



13 YEARS

COPABASE

For 13 years promoting cooperative
production and conservation of the Cerrado



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production and conservation of the Cerrado

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"Looking back after a long walk can make you lose track of the distance we have covered, but if we stop at our image, when we start and when we finish, we will surely remember how much it cost us to reach the end point, and today we have the impression that it all started yesterday. We are not the same, but know more about each other"

GUIMARÃES ROSA

INTRODUCTION

The measurement of socio-environmental impacts is an asset for organizations, allowing systematization of practices, transparency and expansion of transforming actions. Managing business impacts helps to leverage positive results and mitigate negative externalities for society and the environment. On completing 13 decade, the Regional Cooperative of Family Agriculture and Extractivism Ltda. (Copabase), invested in a study of impact resulting from its actions systematized in this report.

As a methodological basis, the tool was the Analysis of Social Return on Investment (SROI), which assists in the assessment of intangible aspects of the work, and measures the relevant changes for the people involved – family farmers in the microregion Urucaia Grande Sertão in the northwest of Minas Gerais - priority focus of the organization. The work was endorsed by the Guide for the Social Return on Investment- Social Value International.

The material presented is divided into two stages. The first includes Copabase's history and the macro results achieved by the organization. In the second stage is the Social Return on Investment (SROI), resulting from the financing of more than 35 projects developed by Copabase with the support of partnership on a large scale with the Banco do Brasil Foundation.

The study is funded by the Critical Ecosystem Partnership Fund (CEPF), a joint initiative of the French Development Agency, International Conservation, the Japan's Government and the World Bank; and developed by Copabase with technical support from Catalisa, between June and September of 2021.

Copabase

Copabase was created on February 23, 2008 with the aim of generating incomes for families in the region of Vale do Rio Urucuia, through the sale of family farming products.

With 43 founders, it emerged as a result of the Vale do Rio Urucuia Regional Development Agency, which has been promoting actions aimed at Sustainable Regional Development since 2000. The organization has as a profile of cooperative family farmers, extractivists, artisans, young people and settlers of the municipalities in the Microregion Urucuia/Grande Sertão.

During its path, the cooperative had to develop strategies to operate in a territory characterized by natural wealth, fertile land, water resources and an appropriate climate for the development of agriculture and livestock; but with an agricultural production system characterized by small productive diversity, low economic density and use of conventional techniques based on the exploitation of natural resources, causing negative impacts on the Cerrado.

Installed on small properties, mainly originating from agrarian reform settlements, most farmers did not have technical assistance services and rural extension, resulting in low productivity and economic profitability, lack of integration with other producers and low connection with consumer markets.

For 13 years, Copabase has worked to expand the technical capacity of the members, foster production chains, improve practices and product quality, strengthen links between producers, seek new partnerships, provide infrastructure, develop management tools, add value to production and expand sales.



COPABASE'S Mission

Strengthen, benefit and market sustainable family farming products in the Rio Urucuia Valley.



A Visão de Futuro da COPABASE

To be a market leader in the commercialization and self-sustainable agro-extractivism segment of the Cerrado by 2020.

The municipalities covered by the Cooperative are located predominantly in the Northwest portion of Minas Gerais, Microregion Urucuia Grande Sertão, in the tri-junction of the Southeast, Northeast and Midwest regions of the country, namely: Arinos, Uruana de Minas, Riachinho, Urucuia and Pintópolis where are the majority of members. The Map shown in Figure 1 locates the communities served by the cooperative in the territory:

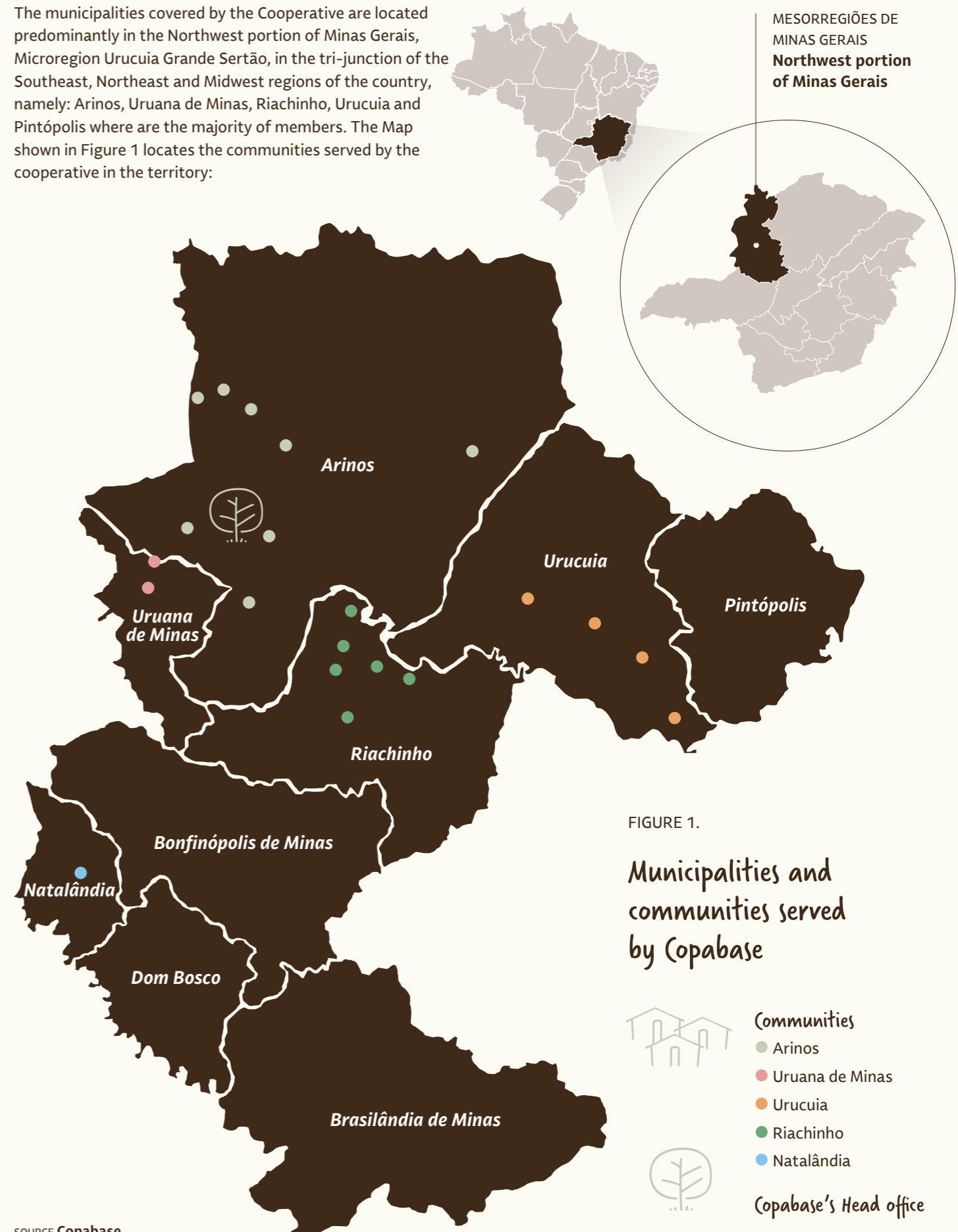


FIGURE 1. Municipalities and communities served by Copabase

COPABASE'S TIMELINE



2008

How to help members to produce and the factories to operate?

- Start of the cooperative.
- Copabase assumes the existing structure, inherited from the Development Agency Regional Valley of the Rio Urucua: factories of pulps and honey with some equipment, and a 60-hectare farm that was donated to MEC to deploy IFET in Arinos.
- Raising awareness of family farmers, training and creation of Committees Managers.
- Diagnosis to identify potentials production chains and opportunities for income generation.
- Management organization and institutional planning.
- IFET/COPABASE Cooperation Agreement



2011 A 2014

Legitimize and Strengthen the Cooperativism

- Rules and procedures adequacy for agribusiness to function: search for working capital, testing of machines and design of workflows.
- Illiteracy and weakness of the bonds between the cooperative members as a challenge.
- 1º Literacy Projcet
- Sacode Movement – Cooperative Education and Environmental Education.
- Production narrowing – honey, fruit and flour.
- Start of Ecoforte Project for the agroecological transition
- Spring Restoration – Certified as Social Technology



2015 A 2017

The strength of agroecological practices

- Ecoforte Project implementation: Implementation of the Ecoforte Project: 1000 families trained in agroecology, 53 agroecological units implemented.
- Launch FENABARU – Barú's National Party.
- ATER/ADRS Metodology Certified as Social Technology by Banco do Brasil Foundation.



2018 A 2020

New perspectives on products and the production

- Ecoforte Phase 2 Project
- Investment in processing and agroecological certification.
- Renovation and expansion of factories.
- New labels, new brand, new packaging.
- Pandemic and weakening of the PNAE.
- Need to look for new markets. Expansion plan (Sebrae)
- Fortress of Barú from Urucua/Grande Sertão – Slow Food

2021

Reaching new markets

- Prospecting for opportunities.
- Repositioning of the Copabase brand.
- Site update, new efforts to communication on social networks.
- Insertion and sale of ecommerce via Central do Cerrado.
- Insertion on Mercado Livre marketplace.
- Export Barú to USA.
- Communities that make up Copabase officially recognized as TICCA (Indigenous territories and conserved areas by local communities).



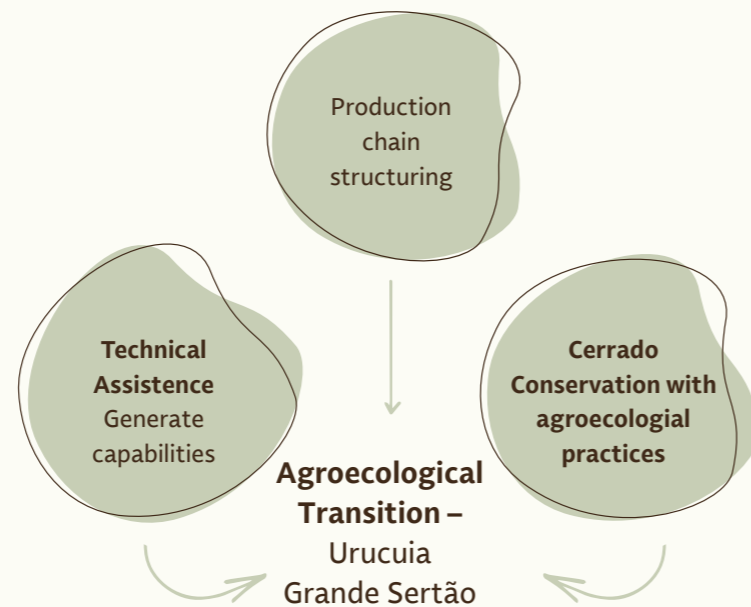
LINES OF ACTION

Copabase's entire path made it possible to convert the productive model applied to family farming in the region, formerly based on conventional agriculture, to agroecology, through three main lines of action, shown in the picture.

The agroecological production model seeks to expand the capabilities of systems to adapt to climate change.

Agroecological practices help to create self-sufficient, healthy and pollution-free systems that offer safe, affordable and varied food.

PICTURE 2
Copabase lines of action



SOURCE Catalisa

Furthermore, technologies adapted to the needs of small farmers offer the best opportunities for inclusive development. By putting food producers at the center of food systems, increasing autonomy and revitalizing rural areas, the cooperative contributed to giving a new value to their identities.

For the member **José Milton**:

"Copabase was a success for people here in the region. Before, we produced and had nowhere to deliver. Today everything that we produce, we sell. We know that the cooperative is a family farming cooperative and it's ours. We put all our trust in Copabase that has faithfully served our lives from 2008 until now."



PICTURE 7 Sistema agroecológico de fruticultura consorciada SOURCE Copabase



This productive model provides opportunities for women to increase their economic autonomy and to some extent power relations influence.

For the **Cleide Lamarca**:

"I joined Copabase at the beginning; we met many times to create the cooperative. It was a great help to the cities that are part of the organization. For my life, Copabase brought a lot of learning. I come from a big city and I didn't value the fruits that fell on the ground, the fruits of the Cerrado. Today I value the soil and the things of the land and I sell the fruits of my backyard."



COPABASE'S PRODUCTIVE CHAINS

What moves Copabase are family farmers and their productions. Therefore, a great effort by the cooperative was focused on the development of production chains, considered potential for generate income.

In Figure 3, there are the main productives chains of the cooperative today.

In orange, are the distinguished priority chains for the organization in which investments and assets are concentrated.

Over the years of operation of the cooperative, the investment in pulps is notable, with emphasis on the fruits of the Cerrado, and Baru's nut. This direction is responsible for recovering areas previously degraded by pasture and in the 1980s by charcoal production.

The valuation of typical products from the region added value to the the Cerrado em Pé, and was a catalyst for the important agroecological turnaround in the territory.

PICTURE 3 Productive chains supported by Copabase



PICTURE 9 Honey production SOURCE Copabase

In blue, the chains that are “managed” individually by the producers, in which the products are processed individually on the properties and packaged, labeled and sold by the cooperative.

The honey chain on the other hand, received a large investment from Copabase at the beginning and generated significant installed assets. However, the implementation of Municipal Inspection Seal (SIM) in the region led to the demobilization of cooperative beekeepers, which ceased to benefit and market collectively and started to invest and act individually. Farmers who managed to become regularized through the Municipal Inspection Seal (SIM), or with the Regional Inspection Seal, trade individually. Today Copabase considers the assets acquired for the beekeeping as an installed capacity, which can be used when there is a more balanced market which can occur for example, with export.

“The charcoal plant provided a living, but it was just a livelihood, because there was little. Today, in terms of fruit and milk, everyone has jobs and people’s health is different. Twenty years ago practically every settler worked with charcoal in Arinos. There was no return, I worked to survive.”

Gaspar do Amaral Cooperative



PICTURE 8 Productive women's inclusion SOURCE Copabase

PRODUCTIVE CHAIN'S RESULTS

Evolution's data of the production of family farmers in 13 years of participation in the Cooperative.

(* considering the purchase of Copabase, production may be bigger than that recorded here)

TABELA 1
Production's evolution of Copabase in 13 years

Productive Chain/ Product	Year Zero (2008)	Year 13 (2021)
Fruit	5.946 kg	105.256.40 kg
Cassava (flour)	313 kg	3.810 kg
Cotton (organic)	894 kg	4. 879 kg
Baru (nut)	27 kg	7.826 kg
Beekeeping (Honey)	9.017 kg	815,10 kg

FORTE Copabase

It is significant to observe the increase in the production of fruits and Baru's nut which is a consequence to the growth of recovered areas with trees and especially native species in the region, since there is a stimulating the production of Cerrado fruit pulps, a product with high added value in the market.

*In the case of honey, the only decreasing product in production, the justification was dealt earlier in this report.

Additional results of Copabase's work

- 20.800 hours of technical assistance offered to producers
- 95 thousand kilos of compost produced
- 88 seedling nurseries with 270.000 seedlings produced and transplanted
- 300 small dams built
- 69 hectares of planted fruit trees
- 1000 hives producing honey
- 1800 literate people
- 241 fenced and produced springs
- More than 37 financing approved, with capture of about 12 million of reais
- 112 active members
- Productive inclusion of 34 women



Copabase's current infrastructure

Agroindustrial Complex inside the Arinos IFNMG's Campus

Administrative Headquarters with rooms, changing rooms, canteen and laboratory

Honey warehouse

Fruit Processing Unit

Other structures

Administrative Headquarters and Cotton Processing Warehouse

Baru Processing Unit

Exhibition store and sale of products from the production chains

Copabase's partnerships during the trajetctory

The partnerships made are important points as the potential for growth and increased production of Copabase depended mainly on the credibility and trust that the partners placed in the cooperative.

Today, COPABASE has a partnership with the city halls of the municipalities where it operates, and the following institutions:



PICTURE 10 Youth training – Baru's nut procesing SOURCE Copabase



COPABASE'S SOCIAL RETURN ON INVESTMENT (SROI)

SROI tells the story of how change is being created by measuring the social, environmental and economic results and uses monetary values to represent them



Methodology

The SROI is a tool for evaluating projects, which consists of attributing a financial value to the social and/or environmental impact generated by them. These impacts, which can be of any nature, positive or negative, are attributed through financial assumptions.

For this report, we used the methodological reference of the Guide for the Social Return on Investment/Social Value International, published in 2012 by the Institute for the Development of Social Investment (IDIS) in partnership with the Charities Aid Foundation (CAF); which provides for the implementation of the SROI in six stages:

- Establishing scope and identifying stakeholders;
- Map the results;
- Showing results and giving them a value;
- Establish impacts;
- Calculate the SROI;
- Reporting, using and embedding.

Easily forgotten, this last step is vital and involves sharing the results with stakeholders and reacting to them, incorporating processes with good results and verifying them.

For data collection, we established a focal point of the cooperative (manager), inserted in the organization since its foundation, responsible for providing the evaluation team: Copabase documents, contacts for interviews, data and information on achieved results and other important inputs for the process; in addition to intermediating focus groups and validate SROI indicators. For this evaluation, documentary analyzes were carried out (management reports, business plans, articles and project reports), interviews with managers and cooperative members and a Focus Group, between the months of August and September 2021.

SROI's Process of construction

It is very important for the application of SROI to define the scope of the analysis to be carried out - the projects limits and what will be decisive for the identification of its inputs, outputs and stakeholders. In Figure 4, we present the stakeholders defined by Copabase.



PICTURE 4

Main actors that interact with Copabase

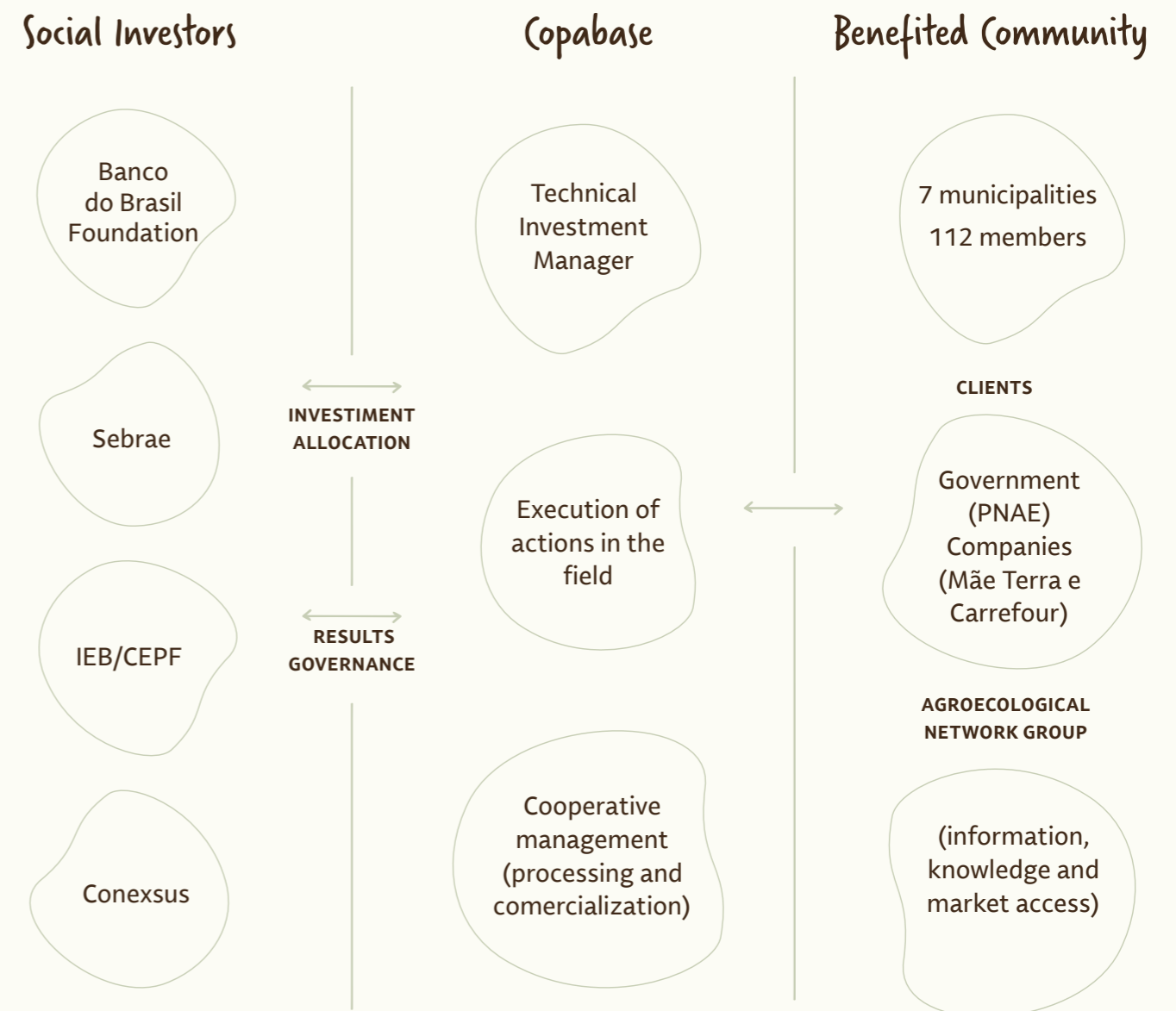
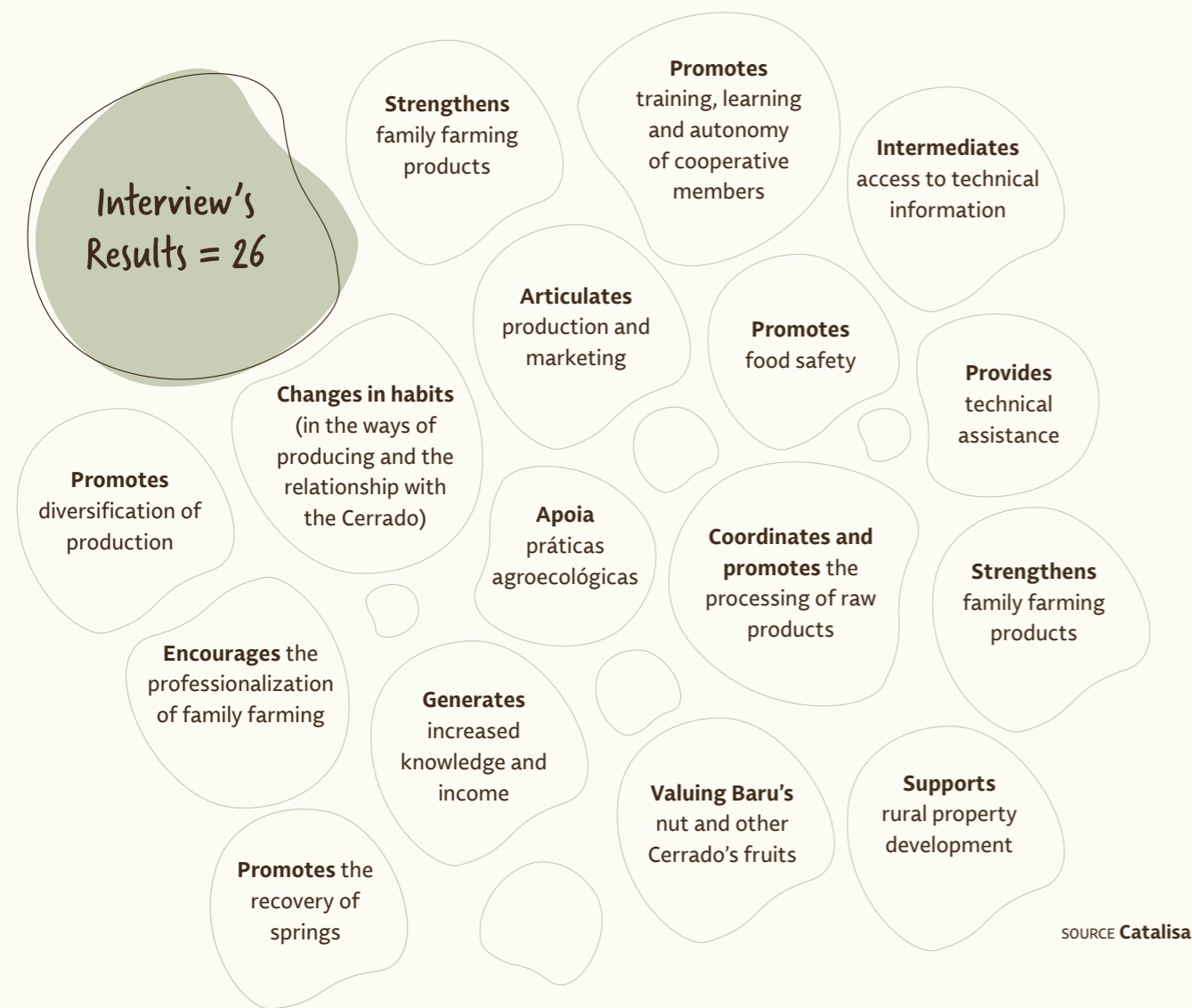


FIGURA 5
Farmers' testimonials about Copabase's contributions in their lives.

What difference does Copabase MAKE in the members' life?



SOURCE Catalisa

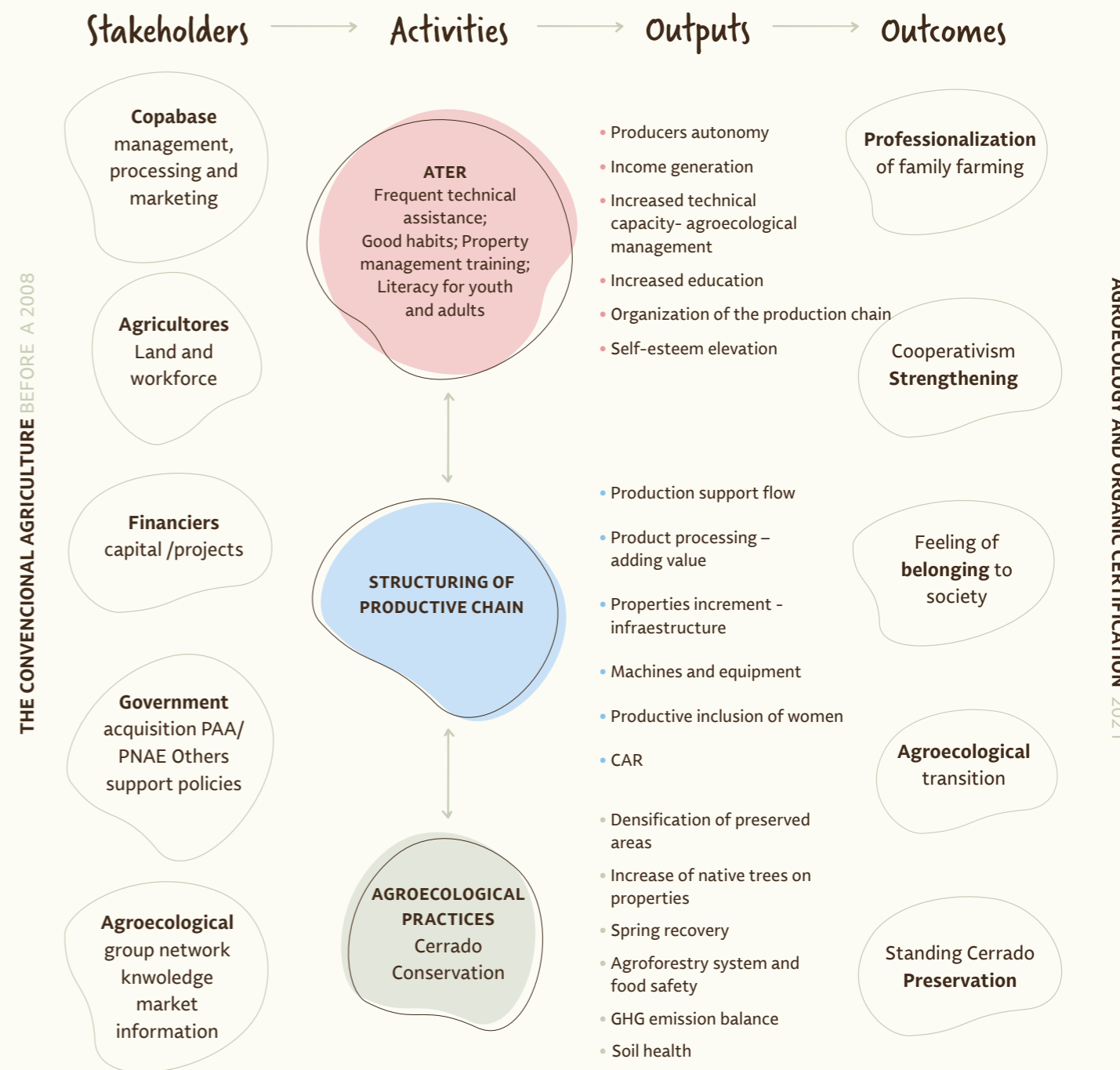
After identifying project stakeholders, the SROI methodology indicates that it is necessary to define tools to gather information and impressions from each of them. In the Copabase evaluation process, the team conducted 10 interviews with managers and cooperative members, and with support of the cooperative, a Focus Group with the participation of 26 farmers, to identify the main changes that have occurred in their lives after 13 years of cooperativism. The results are shown in Figure 5.

After interacting with stakeholders and collecting information associated with each of them, the team sought to consolidate an "Impact Map" of the analyzed project, capable of helping to better understand and visualize the outputs in light of the inputs. For the construction of the impact map, the chosen tool was the Theory of Change, whose result is shown in pictures 6 and 7.

PICTURE 6

Theory of Change

Copabase: From Convencional Agriculture to AGROECOLOGY in Urucua Grande Sertão



PICTURE 7

Services that Copabase delivers to Cooperative members

Copabase analysis – services for members

SOURCE Copabase

Activities	Results	Impact
<i>What the business does</i>	<i>What the business delivers</i>	<i>What the business transforms</i>
<p>It supports family farmers in the Urucuia Grande Sertão region in production, processing and marketing its products through:</p> <ul style="list-style-type: none"> • Technical Assistance and Rural Extension • Promotion of Productive Chain – production, processing and Commercialization of products from family farming (beekeeping, fruit farming, extractivism) • Promotion of agroecological practices. 	<ul style="list-style-type: none"> • Increased technical capacities to produce agroecologically; • Increased education; • Producers autonomy; • Increase income; • Increment of properties - infrastructure, machinery and equipment; • Production diversification; • Productive inclusion of women; • Support for production flow; • Processing of raw products; • Preservation of the flora, soil and water resources. 	<p>Transition of the production model in the Urucuia/Grande Sertão region: formerly “individual” and with a high impact on the environment, now cooperating and promoting the conservation of the Cerrado.</p>



Based on the construction of the Theory of Change, Copabase states that:

“Through projects financed by partner organizations, it was possible to support the transition of the region’s production model of Urucuia Grande Sertão, before individual and of high impact on the environment, for a cooperative model and promoter of Cerrado’s conservation.”

Based on this reflection, the main results of Copabase were established, initially considering the three axes of action of the cooperative (Table 2).

TABLE 2

Copabase’s main social and environmental results

SOURCE Copabase

Copabase’s initial results

Lines	Results
Technical Assistance	Decrease in illiteracy rates Increased technical capacity and agroecological management Elevation of self-esteem
Productives Chain	Product processing Increment of properties - machinery and equipment Support for production flow Rural Environmental Registry (CAR) Productive Inclusion of Women
Cerrado conservation	Balance of greenhouse gas emissions Spring recovery Increase of native trees on properties Soil health Agroforestry systems and food security Densification of preserved areas



Then comes a new proposal for organizing the changes in two axes – social and environmental – and reducing the scope to five results, for which there was no duplicity, as well as consolidated primary data strong enough to support the SROI.

Later, it was time to define the indicators, gathering data and information in order to quantify them. For this purpose, the stakeholders themselves who already have a profound knowledge of the enterprise were consulted. For this evaluation, most of the metrics were extracted from the primary database, in Copabase reports.

TABLE 3

Copabase Results and Social and Environmental Indicators

Results and indicators for applying Copabase’s SROI

Stakeholders	Lines	Results	Indicators
Copabase Farmer / cooperative Financier	Technical Assistance /Productive chain	Illiteracy decrease	Increase in the schooling rates of cooperative members
		Production diversification	Producer Income
		Inclusion of women in productive activity	Number of women included in production Increased women’s income
	Agroecological practices	Spring recovery	Recomposition of hectares of native forest
		Increase of native trees on properties	Carbon sequestration

SOURCE Copabase

SROI ASSUMPTIONS

For each of the results described above, financial assumptions (proxies) were defined that could, in some way value them in order to translate the impacts generated by Copabase into market value.

TABLE 4

Assumptions for Copabase's socio-environmental impacts

Results, indicators and proxies for applying SROI Copabase

Results	Indicators	Proxies
Decrease in illiteracy	Increase in the schooling rates of cooperative members	Economy generated for the government by Copabase actions - student/year cost in youth and adult literacy (EJA)
		Increase in the income of Copabase's indirect target audience, due to the increase in schooling rates
Production diversification	Increased Producer's Income	Producer's complementary income generated by participation in Copabase
Inclusion of women in productive activity	Income of women producers	Income generated for women producers after joining Copabase
Spring recovery	Number of recovered springs	Monetização de pagamento por serviços ambientais - preservação de nascentes
Increase of native trees on properties	Hectares recovered with native forest or Agroforestry	Monetization of payment for environmental services - preservation of springs
	Tons of sequestered CO ²	Monetization of the cost of recomposing Cerrado hectares - native forest and agroforestry

The premises are presented, one by one, below. Some may have a more objective and direct nature, in other cases, the subjectivity about the value generated and the fact that such value is not usually transacted in the market may require the use of more complex assumptions.

Assumptions—Social line

Economy generated for the government by Copabase actions - student/year cost in youth and adult literacy (EJA)

According to Ricardo Paes, chief economist at the Ayrton Senna Institute, the impacts of non-literacy in Brazil go far beyond access to employment and income, with impacts on individuals' health and family planning. A study carried out by the researcher with men, in 2017, showed that probability of being in good health at age 35 was 67% among the literate and 56% among those without access to education. With regard to formal employment, the literate have a 71% probability of access, while for the illiterate this percentage drops to 45%. The chances of early childhood education for children of illiterate children are also lower (38% for literate parents and 69% for illiterate parents), as well as for students who drop out of school after learning to read (54% of children of literate parents and 74 % for children of illiterate parents).

Os The negative impacts of non-literacy cross generations and directly interfere in the quality of life of citizens, consequently generating more expenses with public repair policies in the areas of health, social assistance, security, among others. When Copabase, by through its partnerships, it takes literacy opportunities to 1800 students from rural communities, via the Education of Youth and Adults (EJA), relieves the State, generating savings for public coffers. To quantify this social return, we multiply the number of people literate by Copabase by the value of investment cost student/year (R\$ 3,349.56) released by the Ministry of Education in 2020.

Increase in the income of Copabase's indirect Target audience, due to the increase in schooling rates

A study by the João Pinheiro Foundation from 2020 on the structure and evolution of employment in Minas Gerais before the Covid 19 pandemic brings economic, demographic and social indicators of the formal and informal labor market in the state.

Based on this study (Table 5), to compose this premise, we considered the total number of workers (which could be domestic workers, formal employees or self-employed), who in the interior of MG, in 2019, had an income of R\$ 1,109, 00 if they were illiterate, increasing to R\$ 1,413.00 when education was completed fundamental. This aggregate income, based on the increase in the level of education, reaches R\$304.00 per individual.



TABELA 2

Assumptions (proxies) for Copabase's socio-environmental impacts

Position in Occupation	Instruction Level	Average real income (R\$)/regionalization/year			
		Country side		RMBH	
		2012	2019	2012	2019
Employed in the private sector	No education and less than 1 year of study	973	1.029	1.045	1.014
	Incomplete Elementary	1.134	1.221	1.340	1.326
	Complete Elementary	1.287	1.331	1.411	1.361
	Incomplete High school	1.164	1.129	1.272	1.262
	Complete high school and incomplete College	1.566	1.492	1.748	1.621
	College	3.431	3.432	5.161	4.679
	Total	1.461	1.595	2.063	2.102
Housework	No education and less than 1 year of study	586	701	986	997
	Incomplete Elementary	679	765	923	944
	Complete Elementary	627	787	958	1.075
	Incomplete High school	558	707	757	1.004
	Complete high school and incomplete College	681	800	1.065	1.134
	College	888	1.571	898	986
	Total	660	779	945	1.023
Employed in the public sector (including statutory and military servants)	Complete Elementary	953	995	-	-
	Incomplete High school	1.279	1.331	1.191	1.783
	Complete Elementary	1.262	1.538	2.593	1.197
	Incomplete High school	1.200	1.898	1.659	970
	Complete high school and incomplete College	1.822	1.963	2.713	2.636
	College	3.555	3.629	6.426	6.019
Employees	No education and less than 1 year of study	2.180	6.460	1.022	-
	Incomplete Elementary	3.744	2.751	4.115	1.634
	Complete Elementary	3.582	3.006	4.760	3.750
	Incomplete High school	5.693	14.496	3.549	3.812
	Complete high school and incomplete College	5.071	4.142	4.450	4.037
	College	7.600	7.833	13.548	7.895
	Total	5.118	5.239	7.425	5.195
Self-employed	No education and less than 1 year of study	653	1.046	1.173	1.385
	Incomplete Elementary	1.254	1.196	1.274	1.159
	Complete Elementary	1.411	1.520	1.825	1.490
	Incomplete High school	1.586	1.297	2.253	1.607
	Complete high school and incomplete College	2.050	1.653	1.861	1.765
	College	4.990	3.003	6.062	3.676
	Total	1.684	1.574	2.227	1.904
Total	No education and less than 1 year of study	820	1.109	1.073	1.199
	Incomplete Elementary	1.196	1.214	1.317	1.228
	Complete Elementary	1.376	1.413	1.665	1.438
	Incomplete High school	1.335	1.597	1.465	1.429
	Complete high school and incomplete College	1.849	1.712	1.982	1.825
	College	4.044	3.859	6.429	5.114
	Total	1.731	1.859	2.534	2.384

SOURCE João Pinheiro Foundation, 2020

To compose the valuation of the premise, we also used the number of students graduated by EJA Copabase between 2014 and 2017 – 1800 students – estimating that 30% of this total consisted of cooperative members and 70% of the organization's indirect public. For the calculations, we excluded the direct public, already accounted for in the "income of members" proxies, and we understand that 70% of EJA participants (1260) had the opportunity to increase their income by R\$304.00/month, in periods subsequent to the completion of elementary school, between 2018 and 2021.



PICTURE Rising before recovery, in 2008 and after the Copabase project, in 2021

Producer's complementary income generated by participation in Copabase

To quantify this result, we used Copabase's primary payment/year data from 2008 to 2021, for the purchase of products from cooperative members. We attribute the amount paid as Complementary Income generated by participation in the cooperative, as producers also do other business individually.

Income generated for women producers after joining Copabase

To quantify this result, we used primary payment/year data from Copabase to women members from 2008 to 2021, for the purchase of their products. We attribute the amount paid as Income Generated by Participation in the Cooperative, since the producers declared in interviews that they had no source of income before their productive inclusion in the field.

Assumptions – Environmental line

On January 13, 2021, the Federal Government sanctioned the National Policy on Payment for Environmental Services (PNPSA), with a view to regulating the market in the country. This movement, added to the various efforts of local governments, companies and civil society organizations, should accelerate payment for the maintenance of conserved environments and the recovery of important environmental assets such as forests, water resources and fauna.

From this perspective, the environmental assumptions for the assessment of Copabase's impacts were created, understanding the importance that the organization has in promoting the conservation of ecosystem services in the Cerrado Mineiro.

Monetization of payment for environmental services – preservation of springs

As a result of the projects implemented by Copabase, in partnership with funding institutions, 231 springs were recovered in the Uruçua Grande Sertão territory.

The Brazilian Forest Code determines that permanent preservation areas (APPs) must be maintained within a radius of 50 meters around springs and water holes, a measure observed by the cooperative in its recovery actions.

To compose this proxy, we calculated the measure in hectares of 231 recovered springs – 180 ha. Next, we searched for payment references per hectares of preserved springs, identifying some initiatives:

- Municipal program of payment for environmental services in Jundiaí (SP) – R\$ 250.00 per hectare/year of preserved spring
- Payment program for environmental services in Guaratinguetá (SP) – R\$ 173.00 to R\$ 346.00 per hectare/year of preserved spring;
- Ecocredit Program in Montes Claros (MG) – R\$ 220.20 per hectare/year of preserved springs.

Several other examples can be found in Brazil. We chose to work at R\$220.00 per hectare/year. The amount was distributed as potential resources to be generated with the recovery of springs within Copabase, between the years 2018 and 2021, when the programs listed above began to appear

Monetization of the cost of recomposing Cerrado hectares – native forest and agroforestry

A Forest restoration with agroforestry is an important alternative for social and productive inclusion in family farming, enabling the generation of work and income, and providing food and nutritional security while promoting the recovery of degraded areas and the environmental adequacy of rural establishments and possessions in accordance with current legislation.

To calculate the value of this assumption, we use two parameters. In the first, we assess the added value with the transformation of areas used in conventional agriculture, with exploitation of environmental resources, into agroforestry areas. In the second, we evaluated the value of hectares of native forest (Cerrado) recovered, considering the 20% preservation of APPs provided by law.

A) Value of areas transformed into agroforestry

Copabase works with 112 active cooperative members, who together have an area of 2,033.51 hectares. As previously mentioned, these farmers migrated, over 13 years of cooperativism, from a conventional production model to an agroecological production, with numerous positive effects on the territory. To compose the parameters of this premise, we consider 80% of the total area as transformed into agroforestry, with a percentage of 1600 ha.

According to a study produced by WWF-Brasil, in partnership with Embrapa and the Federal University of Acre, the recovery of native vegetation in agroforestry systems can generate an average annual return of more than R\$ 4,500 per ha/year compared to monoculture (soybeans, for example) and livestock, a reference used in this evaluation.

B) Environmental value of hectares of recovered cerrado

To compose the parameters of this premise, we consider 20% of the total area as having the Cerrado forest recovered, with a percentage of 400 ha. For Regina de Amorim Romacheli and Conrado Martignoni Spinola, in their study on the valuation of the Cerrado, the estimated value of the environmental asset is R\$10,998.70 (ten thousand, nine hundred and ninety-eight reais and seventy cents) per hectare. To reach this value, the researchers used the “replacement cost” method, calculating the expenses with the recovery of damage caused by degradation.

Monetization of tons of CO₂ sequestered as a result of recovered native forest hectares

To calculate this assumption, we used as parameters the area of hectares of recovered native forest (400ha), the average of tons of CO₂ captured per ha of recovered forest (21.32) and the amount paid per ton of carbon (R\$50,00).

Data from the Space Research Institute (INPE), collected between 2000 and 2009, indicate that a recovered Cerrado area, with an average volume of wood (planted trees), corresponds to an average carbon stock of 21.32 ton/ha.

We understand that there are two types of carbon market: compliance, in which companies trade credits to meet emissions reduction targets, and voluntary, in which companies and now people can neutralize their emissions, either by social pressure or by awareness of the climate issue. We know that the voluntary market moves 100 million tons of carbon a year globally. It is not regulated, although there is international certification. On the Moss platform, which has been operating in this segment for a little over a year, R\$ 70 million were handled — of which 85% by individuals — who were used to neutralize 1.5 million tons of carbon. The figure was used to remunerate Amazon inhabitants for five projects that preserve 1.5 hectares of forest, the equivalent of a city in São Paulo.

Considering that this may be an opportunity for Copabase, we used as a metric the value of 10 dollars applied per ton/ha in 2021 for the international voluntary market (R\$50.00), for SROI calculations.



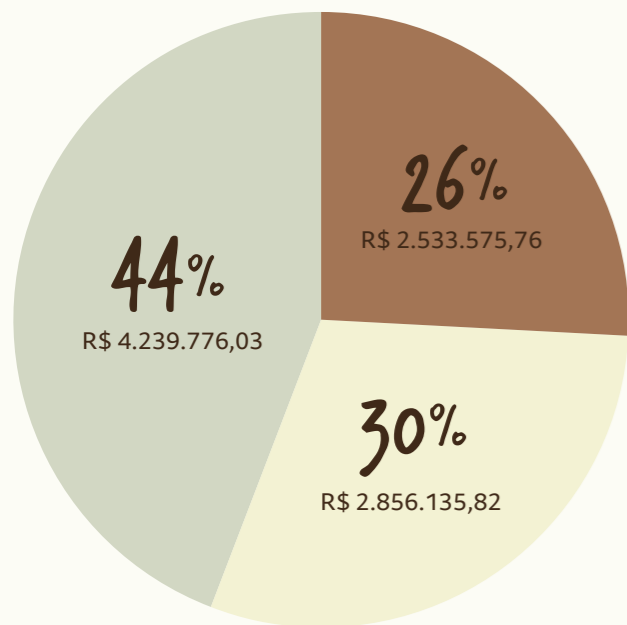
SROI'S CALCULATION

Para In order to calculate the SROI, we considered as input all funds raised by Copabase, through more than 35 projects, in 13 years of work, totaling R\$ 9,629,487.61. For the calculation, we analyzed the projects one by one, and tabulated from three clusters: i) Investment in infrastructure and inputs for project execution, ii) investment in human capital for project execution, and iii) costs.

We chose to consider the entire amount invested in the SROI analysis, considering that it was fully absorbed to generate the transformation of the agricultural productive model, from the conventional to the agroecology, the biggest impact of Copabase in the territory.

GRAPHIC 1

Items for financing Copabase projects, adopted for this evaluation.

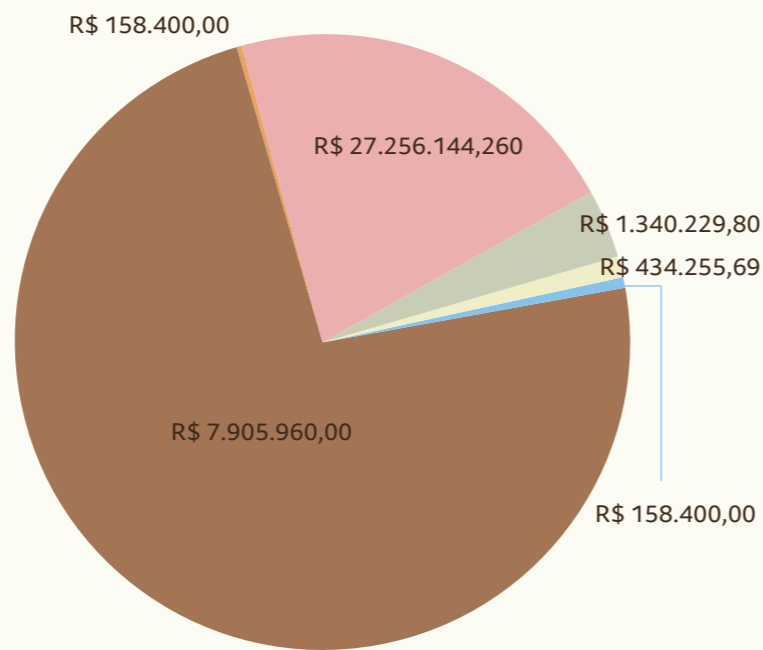


- Investment in infrastructure and inputs for project execution
- Investment in human capital for project execution
- Costs

SOURCE Catalisa

GRAPHIC 2

Social and environmental return value



- Increase in the schooling rates of cooperativa members
- Income of the cooperative producer
- Productive inclusion of women
- Number of recovered springs
- Recomposition of cerrados's hectares
- Carbon sequestration

The socio-environmental return value, linked to the Calculation of six assumptions was **R\$ 37.634.959,75**.

After applying the parameters for establishing impact, as guided by the SROI Guide, is established the cash flow of Copabase's social and environmental results over these 13 years.

Considering that it is a long period and, as we are dealing with a historical relationship of investment and return, it was decided to apply a monetary correction. The IPCA-IBGE was used to correct the correction. Even if inflation values, since the initiative is located in the interior of Minas Gerais, are different from the national average, the correction can still be considered because it is linked to income and purchasing power, which are points of interest since if you want to see the real evolution of all benefits. The application of this correction factor is also important for report to investors that the investment in Copabase generated real socio-environmental returns to report to investors that the investment in Copabase generated real socio-environmental returns for the beneficiaries. After the correction, it is now possible to calculate the SROI.

*IPCA-IBGE corrected values

Total Social and Environmental Returns	R\$ 46.781.111,99
Investments	R\$ 13.956.912,47
S-ROI	2,35

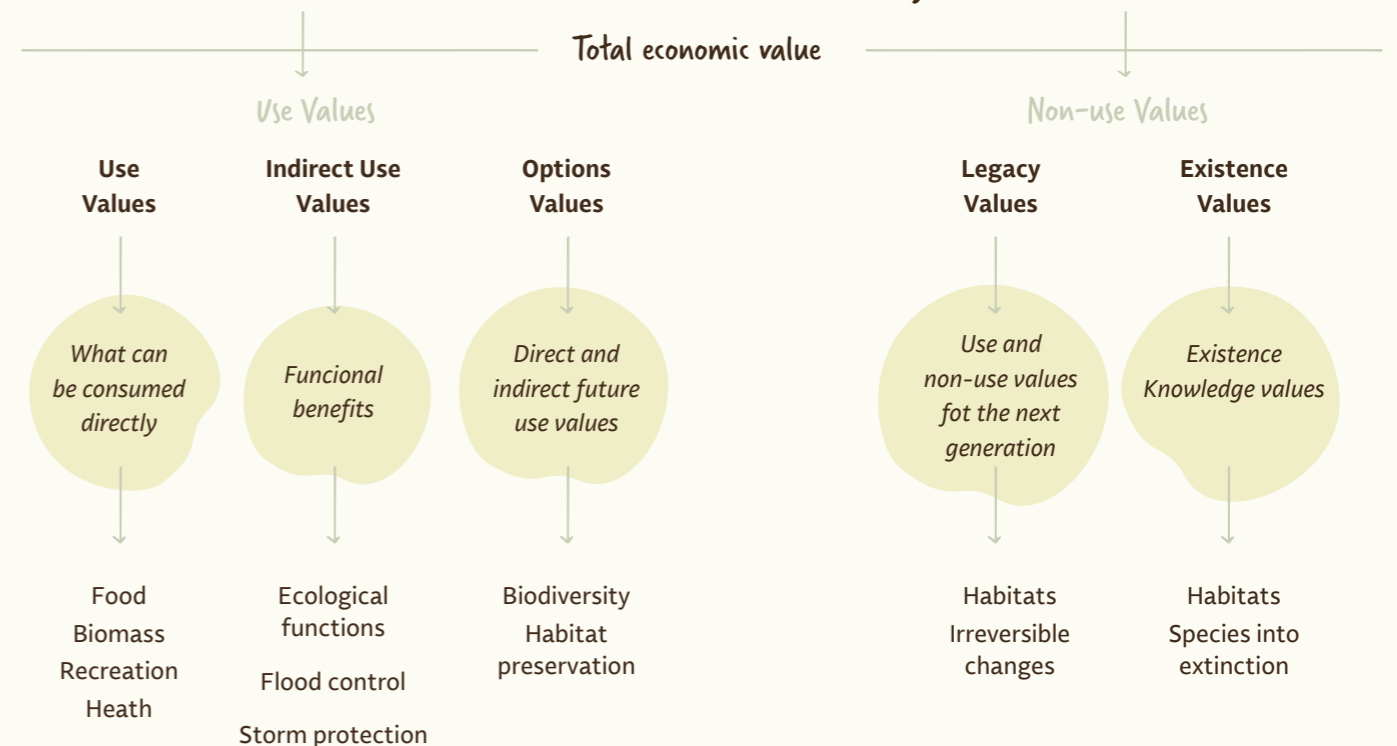
The SROI ratio equivalent to 2:35 means, in other words, that for every 1 real invested as an investment in Copabase, there was a generation of 2.35 reais in social and environmental returns for the business' stakeholders.

Copabase and fostering the conservation of ecosystem services in the Cerrado Mineiro

The environmental value of an ecosystem can be interpreted in different ways, expressed by individual or public preferences and attributing economic value to it according to existing resources. The economic value can be composed of use and non-use values, as shown in picture 8.

PICTURE 8

Economic values attributed to environmental heritage



SOURCE Munasinghe (1992 apud FIGUEROA, 1996)

Over 13 years, Copabase, which was born with the mission of “Strengthening, benefiting and commercializing sustainable agricultural products from the Vale do Rio Urucuia”, achieved much more significant results. By investing in agroecology as a productive model, it also invested in increasing the quality of life of its members and in preserving ecosystem services.

In accordance with the principles of agroecology, in material prepared by the International Cooperation for the Development and solidarity (CIDSE), from the social perspective of the agroecological transition, we can list as Copabase results:

- The development of technologies adapted to the needs and circumstances of small farmers
- Promoting actions to place food producers at the center of food systems (peer exchange of practices, promotion of food producer skills), increasing autonomy and revitalizing rural areas
- The promotion of trust and solidarity in the producer/ consumer relationship that provides nutritious, healthy and culturally appropriate food;
- Creating opportunities for women to increase their economic autonomy and to some extent influence power relations, especially at home, while increasing the diversity and value of the roles available to men.

From an environmental perspective, the results are:

- Improving the interaction, synergy, integration and positive complementarities between elements of agrosystems (plants, animals, trees, soil and water) and food systems (water, renewable energy and the links of relocated food chains).
- Optimization of resource cycles (nutrients, biomass) by recycling nutrients and biomass that already exists in agricultural and food systems;
- The maintenance of above-ground and in-ground biodiversity (a wide range of species and varieties, genetic resources, locally adapted varieties/breeds etc.) over time and space (land level, farm level and at the landscape level);
- Climate adaptation and resilience, while contributing to the mitigation (reduction and retention) of greenhouse gas emissions by using less fossil fuels and allowing for greater carbon fixation in soils.

From an economic perspective, the results are:

- Promoting livelihoods for farming families, helping to make local markets, economies and employment more robust;
- Promoting income diversification in agriculture, giving farmers greater financial independence, increasing resilience by multiplying production sources and livelihoods and promoting independence from external inputs;
- Reducing aid dependency and increasing communities' empowerment by encouraging sustainable livelihoods and dignity.

The transition from the production model in the Urucuia/ Grande Sertão region, which used to be individual and had a high impact on the environment, to a cooperative model that promotes the conservation of the Cerrado changed lives and transformed scenarios. A beautiful story to support!!

Considering that the premises used to assess Copabase's social and environmental impacts did not exhaust all the results achieved by the organization, the SROI 2,35 is quite expressive.

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TECHNICAL FILE

Execution of

Cooperativa Regional de Agricultura Familiar e Extrativismo Ltda - COPABASE

Catalisa - Rede de cooperação para sustentabilidade

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Orlando Nastri Neto

Graphic design

Danilo de Paulo | mercurio.studio



About Copabase

Regional Cooperative of Family Agriculture and Extractivism Ltda. (Copabase), was created in

February 23, 2008 with the mission to strengthen, benefit and market family farming products in the Urucuia Grande Sertão territory. The objectives are to expand the technical capacity of cooperative members, foster production chains, improve practices and product quality, strengthen links between producers, seek new partnerships, provide infrastructure, develop management tools, add value to production and expand sales.



About Catalisa

With 18 years of experience, organically formed by the meeting and the communion of purposes of various professionals linked to Cooperative Games, Solidarity Economy, Cooperatives, Environmental Education and Sustainable Practices, is an institution that catalyzes sustainable development. Our DNA is cooperation and sustainability, with these characteristics we create and strengthen networks through dialogues, expand social integration, and together we identify and build sustainable solutions.

This report was composed with Lemance and Verveine types, in September 2021



Financial Organization

Critical Ecosystem Partnership Fund (CEPF). Joint initiative of the French Development Agency, Conservation International, European Union, Global Environmental Management, Government of Japan, and the World Bank.

