Benjamin Constant in the state of Amazonas – from women to medicinal plants, fruit trees, ornamental plants and urban afforestation achieving Sustainable Development Goals – SDGs

Category: Production chains based on the management and cultivation of Amazonian biodiversity
Organization: State University of Amazonas (UEA)
Location: Brazil
Outreach Potential: State
Representative: Dr. Camilo Torres Sanchez
Position held: Professor
Representative's email: ctsanchez@uea.edu.br

Problem

The regional development of the Alto Solimões region involves the need for a structural change, going from a development matrix that is based on mineral extraction, livestock, and unsustainable short-cycle agriculture to one based on biodiversity as well as long-cycle and sustainable plant production, which uses species that have food, medicinal and cosmetic potential, organized in techno-productive biodiversity chains (BECKER, 2004).

Solution

The State University of Amazonas (UEA) also participated in the SDSN Amazonia Award 2021, by means of the project "Urban Agriculture in Family Backyards in the cities of Tabatinga and Benjamin Constant in the state of Amazonas – from women to medicinal plants, fruit trees, ornamental plants and urban afforestation achieving Sustainable Development Goals – SDGs.

The authors of the initiative take into account studies related to food security and agrobiodiversity that conceptualized the yard, depending on the context, as the land located around the house, determined, in most circumstances, as the part of the land close to home, of easy entry and convenience (BRITO; COELHO, 2000; SANCHEZ, C.T. 20172).

In the same way, the project comprehends that what distinguishes men from women in relation to the management and cultivation of medicinal, aromatic and spice plants is that men carry out the work in places that are away from the residences (farmsteads, capoeiras (secondary forests), pastures), while women seek to work in crops closer to the house (backyards, gardens, vegetable gardens and orchards), thus facilitating plant management.

Consequently, the initiative aims to provide the design, production, and distribution of a box with medicinal plants widely used by women in the cities of Tabatinga and Benjamin Constant, the "Healing Kit".

Impact

The project aims to promote the implementation of fruit trees in the yards of the houses, located in neighborhoods of the cities of Tabatinga and Benjamin Constant. The “Cantinho das Frutas” (Fruit Corner) is also among the objectives of the project, as well as promoting the implementation of urban açaí groves in the backyards of Tabatinga and Benjamin Constant, and their use in food, handicrafts, and afforestation, with the “Açaí Urbano” project.

The initiative also provides for actions to promote and implement urban afforestation in the streets of Tabatinga and Benjamin Constant by means of the “Rua Verde” (Green Street) project.

Photo: Dirce Quintino

10.4 From the Sewage System to the Streams; Multi-stakeholder environmental education and ecological recovery in an urbanizing basin in the Brazilian Amazon

Category: Nature-based solutions
Organization: Federal University of Western Pará
Location: Brazil
Outreach Potential: State
Representative: João Paulo Soares de Cortés
Position held: Professor
Representative's email: decortesjps@gmail.com

Problem

Located in the city of Santarém, in Pará, the Juá Stream is one of the main courses that runs to Lake Juá and also one of the main fishing spots in the city. Unfortunately, the watercourse suffers from an endemic problem in the Amazon Region: pollution by dumping of waste and sewage.

A large number of basin residents and municipal authorities considered that this stream was just sewage. The change in the perception of the stream as sewage and the response time for planning the occupation of the basin are imperative.

Solution

The initiative submitted by the Federal University of Western Pará (UFOPA), "From the Sewage System to the streams; Multi-stakeholder environmental education and ecological recovery in an urbanizing basin in the Brazilian Amazon", focuses on Environmental Education and the Recovery of the Juá Stream, located in the city of Santarém (PA).

The solution comprises four stages, two of which have been implemented and two are in the phase of being implemented and planned. The stages already implemented are related to the survey of environmental problems at the basin level and mapping of risk areas that are inhabited, pointing out to vulnerabilities and dangers they are exposed to within the area studied. The multi-stakeholder environmental education started with an arts workshop with the theme "Let's take care of the Juá Stream", with a focus on children who live near the stream.

The next steps of the environmental education program include working with the school curriculum and with elementary and high school teachers who serve the population of the basin, as well as holding meetings with authorities.

The basin's monitoring and environmental recovery plan will be drawn up from realistic estimates involving the different sectors present, including the fishermen who suffer the impacts and have their bioeconomic chain threatened, as well as the possibility for the university to provide effective responses in terms of monitoring and recovering resources in the basin.

Impact

The primary objectives of the project are to identify the basin's environmental risks and problems; implement a multi-stakeholder environmental education program that is able to reach residents, leaders, and authorities from the area with regard to the importance of conserving and recovering the stream.

In addition to implementing, through articulation among the individuals that live around the basin, a plan for the monitoring and for the environmental recovery of the Juá Stream.

Photo: Dirce Quintino

10.5 Musap Jungle Essences

Category: Production of bioproducts
Organization: Fundación Pachamama
Location: Ecuador
Outreach Potential: State
Representative: Javier Félix
Position held: Program Coordinator
Representative's email: jfelix@pachamama.org.ec

Problem

In the Tuutinentsa community, in the province of Morona Santiago, Ecuador, poverty affects 100% of the population, according to the last Population Census carried out in Ecuador in 2010. Despite having fertile lands that generate quality products with a high nutritional content, the local inhabitants do not have access to markets in order to sell their products. That makes them sell these products to intermediaries who do not pay them a fair price.

Solution

Conceived and executed by Fundación Pachamama, from Ecuador, the "Musap Jungle Essences" initiative, implemented together with the Tuutinentsa community, in the province of Morona Santiago, is a brand of handmade soaps that integrates traditional knowledge from that region, involving the community and providing income to its inhabitants.

The idea is to professionalize the brand, which contains traditional ingredients that are ancestrally known by the people who inhabit the region. In addition to improving the quality of life of the inhabitants of the community, the professionalization of the brand will provide the forests and rivers with protection, as well as the conquest of more national markets in the short run, and international markets in the long run.

Impact

The initiative aims to improve the living conditions of people in the Tuutinentsa community, by means of strengthening the bio-enterprises of that population. Strengthening community forest conservation by introducing forest management plans through reforestation is also among the goals of the initiative.

The action also aims to improve processes in the value chain, so that the Tuutinentsa community receives greater benefits in the production and marketing of their products.

Photo: Dirce Quintino

10.6 Promoting the *vanilla odorata* Value Chain in agricultural chagras of the Kichwa people from Rukullakta, Napo Province

Category: Production chains based on the management and cultivation of Amazonian biodiversity
Organization: CISS – Cooperazione Internazionale Sud-Sud
Location: Italy
Outreach Potential: State
Representative: Paulo Barrera
Position held: Field technician
Representative's email: pau_lobarrera@hotmail.com

Problem

The few economic gains obtained through the commercialization of products currently cultivated in the Amazonian agricultural chagra threaten the permanence of this ancestral Kichwa agricultural system. Due to its high market value, the cultivation of Vanilla odorata addresses this problem and presents itself as an agricultural potential capable of economically sustaining communities. Maintaining this production system is vital for the conservation of the Amazonian ecosystem, the food sovereignty of families and culture protection in that territory.

Solution

Although it is an initiative implemented by the Italian organization Cooperazione Internazionale Sud-Sud (CISS), the project entitled "Promoting the Vanilla odorata Value Chain in agricultural chagras of the Kichwa people from Rukullakta, Napo Province" is developed in Ecuador.

The action consists in stimulating the production and commercialization of the species Vanilla odorata, an ancestral agricultural system of the Quichua people in the Ecuadorian Amazon.

For the creators of the project, the maintenance of this production system is essential for the conservation of the Amazonian ecosystem and for the food sovereignty of the families in the region.

Impact

The main objectives of the initiative are to promote the cultivation of the species Vanilla odorata in the Quichua communities of the Ecuadorian Amazon, through technical assistance; provide training and financial support for the generation of quality and value-added products from local organic Vanilla odorata.

Photo: Dirce Quintino

10.7 Agronomy Fair

Category: Production chains based on the management and cultivation of Amazonian biodiversity
Organization: Maranhão State University (UEMA)
Location: Brazil
Outreach Potential: State
Representative: Ana Maria Aquino dos Anjos Ottati
Position held: Professor
Representative's email: Anjosottati@gmail.com

Problem

The lack of opportunities to commercialize the production of family farmers in the Cinturão Verde Community, in São Luís (MA), is the problem that led the Maranhão State University (UEMA) to idealize the "Agronomy Fair" initiative, yet another initiative submitted to the SDSN Amazonia Award 2021.

Solution

The Agronomy Fair was created in 2016 and happens every Tuesday within the Paulo VI Campus of the Maranhão State University. In the fair, only family producers from the Cinturão Verde Community participate. They take turns in 10 stalls.

The University is responsible for the entire organization and the producers are committed to not being absent from the fair as well as supplying the stalls.

Impact

Through the initiative, family producers from the Cinturão Verde Community, in São Luís (MA), are able to promote the sale of their production, eliminate middlemen and increase their income.

Photo: Dirce Quintino

10.8 Sustainable Food: production of wild mushrooms in Amazon Kichwa communities in Ecuador

Category: Production chains based on the management and cultivation of Amazonian biodiversity
Organization: Regional University of the Ikiam Amazon
Location: Ecuador
Outreach Potential: State
Representative: María Cristina Peñuela Mora
Position held: Professor
Representative's email: mariacristina.penuela@ikiam.edu.ec

Problem

Indigenous communities in the CCBR buffer zone have an annual per capita income of about US$ 200. Approximately 73% do not have their basic needs satisfied, they produce their own food and are nutritionally deficient. Their chagras are very diverse, with edible plants (76), insects (19) and fungi (13). Three species of mushrooms are highly valued culturally.

Mushrooms grow in a wide range of temperatures, in a short time, and their ability to use various substrates allows the use of agricultural and forestry residues for their cultivation. The collection of these organisms is sporadic and, therefore, it is believed that their cultivation can contribute to improve the quality of life of the local population by adding traditional knowledge, making the consumption of these nutrient-rich foods constant, and generating economic income with their commercialization.

Solution

The Regional University of the Ikiam Amazon, through the initiative "Sustainable Food: production of wild mushrooms in Amazon Kichwa communities in Ecuador", intends to train at least 26 young people from 13 Kichwa communities in mushroom production techniques. They will get to know the morphological terms of the main characteristics of these organisms, the taxonomy and the ecological functions of the different insects and fungi they consume.

Impact

Trained youngsters will know how to collect, replicate, and care for mushrooms for their growth and reproduction, as well as the substrates on which they grow best.

The initiative aims to identify the local and most abundant substrates for the cultivation of macrofungal species (Favolus tenuiculus); establish and standardize a protocol for the pilot cultivation of nutrient-rich and culturally rich edible wild mushrooms; and carry out the technology transfer to the Kichwa community in the Ecuadorian Amazon in order to provide a constant, affordable, and sustainable source of protein that contributes to improving their nutritional and economic conditions.


Photo: K. Sotome

10.9 Brave: Bioflocculants to the Rescue of Amazonian Rivers

Category: Production of bioproducts
Organization: Regional University of the Ikiam Amazon
Location: Ecuador
Outreach Potential: State
Representative: Yanet Villasana
Position held: Professor
Representative's email: yanet.villasana@ikiam.edu.ec

Problem

The Amazon region stands out for its biodiversity and is home to ancestral indigenous communities, in addition to having abundant resources such as oil and precious metals. These communities base their economy on agriculture and obtain water directly from rivers without prior treatment to guarantee its quality. Therefore, these communities and the inhabitants of urban areas in the region are vulnerable to problems related to water quality. In this region, 50% of the population lives in rural areas, 39% live in extreme poverty (INEC, 2016) and only three out of 10 people have access to drinking water, sanitation, and hygiene (INEC, 2019).

The eastern basin of Ecuador contains an extraordinary oil system with around 9 billion barrels of crude oil. Currently, about 68% of the Amazon region has oil concessions, with 4,000 oil wells. According to the analysis carried out by Amazon Frontlines, between 2005 and 2015, there were 1,169 oil spills, and 81% of those were located in the Amazon (DW, 2020). Oil exploration and refining involves not only hydrocarbon pollutants, but also toxic and volatile products such as BTEX and heavy metals (BECERRA, 2018). Anthropogenic activities release potentially toxic elements into rivers, causing possible adverse effects on human and environmental health due to exposure to these substances (JIMÉNEZ-OYOLA, 2021).

Furthermore, as a consequence of the growing agricultural and livestock activity in Ecuador, the quantity of residues available such as residual biomass is increasing and there is a lack of proper use or disposal. In this sense, it is proposed that this sustainable, biodegradable source which has less environmental impact, should be used in order to develop a multifunctional bioflocculant, capable of eliminating water pollutants that come from the oil industry.

Solution

The Regional University of the Ikiam Amazon also conceived the initiative "Brave: Bioflocculants to the Rescue of Amazonian Rivers" in order to develop a multipurpose bioflocculant made from agro-industrial residues for the recovery of Amazonian rivers, specifically with regard to oil spills.

For this to be accomplished, green methods and techniques will be applied for the extraction of molecules with interesting interfacial properties. These molecules, that is, saponins, have the ability to sequester and/or remove contaminants from bodies of water.

Impact

These are among the main objectives of the initiative: developing a polyvalent bioflocculant from agro-industrial residues for the remediation of water sources, specifically, oil spills; reusing residual biomass as well as reducing its potential effect on the environment; and promoting cooperation among the academia, the community, and the oil industry.

Photo: Dirce Quintino

10.10 Integra Cacao - Full Use of Cocoa

Category: Production chains based on the management and cultivation of Amazonian biodiversity
Organization: Amazonians for the Amazon (AMPA)
Location: Peru
Outreach Potential: State
Representative: Virginie Dezetter
Position held: Director of Communication, Culture and Gender
Representative's email: dezetter.virginie@isitparis.eu

Problem

In 2020, during the pandemic, the Peruvian Amazon reached a deforestation record and lost 190.000 hectares of forests. The analysis carried out by the Geobosques platform revealed that most of this deforestation is due to losses of less than one hectare. Indeed, in the middle of the health, economic and environmental crisis, there was a strong phenomenon of reverse migration, from the city to the countryside, which increases the pressures on ecosystems. The context of the pandemic only accentuated a reality that already exists in the Peruvian Amazon, in which some of the main threats to forests are small migratory agriculture and the expansion of the agricultural frontier.

About a third of the national cocoa production comes from the San Martin region, where there are more than 45 voluntary and communal conservation initiatives among conservation concessions, ecotourism concessions and private conservation areas. Many of these initiatives are led by associations of producers who live in neighboring communities and whose main economic activity is cocoa cultivation.

Solution

The initiative "Integra Cacao - Full Use of Cocoa" originated in Peru, being conceived and implemented by the organization Amazonians for the Amazon (AMPA).

The cocoa fruit has many parts that are not usually used and are of high nutritional value, such as the vein or placenta and the husk, which make it possible to make flour, infusions, bread, drinks, balanced foods and much more.

Based on this assumption, AMPA found in cocoa mucilage the ideal alternative for the full use of the fruit. Producers who are part of Integra Cacao have the opportunity to market their mucilage, increasing the profitability of their cultivation at no additional cost.

Impact

The initiative's main objectives are to generate a sustainable business model associated with forest conservation, with a circular economy approach, based on the full use of the cocoa fruit, generating added value with by-products; reduce deforestation linked to the expansion of the agricultural frontier by increasing the productivity of the cocoa crop; and improve the quality of life of communities that conserve forests in the Amazon.

The project also aims to improve the productivity of the cocoa crop and, therefore, the quality of life of the communities, reducing the threats associated with small-scale agriculture and, at the same time, valuing the commitment of these organized communities to the voluntary conservation of their forests. In this production chain there is a lot of waste, since conventionally, the cocoa fruit is not used in its entirety. Mucilage, for example, is discarded in the fermentation phase and generates contamination in the field when it decomposes. Based on this vision, the Integra Cacao initiative was born.

Photo: Dirce Quintino

10.11 Participatory Agroforestry Management for forest conservation, food processing, food sovereignty and livelihood generation in Piaroa communities in the Amazon, Venezuela

Category: Production chains based on the management and cultivation of Amazonian biodiversity
Organization: PROBIODIVERSA
Location: Venezuela
Outreach Potential: State
Representative: Pedro Manuel Villa
Position held: Project Coordinator
Representative's email: villautana@gmail.com

Problem

Shifting cultivation (SC) is a traditional system of land use that ensures subsistence in the Amazon (VILLA, et al. 2020). The cycle length is variable; short cycles comprise between one and three years of agriculture followed by fallow periods of two to seven years, while long cycles comprise fallow periods of more than 15 years. However, this temporary dynamics of agriculture has changed considerably over the last decade due to increased demand for crops (VILLA, et al. 2020).

As the access of traditional communities to external inputs such as fertilizers, mechanization or pesticides is extremely restricted, SC intensification usually occurs due to reduced time between two slash-and-burn events (JAKOVAC, et al., 2015; VILLA, 2015; VILLA, et al. 2018). Therefore, SC intensification has been recognized as an important factor for the loss of biodiversity and ecosystem services.

However, secondary forests that grow back after SC can be an important reservoir of biodiversity and ecosystem services. Furthermore, sustainable forest management through the agroforestry system can reduce the intensification of shifting cultivation and the recovery of degraded forests. This relationship of restoring diversity and ecosystem services is recognized as a co-benefit when there is a positive relationship, in addition to positive impacts on the livelihoods and food security of local populations.

Solution

From Venezuela, the initiative "Participatory Agroforestry Management for forest conservation, food processing, food sovereignty and livelihood generation in Piaroa communities in the Amazon, Venezuela" consists of the organization of an agroforestry network with public institutions, governments, teaching units, cooperatives and four Piaroa communities to promote research as well as participatory and inclusive management for the conservation, restoration and rehabilitation of forests as strategies for adaptation and mitigation of climate change.

Impact

The action aims at the production, processing, and marketing of food in order to contribute to food security and sustainable livelihoods so as to reduce poverty.

The main objectives of the initiative are to promote participatory management for the development of agroforestry systems as an alternative for agroecological production that contributes to food sovereignty; the sustainable use and conservation of biodiversity; and sustainable livelihoods in Piaroa communities of the Cataniapo River Basin, Amazonas State, Venezuela.

Photo: Dirce Quintino

10.12 Sanea - Residue Solutions

Category: Production chains based on the management and cultivation of Amazonian biodiversity
Organization: Sanea - Environmental Solutions
Location: Brazil
Outreach Potential: State
Representative: Vitória Pinheiro
Position held: Founder and Chief Executive Officer
Representative's email: vitoria.pgalvao1@gmail.com

Problem

Today, more than 1 billion people worldwide suffer from neglected tropical diseases. These diseases are mainly associated with lack of sanitation and poverty. These generate more than 1 million deaths, mostly of children, especially in poor and developing countries such as Brazil and in regions such as the Amazon, in urban peripheries that lack access to treated water and services such as proper waste collection.

Incorrect residue management pollutes cities, rivers, and waterways, which are primary sources of life and that, in turn, affects health and quality of life.

Solution

The efficient management of organic and recyclable residues, fundamental for good urban development and climate mitigation, is the focus of the "Sanea - Residue Solutions" initiative, submitted by the Brazilian organization Sanea - Environmental Solutions.

The solution aims to address the problem at different levels within a strategy that combines technology, such as the creation of an application to approach and educate the population about pollution in the city, rivers, and headwaters in Manaus.

The project also proposes the construction of physical and local solutions in order to solve the problem of residue management and disposal, such as the creation of low-cost smart dumps, containers for liquid residues such as oil, and community containers for the separation of residues that will be processed and converted into new products, such as the sale of recyclable materials, the manufacturing of soap and the production of biofertilizers.

Impact

The action aims at the production, processing, and commercialization of food in order to contribute to Sanea's goals in acting in the democratization and mitigation of basic sanitation in the urban centers and peripheries of Manaus; creating a value chain around the products of the sustainability chain, mainly sanitation and residues; and reducing the impact of consumption and pollution on the urban environment and on natural resources such as streams, slopes, and rivers in the city.

Photo: Dirce Quintino

11. RESULTS

In its fourth edition, the SDSN Amazonia Award, in 2021, fulfilled its mission with regard to identifying and stimulating initiatives that present alternative solutions to the "economy of deforestation", which has been systematically prioritized over the Amazon Region.

> Under the theme "Solutions for a New Amazon Bioeconomy", the award remained faithful to its proposal of honoring the solutions – innovative projects, technologies, scientific research, business models, institutional mechanisms, educational models, political instruments or a combination of them – that are being implemented by the members of the Network so as to boost the Amazon Bioeconomy and thus, proposing an economic alternative to the main pressures and unsustainable economic activities in the region such as: deforestation, illegal mining, land grabbing, large-scale farming, among others.

In this edition, after a careful analysis by the Technical-Scientific Committee of SDSN Amazonia, the big winner was the project "**Sustainability of the Fish Production Chain with the Use of Residues for the Production of Functional Supplements**", conceived and executed by the Environment and Health Society Coordination of the National Institute for Research in the Amazon (INPA).

The initiative proposes new alternatives for the technological use of residues from Amazonian fish to be processed in the form of flour and gelatin. With an average of 15,43 points, the Brazilian project won the first place in the 2021 edition of the SDSN Amazonia Award.

The second place was awarded to the Peruvian initiative "**Integra Cacao - Full Use of Cocoa**", by the organization Amazonians for the Amazon (AMPA), with an average of 15,25 points.

The project proposes the production and sale of mucilage from parts of the cocoa that are not usually used and are of high nutritional value, such as the vein or placenta and the husk.

The third place was awarded to the Ecuadorian project "**Sustainable Food: production of wild mushrooms in Amazon Kichwa communities in Ecuador**" from the Regional University of the Ikiam Amazon, which obtained an average of 14,83 points.

Check out the overall ranking of the award:

1	Sustainability of the Fish Production Chain with the Use of Residues for the Production of Functional Supplements
2	Integra Cacao - Full Use of Cocoa
3	Sustainable Food: production of wild mushrooms in Amazon Kichwa communities in Ecuador
4	Integrated Project for Sustainable Ethnodevelopment
5	Brave: Bioflocculants to the Rescue of Amazonian Rivers
6	Musap Jungle Essences
7	Urban Agriculture in Family Backyards in the cities of Tabatinga and Benjamin Constant in the state of Amazonas
8	Promoting the Vanilla odorata Value Chain in agricultural chagras of the Kichwa people from Rukullakta, Napo Province
9	Agronomy Fair
10	Participatory agroforestry management for forest conservation, food processing, food sovereignty and livelihood generation in Piaroa communities in the Amazon, Venezuela.
11	From the Sewage System to the Streams; Multi-stakeholder environmental education and ecological recovery in an urbanizing basin in the Brazilian Amazon
12	Sanea – Residue Solutions

12. JOIN SDSN AMAZONIA

Participation in SDSN Amazonia is open to universities, research centers, civil society organizations, government institutions and companies willing to actively participate in the design, research, development, and implementation of solutions for the Amazon's sustainable development.

Membership is open to universities, research institutions, foundations, or civil society organizations from the countries of the Amazon Basin (Brazil, Bolivia, Colombia, Ecuador, Guyana, French Guiana, Peru, Suriname, and Venezuela), that mobilize efforts to promote solutions for the implementation of the Sustainable Development Goals (SDGs) in the Amazon.

Be a member of SDSN Amazonia: http://unsdsn.org/join

Photo: Dirce Quintino

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