

A person with their hair in a bun, wearing a patterned short-sleeved shirt and dark pants, is seen from behind, walking through a dense field of tall, leafy plants. The scene is captured in a monochromatic, sepia-toned style. The person is positioned on the right side of the frame, moving towards the center. The plants are tall and have broad, rounded leaves, creating a textured background. The overall atmosphere is natural and agricultural.

# Smelly Plants

*Design Project Report*

IDDS Amazon 2016  
Boa Vista do Acará, Pará, Brazil

## Abstract

### The Smelly Plants project

## 1 Context

### 1.1 Background

The project “Herbs trial” was designed during the IDDS Amazon, a two-week summit held in the community of Boa Vista do Acará, in partnership with the APOBV - Association of Organic Farmers of Boa Vista do Acará. The community is located \_\_\_ from Belém, the capital of Pará, in the northern region of Brazil.

From 3 to 17, June 2016, a group of 35 participants, from Brazil and abroad, and \_\_\_ local participants

### 1.2 Context description

The community of Boa Vista do Acará has a long tradition in using the “banho de cheiro” (smelly bath), a bath composed by more than 25 different native herbs cultivated in the surroundings of local residences.

Originally, the project intended to focus on the pripioca production, aiming to develop a prototype to extract oil and provide the community more autonomy in relation to the production process. APOBV In the last years, the APOBV have been facing the issue of dealing with excedent production of pripioca (raw material) that is requested by the main company but not bought as they realize they (the company) had enough oil in storage. The company paid the amount regarding the initial phases of production (planting and maintenance), but not the rest. As the producers did not find other buyer and did not have equipment to process the raw material, the pripioca went bad in the field.

## 2 Project goal articulation

The project aims to develop together with the community ways to preserve the traditional knowledge about the local plants, focusing on the diversity of lore and practices regarding this subject.

## 3 Design Process

### 3.1 Project frame

During the design process, we have identified three main concerns from the local people. The first one is how to *keep the traditional knowledge about the plants alive*. The second one is *how to connect young and old generations, and also the community with people from outside*. Finally, there is a concern about *how the community can keep its autonomy*, not only in terms of economy, but mainly regarding its cultural and environmental sustainability. So keeping this in mind we have tried to approach our prototypes from these three sides, focusing on traditional knowledge and practices around local plants while trying to lighten up connection within the community in order to preserve its autonomy.

### 3.2 Value proposition

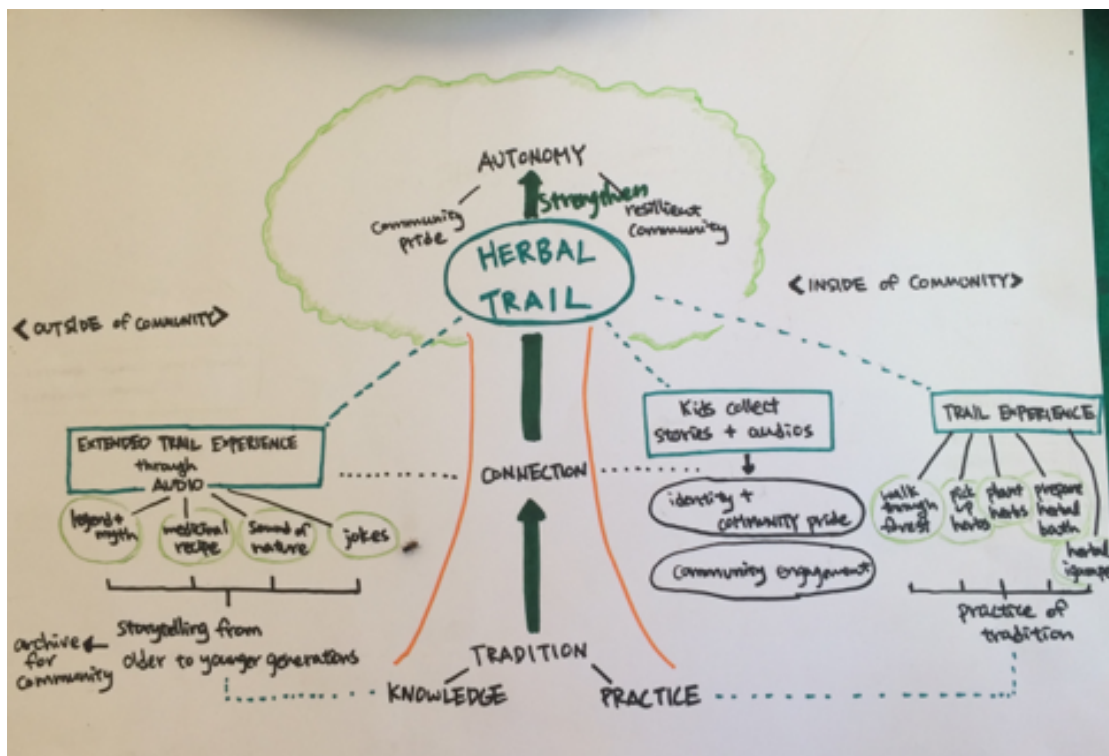


Figure : Conceptual Map

### 3.3 Summary of design process

As part of the design process we first had some discussions and conversations with local people to try to understand what their main concerns are. Based on this, we created a first draft of a concept map to put together the first insights and impressions, as well as the relationships between them. That first draft was presented to all the IDDS participants, who contributed with their feedback which was then integrated in the following versions of the document. The next stage was to think about different possible prototypes that would address the stakeholder's needs. Some of them were more focused on possible products that could be created and turned into yields by the community and others were processes that would engage the community in different ways in order to preserve their knowledge and practices around plants.

### 3.4 Analysis & experimentation

We started to analyse all the information gathered and begin to discuss together with two local people that were part of our team which of the solution was the best. However we soon realised that none of the prototypes by itself could address the requirements as a whole, so we decided to work on three different samples that would focus separately on different aspects of the project. The three prototypes that were chosen are:

- a) Sensorial herbal trail.
- b) Library of medicinal recipes and sound memory.
- c) Home made distillator for priprioaca oil extraction.

## 4 Final Prototype(s)

### 4.1 Criteria

- a) The trail has been designed to pass through key points from the community around the association.
- b) The goal is to produce a first draft of a collection to document stories and recipes that have been orally transmitted among generations.
- c) The destilator is aimed to develop a home-made method to extract oil from priprioaca, so that the community have the possibility of making their own products from the raw materials that they already produce. This will serve to foster the self-management of local resources.

### 4.2 How it works

#### a) *Sensorial herbal trail:*

- **Criteria:** Within the community there is already a touristic trail to show to visitors some important places and activities of the community. So we decided to take advantage of this fact to design a new trail focused on the local plants and engage the community around the process of designing the trail and also showing it to visitors.
- **How it works:** The trail has been designed to pass through key points from the community around the association. The goal is to present the main herbs used to produce the smelly bath through a sensorial herbal trail. At the same time, features from the local biodiversity are presented. Throughout the trail participants are received by local people, who tell some stories about the plants. Some of the herbs are going to be collected during the trail, which ends in an garage with a smelly bath.
- **Performance:**
- **Bill of materials:** flyers for the trail (optional)



Figures : herbs



Figure: Group working on the herbal trail designing



Figure: Final prototype – Herbal trail



Figure: Dona Célia (stakeholder)



Figure: Collecting smelly plants.



Figure: Trail



Figure: “Banho de cheiro” (Smelly bath)

*b) Library of medicinal recipes and sound memory:*

- **Criteria:** One of the things that we identified is the fact that there is a lot of traditional knowledge about medicinal use of the plants, but that this knowledge is spread throughout the community mainly among the old people. Some of the young generation we talked with were concern with the possibility of losing this knowledge once some of the old ones passed away. So we decided to produce a first draft of a collection to document stories and recipes that have been orally transmitted among generations.
- **How it works:** We have collected some medical recipes using local plants. This information was presented as a ‘natural medication box’, built and designed together with some of the kids from the community. This box will be kept in the association library, so they can access it for further projects.
- **Performance:**
- **Bill of materials:**
  - “Natural medication box” - box made of miriti and tururi leaves (local palms) for decoration, paper for recipes
  - Sound memory - sound of storytelling by older generations and collected by kids, different sound of nature and cultural things in the community





Figure: Natural medication box



Figure: Sound recorded – Storytelling being edited.

*c) Home made distillator for priprioca oil extraction:*

- **Criteria:** Our aim with this prototype is to develop a home-made distillator to extract oil from priprioca, so that the community have the possibility of making their own products from the raw materials that they already produce. This will serve to foster the self-management of local resources.
- **How it works:** We have used steam distillation method to extract essential compounds of priprioca. Pot and funnel have been sealed with flour to keep off leaking steam. We put priprioca on the tray and boiled water. Vaporised water and compounds came out through the tubes and were distilled by cooling. Then, we collected essential oil separated from water.
- **Performance:** Steam was escaping due to the lack of sealing, and even after 1.5 hours of experiment, we obtained very little oil. The future recommendation for better system is to a) provide better sealing, b) use flowing water instead of iced water for better energy efficiency and c) possibly use processed priprioca by, for example, dicing or crushing priprioca beforehand.
- **Bill of materials:**
  - Homemade distillator - pot, funnel, flour for sealing gap between pot and funnel, tray, tubes and bucket for cooling.



Figure: distillator



Figure: Priprioca



Figures: oil extraction process

## **5 Lessons learned**

- We realize that the process of co-creation requires longer time than designing for others. It was a slow process for our team because we were trying to understand the context of project together with two team members from Boa Vista do Acará.
- Our original project objective did not include about sustaining tradition of the community, but we ended up taking that route because of powerful personal stories from Debora, one of our team member from the community. This made us think about the context of project from more fundamental level.
- Permaculture design process made us think about the project in the relation to forest and nature.
- One of the biggest lessons the group has learned was the flexibility to deal with changes. For example, at the beginning, we were going to make products like perfume, but as we learned more about the community and brainstormed many ideas, we found other things to be more important and interesting.

### **5.1 How does the project fit in the context**

The main concern brought by our stakeholders was the fear of losing traditional practices and knowledge about the plants and how to maintain the tradition alive. At the same time, the issue with autonomy regarding the production of pripioca was referred as an economic topic to be addressed. The connection between old and young generations and the outside visitors and inside community members would be a good start to keeps the traditions alive and bring autonomy.

By using a human-centered design approach, we identified within the community to come up with solutions that addressed these main concerns. By designing the trail, we aim to contribute with the maintenance of traditional knowledge about the plants and engagement of the community.

Nevertheless, we reinforce (reaffirm) that the prototypes designed, especially the trail and the library, need further debate and a careful implementation in order to respect local practices and be helpful with the preservation of tradition and the local ecosystem.

We believe that the main yield with these projects are the social and cultural capital, rather than financial capital. We believe that when we think about development and innovation, social and cultural factors have to be considered always.

### **5.2 User feedback**

One of the biggest lessons the group has learned was the flexibility to deal with changes. We have come up with many different ideas and

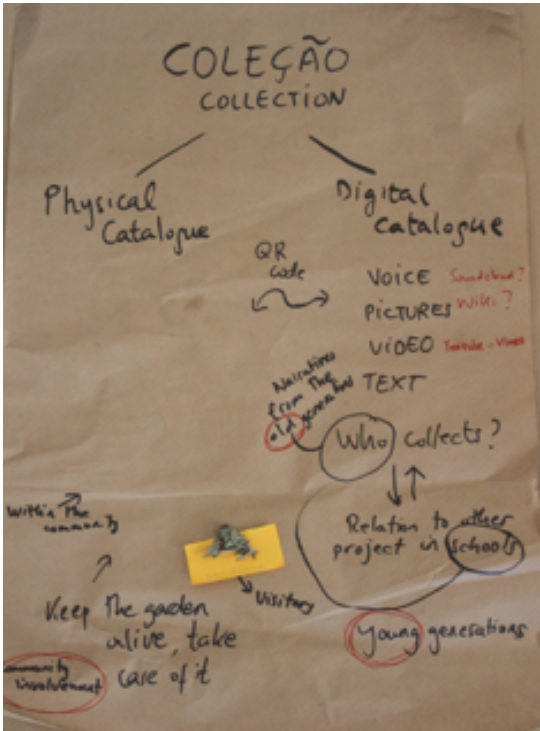
### **5.3 Troubleshooting (fix problems)**

## Contact information

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## Design Process – Other pictures







# (GUARRATIVES)

**CAROL:**

- oração e muito humilde. Ela é belíssima
- patologia
- tem que estar quieta quando ela tem o diagnóstico.

**SAMARA:**

- muito das coisas são tradicionais
- não tem o conhecimento de tudo, mas sabe o que ela tem, ela é muito forte.
- gosta da patologia
- eu acho q. vai com o tempo muito pouco
- papano e transgênicos

**DEBORA:**

- papano tudo em relação ao polímero do Samara, por isso que ela tem esse não pode morrer.

**Dona Celia:**

É da com as plantas; como seu Paulo.

Tem o banco de cheiro afeto da" p/ re neutro lek.

**DONA BETE RAJED**  
**HER CHILDREN**  
**USING THESE**  
**MEDICINAL**  
**PLANTS**

**TEM POTER**  
**PARA SE**  
**Formar**  
**ABO RENT**  
**HAS POTER**  
**to 2020**

## GANHOS/RENDIMENTOS

### YIELDS

**GANHO VOR A**  
**COMUNICAR**

**GANHO RENDA**  
**Produz**  
**Muito**

**BANHO DE**  
**CHORO**  
**VIGAR**  
**TENDENCIA**

**CONEXÃO**  
**TRABALHO**

break of hands

Scrub out the core

Smash with hands

Filter of clay

## PREOCUPAÇÕES

### CONCERNS

**EDUCAÇÃO**  
**SEM CUSTO**  
Benefícios para as organizações  
(conhecer as plantas, entender por que elas são importantes)

**UMA REDE**  
**ESCLARECER**  
**DE COMUNICAÇÃO**

**IGREJA**  
organizar para poder fazer as coisas

**COMUNIDADE**  
**Sociedade**

harvest  
from 3/28

boil

dry  
in 1 month (2020)







Figure: Working group