

## Team Members



**Eiko Van Hettinga**



University and Field of Study:  
Technical University Berlin  
Industrial Engineering and  
Management

Skills: Market research  
Project management

Role: Value chain visualization  
Market research  
Certification  
Carbon credits



**Peter Asmussen**



University and Field of Study:  
Technical University Berlin  
Industrial Engineering and  
Management

Skills: Fund raising  
Project management

Role: Project management  
Research methods  
Market research  
Funding



**Rodrigo Masao Kanno Tomiyasu**



University and Field of Study:  
University of São Paulo  
Industrial Engineering

Skills: Fund raising  
Project management

Role: Interviews  
Market research  
Design  
Partnerships



**Silvio Eduardo Alvarez Candido**



University and Field of Study:  
Federal University of São Carlos  
Industrial Engineering

Skills: Community's context  
NTFP commercialization

Role: Rainforest context  
Workshops  
Market research  
Legal aspects



**Jeferson Straatmann**



University and Field of Study:  
University of São Paulo  
Industrial Engineering

Skills:  
Environmental aspects expert  
Rainforest context  
Project management

Role:  
NAPRA representative and  
Supervisor



**Marcelo Salazar**



University and Field of Study:  
Federal University of São Carlos  
Industrial Engineering

Skills:  
Environmental aspects expert  
Rainforest context expert  
Project Management

Role:  
NAPRA representative and  
Supervisor

## Partner



Napra - Organization for the Support of Riverside Communities in the Amazon Rainforest – began its activities in 1995 and became an independent non-profit organization in 2003.

Napra's mission is to support and strengthen riverside communities situated in isolated areas of the Amazon Rainforest, surrounded by legal conservation units.

The organization is currently composed by 120 volunteers: professionals, undergraduate and post-graduate students of dentistry, medicine, pharmacy, physiotherapy, nursing, psychology, nutrition, biology, law, industrial engineering, environmental engineering, civil engineering, ecology and environmental management from more than 10 different Brazilian universities. The volunteers involved in the project learn about the needs of local communities and have the opportunity to apply their knowledge and skills in real-life situations.

Napra's main activities are in the field of education, health services and income generation based on sustainable forestry management.

### Some results obtained:



- More than 30 workshops were held in 15 different communities benefitting about 400 participants.
- Participation in the Management Council of the three conservation units in the region.



- Starting to install a mini-factory to process Brazil nut and handicrafts in São Carlos do Jamari in 2007.
- Communities members were always involved in the conception and prototype assembling so that they can disseminate the knowledge obtained.



- Installation of telemedicine centers in São Carlos do Jamari and Santa Catarina in 2005 and 2006.
- Partnerships with IBAMA (Brazilian Environmental Agency) and Porto Velho Departments of Education and Health.

## Project Context and Goal

Current



- Communities live isolated in the forest.
- Getting higher education is limited to a small group of people.
- Television defines the image of reality outside of the community.
- Community members admire life in the big cities and have no identification with their own way of living.



- Land tenure in the rainforest areas is uncertain.
- Products of the forest have low value in the communities.
- The forest restricts the area for agricultural products.
- Protecting the rainforest is an issue for people outside the forest.



- Unclear land tenure leads to land speculation and accelerates the deforestation process.
- During the past 40 years, close to 20 percent of the rainforest has been cut down.
- Soy bean crops and cattle breeding are the main activities leading to deforestation.
- Local governments support soy and cattle industry.

Desired

### Create perspectives

- More income in the communities helps to upgrade the standard of living.
- Trading on local, national and international markets can help communities inhabitants to understand their role in a globalized world.
- NTFP commercialization is an alternative to the current usages of the forest which usually just serve the powerful.

### Rainforest Guardians

- A healthy forest means income for the local people.
- Deforestation means to take communities source of income.
- Local communities have proven their effectiveness in the combat against land grabbers.

### Make commercialization of Non-Timber Forest Products (NTFP) happen

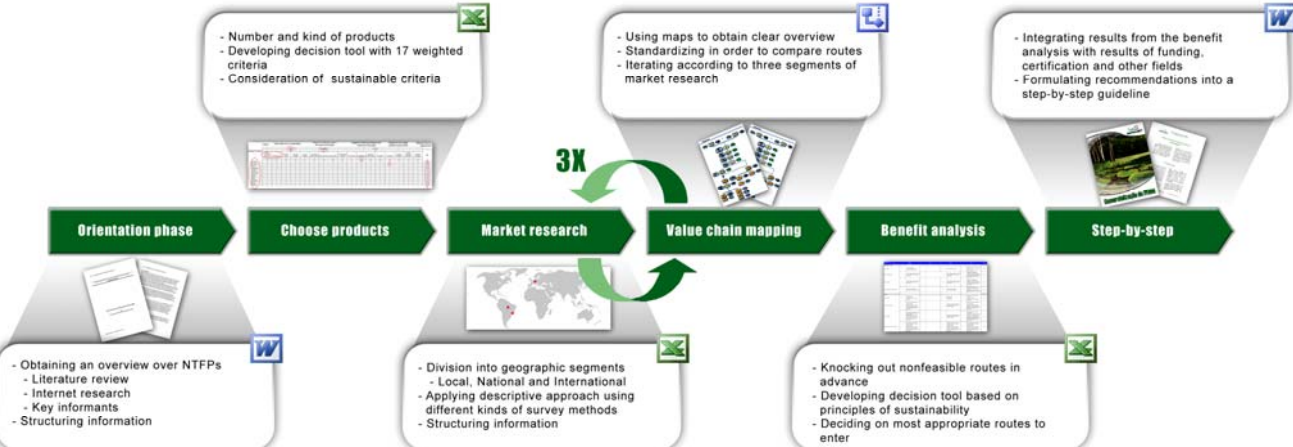
- NTFP are products that can be harvested from the rainforest in a sustainable way.
- Information about markets and the capacity to act upon it are essential to enter and maintain a hold in new markets.
- GET 2007 closes the gap between communities and markets in order to make successful commercialization of NTFPs.

### Significance of the rainforest

- The rainforest is the home to two-thirds of all the living animal and plants species on the planet.
- By holding and absorbing carbon dioxide, the forest mitigates global warming and cleans the atmosphere.
- The Brazilian rainforest is the biggest freshwater reservoir of the world.



## Scientific Methods



## Choosing Products

**Method:** 1<sup>st</sup> - The currently most important products for income generation were chosen due to their significance for the communities.  
2<sup>nd</sup> - Using Benefit Analysis promising products were ranked in order to complement the communities' portfolio of products.

Potential Products	Criteria Triple bottom line of sustainability										Weights for fields according to the scope of the project				Weights for criteria according to their relevance in the project					Weights for every single product in every criteria			Obtained value for each single product
	Social 0.25		Environmental 0.05		Economic 0.7						Rank												
	Women's contribution to value adding	Cultural impacts	Harvesting impacts	Harvesting knowledge	Process complexity	Communities interest and skills	Ecological impact	Supply Capacity	Real Value adding possibilities	Client diversity	Product diversity	Barriers for market entrance	Seasonality	By-products	Strategic partnerships	Market information dependency	Competitive advantages	Rank					
Mandarorath	0.19	0.19	0.19	0.13	0.13	0.19	1.00	0.05	0.14	0.14	0.09	0.09	0.09	0.09	0.14	0.14	0.05	3.65					
Bio Jewels	5	3	4	5	2	3	4	3	4	3	5	2	5	5	1	1	3	3.25					
Rubber	2	5	3	2	2	3	3	5	2	4	5	2	4	2	2	4	3	3.05					
Dragon Blood	1	3	3	3	5	4	3	2	2	2	5	3	5	1	1	4	3	2.82					
Androba	2	3	4	4	4	3	4	1	2	3	1	2	3	2	2	4	3	2.70					
Unha de gato	3	4	4	4	4	3	4	3	4	2	3	3	3	1	1	4	3	3.17					
Cupuaçu	3	5	4	5	3	4	4	3	4	4	1	3	2	1	5	4	3	3.46					
Babacu	4	3	4	5	3	5	5	5	2	3	1	2	4	3	3	4	3	3.29					
Pataca	4	2	4	4	3	3	4	2	3	3	1	3	2	3	1	4	3	2.81					
Breu Branco	1	2	4	3	5	4	4	1	1	2	5	5	5	1	1	4	3	2.87					
Palmito	2	2	3	4	2	1	3	1	1	5	5	1	4	1	1	4	3	2.59					
Pupunha	2	3	3	4	3	2	4	3	3	4	5	4	4	4	2	4	3	3.40					

**Result:** The following products were chosen according to the method above.

**Acai**



- The açai tree is very common, slender, tall, and grows from 15 up to 25 meters in height along the river edges of Brazil.
- The açai berry provides over 30 times the amount of anthocyanins (potent antioxidants) as red wine and all the beneficial fatty acids of olive oil.
- The açai berry is also a rich source of omega-6 and omega-9 fatty acids, thought to have a protective effect on the heart and cardiovascular system.
- The açai berry is now broadly used in energy juices, ice cream, energy bars with granola and as a food complement.

**Brazil nut**



- The Brazil nut tree can grow to a height of 250 feet and begins to produce nuts only after about 12 years.
- Brazil nuts are particularly healthy due to their high selenium content, which makes their protein content "complete" once it contains all the necessary amino acids to foster optimal growth in humans.
- Brazil nuts are also a very good source of zinc (essential to digestion and metabolism).
- The Brazil nut can be eaten as a snack, used in different recipes and its oil can be used by the cosmetic industry.

**Copaiba oil**



- Copaiba oil is extracted from the Copaiba tree (Copaifera sp) by drilling holes in the trunk of the tree.
- It is a transparent, soft liquid with a bitter taste. Its color varies from yellow to golden brown.
- Copaiba oil is mostly used for medicinal purposes, such as treatment of inflammations, all kinds of skin disorders and for stomach ulcers.
- In addition, Copaiba oil serves as fuel, replacing the diesel oil in the oil lamps as used in the Amazonian communities.
- Copaiba oil can be used for industrial production of varnish, perfumes and pharmaceuticals.

**Handcraft**



- Bio jewel and handcraft are usually made by the communities of Brazil nut fruits, a wide variety of seeds, lianas and leaves.
- Bio jewel and handcraft represent a good opportunity to create income possibilities for women.
- Moreover, the national market is presenting many opportunities and the international market is growing quickly.
- Low production costs, simple logistic and great chance for value adding.

## Market research

**Method:** Semi-structured interviews and questionnaires were used to identify actors and their requirements in the local, national and international market.

**Result:** 320 organizations were researched, including: companies, funding institutions, NGOs, GOs, certifiers and cooperatives.



### 1 Local Market

33 organizations researched  
26 organizations contacted  
26 questionnaires answered  
4 factories visited

### 2 National Market

234 organizations researched  
91 organizations contacted  
37 questionnaires answered  
2 meetings with companies  
1 fair visited

### 3 International Market

53 organizations researched  
29 organizations contacted  
8 questionnaires answered

## Mapping process

**Method:** The mapping process permits visualization of the connections between the actors and their roles within the chains.



**Result:** Gaps between the community's reality and the market requirements were identified during the mapping process.



## Activities to close the gap



## Step by step guideline

Step by step guidelines were created for each product to help the communities to improve their position in the value chain.  
E.g. Copaiba oil



### Communities



### National oil & essence industry



#### Characteristics of the copaiba oil market:

- National oil industry faces low supply of copaiba oil.
- Demand for the product is increasing.
- Companies are willing to support communities.