WEAVING STORIES OF PEOPLE AND PLANTS

Discovering the bioeconomy potential at a plant's marketplace

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COMMITMENTS

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BOGOTÁ, COLOMBIA

Pop. **7,181,000**

1,775 KM²

2,640 m.a.s.l.

KEY CONCEPTS

LIFE STORIES

COLLECTIVE ACTION PRACTICES

BIOECONOMY

VALUE CHAIN ANALYSIS

PROTOTYPE

A city of 8 million inhabitants in Colombia hosts a hub of biodiversity accounting for 391 useful plants - *la Plaza Samper Mendoza* – the Samper Mendoza Marketplace. This diversity is undeniably supported by 300 vendors - and their life stories - who grow, collect, buy and trade plants at the *plaza*. In 2020, Bogotá's Institute for Social Economy (IPES) commissioned a study to identify the sustainable uses of biodiversity and local knowledge to support the economic recovery of the Samper Mendoza Marketplace.

BIODIVERSITY AND LOCAL KNOWLEDGE

The Samper Mendoza Marketplace, located in Bogotá, is a unique place that allows the countryside and the city to interact around the trade of plants that different people bring from their places of origin. Twice a week, in the largest markets (Mondays and Thursdays), about 391 plant species are traded -201 native species (Torres-Morales et al., 2021) - some from wild harvesting of non-timber forest products and others from agrobiodiverse crops (Cortés, 2021).

The *plaza* is a meeting place for traders from different parts of the country, laboratories dedicated to transforming raw plant materials for producing medicines or cosmetic products, food producers, restaurateurs, retailers, and end consumers (Cortés, 2021). In this way, a valuable socioecological scenario has been configured to the extent that it contributes to conserving native flora based on traditional knowledge while simultaneously demonstrating the importance of the peasant economy for the development of cities.

This place has ample potential for sustainable use of biological and genetic resources and their derivatives, promoting products based on biodiversity within the framework of what has been called the **bioeconomy**. With this motivation, the Institute for Social Economy (IPES) and the Humboldt Institute developed the *Sembrando Saberes* (Planting Knowledge) Project, which focused on identifying the uses of biodiversity and the ancestral knowledge associated with these uses. As a result of this work, a gastronomic **prototype** was designed, anchored in a tourist experience aimed at developing new business opportunities for merchants and, thus, supporting the *plaza's* economic recovery after the impact of the COVID-19 pandemic.

A MULTI-TIER APPROACH

One of the most significant aspects of the project was to propose a comprehensive approach that included these main components: **life stories**, **value chain analysis**, and the proposal of a gastrobotanical prototype.

The components of this approach were:

1. Biological analysis: aimed at studying species of interest and prioritizing[1] plants for the gastronomic use prototype. The criteria for this exercise were: species native to Colombia, species with various reported uses (general use), endemic species or species abundant in the plaza, chemical compounds identified for the species, and production capacity associated with their phenology. Some non-native (domesticated) species were also included because of their good market projection for the value chain analysis, their abundance in the Samper Mendoza Marketplace, and their high cultural or associative value.[2]
2. Governance analysis: it sought to recover the life stories of the community as evidence of the historical relationship of the people of the plaza with the plants (childhood, adulthood)[3] as well as the collective action practices such as growing, collecting, transporting, and exchanging, among others.[4]
3. Socioeconomic analysis: dedicated to analyzing value chains and associated practices (collection, cultivation, and marketing of plants).
4. Creation of a prototype: led by the graphic design firm Rizoma, participatory design workshops and gastronomic innovation laboratories were held with merchants and a group of six chefs from the city.
5. Creation of graphic and audiovisual pieces: co-creation of pieces such as fanzines, infographics, a mural, and videos about the knowledge of the *plaza*'s merchants about the plants that are sold there. This component was also led by Rizoma.

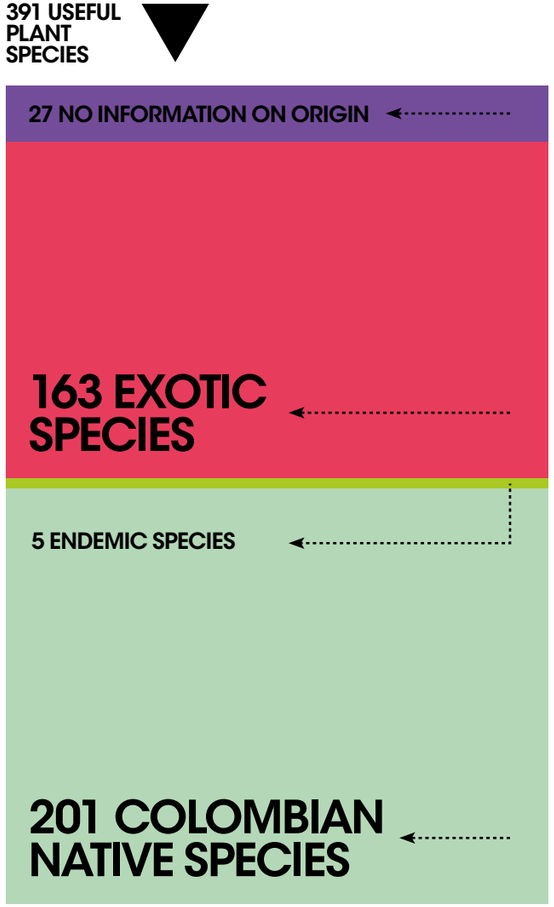
PROTOTYPING. WHERE TO START?

As a result of the various participatory design workshops held over four months, a creation and innovation process began with a group of cooks selected by the Humboldt Institute and IPES. They supported the team in identifying the potential of the plants sold in the Samper Mendoza Marketplace. For the project, they decided to prepare bundles of herbs for gastronomic use following these guidelines:

- Use plants on the list of the 80 species prioritized for being the most sold and the most important in terms of uses.[6]
- At least one species had to be in the subgroup of the 23 species prioritized as generating the most value among traders.
- Consider the origins of the plants (see figure below).
- The bundles should be linked to recipes that a broad audience can recreate in their home kitchens.
- Take into account characteristic elements of traditional Colombian cuisines and/or elements of gastronomic innovation.

SAMPER MENDOZA MARKETPLACE - WHAT PLANTS DID WE FIND?

According to the book *"Plantas y Saberes de la Plaza Samper Mendoza"* published by Torres-Morales et al. (2021) the most common registered plant uses at this plaza are medicinal, food and esoteric uses.



GASTRONOMY AND INNOVATION LABORATORY, 2021.

Photos: Germán Torres-Morales.

BOGOTÁ

10. Árnica
Senecio formosus
11. Arrayán
Myrcianthes leucoxyla
17. Borrachero naranja o rojo
Brugmansia sanguinea
33. Coralito
Galium sp.
35. Diente de león
Taraxacum officinalis
41. Guasgüin
Monticalia ledifolia
45. Jarilla
Stevia lucida
59. Palitaria
Parietaria micrantha
61. Pasiflora-pasionaria
Passiflora mixta
76. Salvia blanca
Austroeupatorium inulifolium

TOLIMA

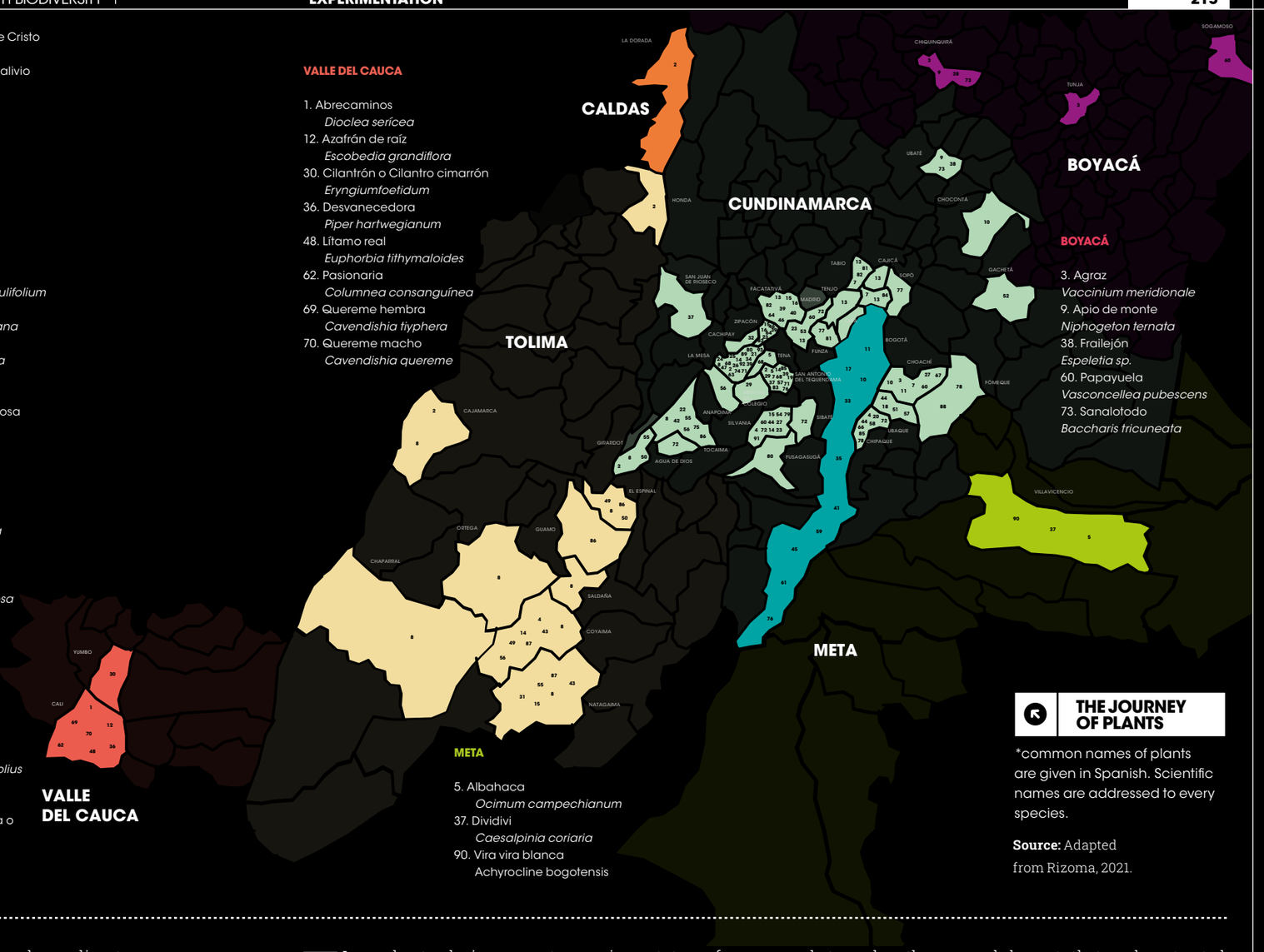
2. Achiote
Bixa orellana
4. Ají chirca y chiquito, y zorro e mote y chichí de perro
Capsicum annuum
8. Anamú
Petiveria alliacea
14. Bijao
Calathea sp
15. Bleo
Amaranthus hybridus
24. Chaparro
Curatella americana
31. Coca
Eiythroxylum coca
43. Icaco
Chrysobalanus icaco
49. Marañón
Anacardium occidentale
50. Martin Galvez
Senna reticulata
55. Moringa
Moringa oleífera
56. Noni
Morinda citrifolia
86. Totumo
Crescentia cujete
87. Variety of plantain
Musa spp.yvars.

CUNDINAMARCA

2. Achiote
Bixa orellana
3. Agraz
Vaccinium meridionale
4. Ají chirca y chiquito, y zorro e mote y chichí de perro
Capsicum annuum
5. Albahaca
Ocimum campechianum
7. Altamisa o artemisa
Ambrosia peruviana
8. Anamú
Petiveria alliacea
10. Árnica
Senecio formosus
11. Arrayán
Myrcianthes leucoxyla
13. Berros
Nasturtium officinale
14. Bijao
Calathea sp
15. Bleo
Amaranthus hybridus
16. Borrachero blanco o tihiki
Brugmansia x Candida
18. Bretónica
Salvia rubescens
19. Cajeto o cafeto
Trichanthera gigantea
20. Canelón
Peperomia inaequalifolia
21. Casco de buey o de vaca
Bauhinia picta
22. Canafístula
Cassia grandis/Cassia fistula
23. Chachafruto o balú
Eiythrina edulis
24. Chaparro
Curatella americana
25. Chipaca
Bidens alba
26. Chisaca o chisacá
Acmella ciliata
27. Chisguas
Canna indica/ Canna jaegeriana
29. Cidrón
Aloysia citrodora
32. Cola de caballo
Equisetum bogotense / Equisetum giganteum
34. Cordoncillo hoja pequeña
Piper aduncum
37. Dividivi
Caesalpinia coriaria
38. Frailejón
Espeletia sp.
39. Guaba
Phytolacca bogotensis
40. Guascas
Galinsoga sp.
42. Hoja santa
Piper auritum
44. Insulina
Anredera cordifolia
46. Laurel de la cruz
Morelia pubescens
47. Lavanda de monte
Cantinoa mutabilis
50. Martín Gálvez
Senna reticulata
51. Mastuerzo
Lepidium costarricense
52. Mora
Rubus urticifolius
53. Mazorca de agua
Gunnera shultesii
55. Moringa
Moringa oleífera
56. Noni
Morinda citrifolia
57. Orozús u orozul
Phyla dulcis
58. Paico, payco o flor de paico
Dysphania ambrosioides
60. Papayuela
Vasconcellea pubescens
63. Pasto micay
Axonopus scoparius
64. Pata de chula o pata de chulo
Modiola caroliniana
66. Poleo
Clinopodium brownei (*Satureja brownei*)
67. Penicilina o sangre de Cristo
Dianthera secunda
68. Pronto alivio o prontoalivio
Lippia alba
71. Quina
Cinchona sp
72. Ruda
Ruta graveolens
3. Sanalotodo
Baccharis tricuneat
74. Santa María
Onoseris purpurea
75. Sábila
Aloe vera
76. Salvia blanca
Austroeupatorium inulifolium
11. Salvia chiquita
Lepechinia schiedeana
78. Sauco o tilo
Sambucus peruviana
79. Sangre de drago
Croton lechleri
80. Sanguinaria o venturosa
Lantana cámara
81. Sauce
Salix humboldtiana
82. Siempre viva
Peperomia galioides
83. Suelda con suelda
Tradescantia zebrina
84. Tabaco
Nicotiana tabacum
85. Totes
Rhynchospora nervosa
86. Totumo
Crescentia cujete
88. Verbena blanca
Verbena litoralis
9. Verbena morada o negra
Stachytarpheta cayennensis
91. Yacón
Smallanthus sonchifolius
92. Zarzaparrilla de raíz
Smilax officinalis
93. Zarzaparrilla de pepa o tubérculo
Dioscorea coriácea

VALLE DEL CAUCA

1. Abrecaminos
Dioclea sericea
12. Azafrán de raíz
Escobedia grandiflora
30. Cilantrón o Cilantro cimarrón
Eryngiumfoetidum
36. Desvanecedora
Piper hartwegianum
48. Lítamo real
Euphorbia tithymaloides
62. Pasionaria
Columnea consanguínea
69. Quereme hembra
Cavendishia tiyphera
70. Quereme macho
Cavendishia quereme



BOYACÁ

3. Agraz
Vaccinium meridionale
9. Apio de monte
Niphogeton ternata
38. Frailejón
Espeletia sp.
60. Papayuela
Vasconcellea pubescens
73. Sanalotodo
Baccharis tricuneata

META

5. Albahaca
Ocimum campechianum
37. Dividivi
Caesalpinia coriaria
90. Vira vira blanca
Achyrocline bogotensis

THE JOURNEY OF PLANTS

*common names of plants are given in Spanish. Scientific names are addressed to every species.

Source: Adapted from Rizoma, 2021.

BUNDLES OF HERBS WITH MANY STORIES BEHIND

The product consists of bundles of mixed herbs accompanied by recipes, instructions for use, and their biological description. In this way, an alternative product is offered that, in addition to publicizing the great variety of herbs found in the *plaza*, enhances a tourism experience that allows for its economic recovery.

The prototype is, then, a product and an experience since it is accompanied by an ecosystem of narratives and other accompanying products. The visitor can go to the *plaza* and find an informative map about the origin of the plants and herbs. QR codes also redirect the visitor to information such as the plants' catalog, their place of origin, and the collector's life story.

KEY LESSONS

- The constant visits to the *plaza* and the intention to include the merchants in key decisions throughout the process beyond the prototype allowed for trusting relationships to be built among them.
- All the human resources required to promote a project, be it tourism or any other experience that makes the place visible, reside there.
- In order to design a gastronomic prototype from plants, it is necessary to know the physicochemical properties of the species and their products so that possible toxic compounds can be identified.
- Botanical knowledge of species is an essential input for the proper taxonomic identification of plants since many share the same common name, even in the same localities. Likewise, knowledge of the biology and ecology of the species makes it possible to generate guidelines for their sustainable use *a posteriori*.
- In order to take commercial advantage of biodiversity, it is not enough to identify the current potential of species; it is also necessary to understand their future prospects (for example, to analyze the uses and elements that can be extracted from something that is commonly overlooked, such as plant residues). Creating business ventures based on this potential can bring more benefits to the producer and even give them access to more powerful and higher value-added markets.
- It is essential to consider the limitations that the collection of wild plants may represent, such as impediments from some authorities or conflicts with private landowners.
- The trajectories of city dwellers who sell in the *plaza* reveal that the rural and urban environments are mutually reinforcing and not separate spaces. In fact, the farmers' markets are the basis for the city to continue.