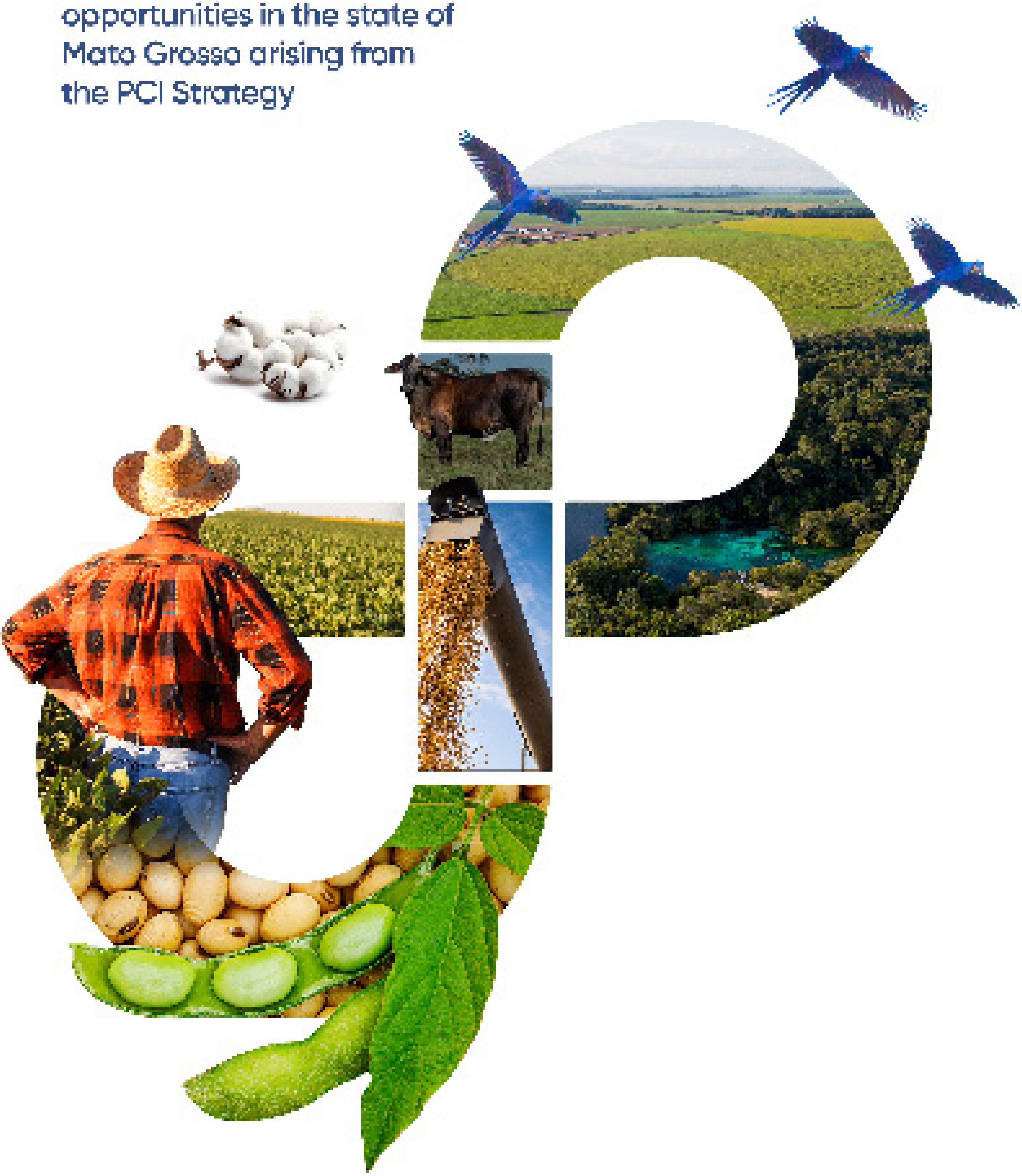
Economic and financial analysis of the investment opportunities in the state of Mato Grosso arising from the PCI Strategy



INTRODUCTION

Launched in 2015 during the Climate Convention in Paris (COP21), the **Produce, Conserve and Include** (PCI) Strategy is a jurisdictional approach initiative focusing on sustainable land-use development in the State of Mato Grosso. The strategy aims to promote socio-economic development in the territory through the sustainable use of land, thus creating a safe market environment for producers, buyers and investors.

The PCI's vision for 2030 is to accommodate the future growth of the state's agricultural production within the existing production area through sustainable livestock intensification combined with the adoption of good agricultural practices **(Produce)**. Areas of native vegetation are restored in accordance with legal requirements and the remaining forests and savannas are protected **(Conserve)**. Family farming, indigenous peoples and traditional communities improve their well-being and prosper through access to credit, technical assistance, and access to markets **(Include)**.

This vision is materialized in a broad plan of goals in its three axes, built in a participatory process that integrates the agendas of public, private and civil society actors. **Among the goals for 2030 set in the three thematic axis are *(Figure 01):***

PRODUCE
Expansion and incresedd efficiency of Agricultural, livestock and forest production

BEEF CATTLE

• Recover **2.5 Mha** of low productivity pasture areas by 2030.
• Increase productivity from **50 to 116 kg/ha/vr** by 2030.

AGRICULTURE (SOY, CORN, COTTON)

• Expand grain area in to degraded pasture areas from **9.5 to 14.69** million hectares by 2030.
• Increase grain yields from **50 to 125 Mton** by 2030.

NATIVE FOREST
• increease the area under sustainable forest management from **2.8 to 6 Mha** by 2030.

PLANTED FOREST

• Increase planted forest area in open areas from **317,000 to 8000,000 ha** by 2030.
• Increase planted timber production from **4.9 Mh3 to 11.75 Mm3** by 2030.

BIOFUELS
• Increase biofuel production to **13 million m^3** by 2030.

CONSERVE
Conservation of native vegetation and recovery of liabilities

DEFORESTATION

• Maintain **60%** of the state of Mato Grosso native vegetation cover.

• Reduce deforestation by 90% forest by 2030 and 84% by 2024 having as reference the baseline:2001-2010 (PRODES) of 5.714 km^2, **reaching 571 km^2 / year until 2030.**

• Reduce deforestation in the Cerrado by 95% by 2030 and 83% by 2024 having as reference the baseline of 3.016 km^2 (SEMA), **reaching 150 km^2 / year.**

• **Reduce 30% of hot spots** compared to the 2010-2019 reference period (28.300 hot spots) by 2030.

• **Eliminate illegal logging** by 2030.

• **Eliminate illegal deforestation** by 2030.

• **Compensate 1 Mha** of liable to legal deforestation.

ENVIRONMNTAL REGULARIZATION (FLOREST CODE)

• Register 90% of rural properties (CAR) by 2024.

• Validate 90% of CARS by 2024.

• Regularize **1 Mha** (100%) of degraded APP by 2030.

• Regularize **5.8 Mha** (100%) Legal serve 1.9 Mha of which by means restoration until 2030.

INCLUDE
Socio-economic incusion of family Farming and traditional population

PRODUCTION AND MARKET INCLUSION

• **100% adhesion of municipalities** in the SEIAF system by 2030.

• Increase the Gross Production Value (VBP) of family Farming from 1.2 Billion to **R$ 2.0 Billion by 2030**.

• Expand participation of family farming products in institutional markets (Programa Nacional de Alimentação Escolar - PNEAE) to **30%** by 2030.

CREDIT

• Increase acedd to Pronaf credit from R$ 882 million to **R$ 1.3 billion/year** until 2030.

LAND REGULARIZATION

• Accomplish **land regularization of 70%** of family farming plots by 2030.

Figure 01: *Targets by the year 2030 of the Produce, Conserve and Include (PCI) Strategy*

To determine the investment needs to meet these goals by 2030 and define ways to capture these investments, the PCI Institute, with the support of the Tropical Forest Alliance (TFA) and the REM-MT Program, carried out a study in partnership with the International Institute for Sustainability (IIS) indicating priorities and investment models necessary to achieve the goals of the Strategy.

This report includes: **i)** investments related to the PCI Strategy in the period 2016-2020; **ii);** additional investments needed to meet the targets by 2030 (updated from the 2015 estimates); **iii)** definition of priority areas for investments; and **iv)** design of six investment models for raising capital funds for meeting PCI's priority goals.

In 2015, during the PCI Strategy launch at COP-21 in Paris, an estimated figure of R$ 39 billion was released informing the capital requirements needed for all 15 years to reach all 21 goals of the PCI strategy. Of these, R$ 20 billion would be earmarked for productive intensification, R$ 5.8 billion for the implementation of the Native Vegetation Protection Law (LPVN), R$ 3.1 billion to prevent further deforestation and R$ 10.1 billion to support family production (R$ 6.7 billion in investments in production and R$ 3.4 billion in governance and public spending).

Based on the results of this present study, a total of 135 government projects and actions were identified (including rural credit) that between 2016 and 2020 were able to raise R$ 16.04 billion in actions related to the PCI strategy. These resources were distributed as follows: R$ 9.09 billion in the Produce axis, R$ 331.58 million in the Conserve axis and R$ 6.61 billion in the Include axis. Added to these resources are R$ 9.48 million invested in the governance of the PCI Strategy. Of the total amount raised, 96% of the resources were used ***(Figure 02).***

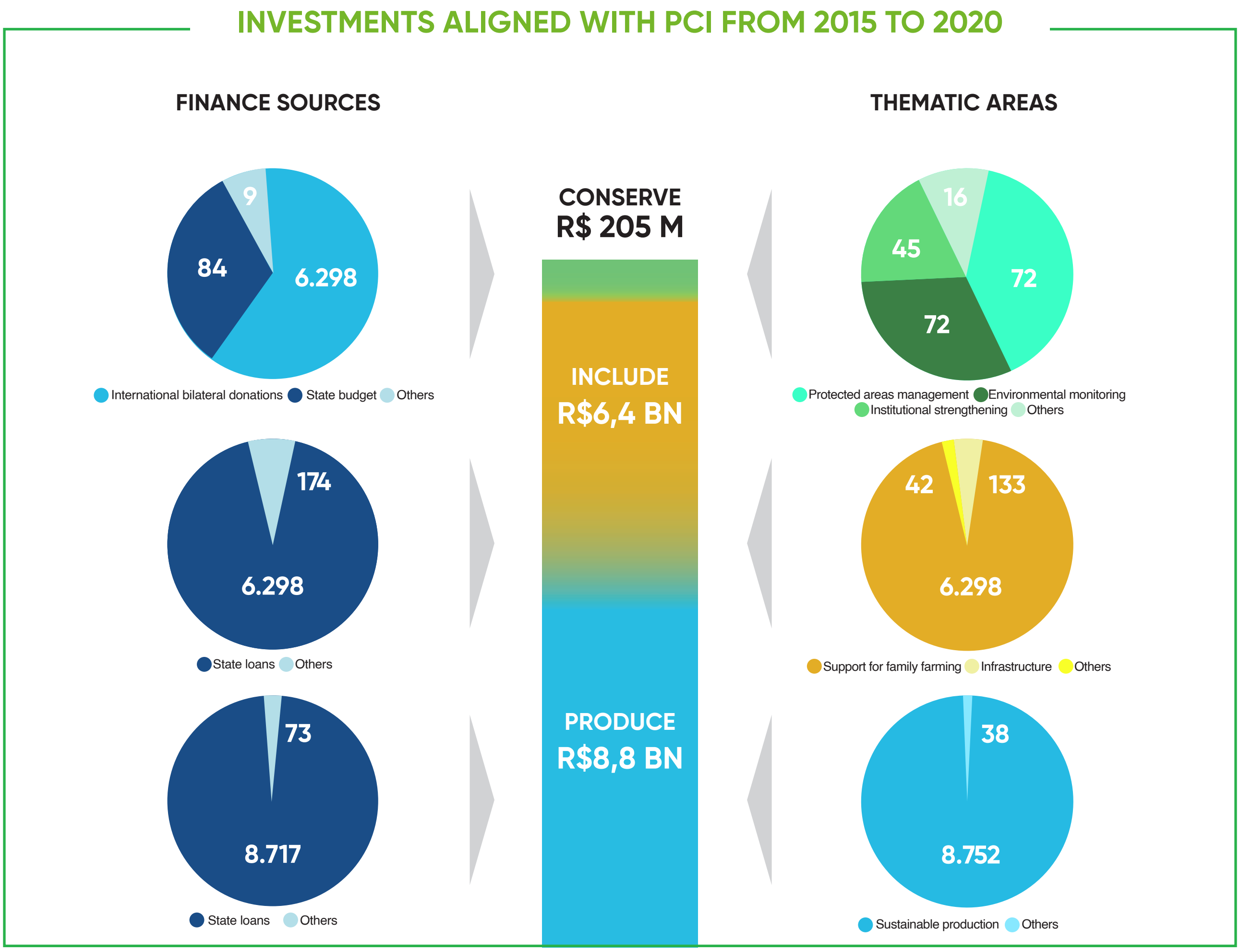


Figure 02: *Total resources executed for the PCI strategy from 2015 to 2020: Distribution by source of capital and thematic area (C - conserve axis; I - Include and P - Produce)*

In the Produce axis, investments were predominantly mostly from public financial institutions (eg: Banco do Brasil, BNDES, CEF), private banks, and via additional mechanisms to the banking system, such as, credits from suppliers and prepayments of customers and others. In the Conserve axis, public resources and international donations prevailed. Finally, in the Include axis, most of the resources were from the public sector.

Private investments aimed at sustainable activities are already taking place and should follow an increasing trend in response to incentives from the consumer market and legal changes in the member countries of the Organization for Economic Cooperation and Development (OECD). Investment in the Conserve axis, in turn, has resulted mainly from bilateral financial and technical cooperation. Regarding the investments in the Include axis, these include the contributions made via credit directed to family agriculture (e.g. PRONAF) as well as land tenure regularization, provision of technical assistance and rural extension.

INVESTMENT DEMAND UNTIL 2030

Based on the forecasts made in 2015, the methods were analyzed with the objective of adjusting, updates to estimate the additional demand from 2021 to 2030. Some of the targets set in 2015 did not have an estimate or their costs were assigned to related goals. Thus, the values, assumptions and calculation methods for the estimates were updated and/or generated for some targets that initially did not have cost estimates. **The result of this exercise is the estimate that the total demand for investments for the PCI Strategy between 2021-2030 is R$ 205 billion, of which R$ 40.15 billion for the Produce axis, R$ 139.05 billion for the Conserve axis and R$ 25.8 billion for the Include axis *(Figure 03).***

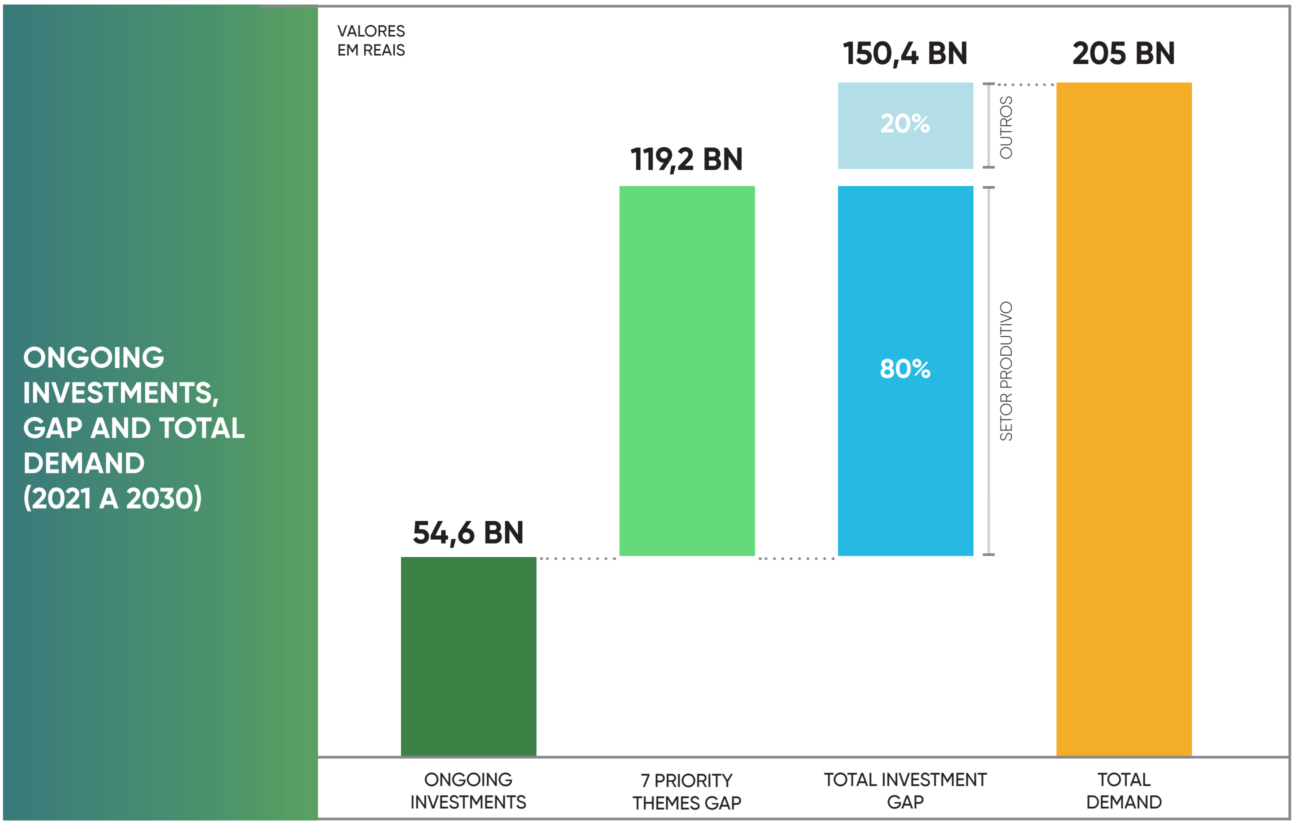


Figure 03. *Total demand and finance gap for the PCI strategy between 2021 and 2030: Ongoing investments and distribution of resources by sectors and themes (in billions of reais)*

PRIORITY GOALS FOR INVESTMENTS

Once the investment gap was identified, an analysis was carried out based on four types of criteria to highlight the degree of urgency/priority of investments: **i)** degree of contribution of the target to achieving the objectives of the PCI Strategy; **ii)** criticality of the goal; and **iii)** potential to attract investments for financing demands between 2021-2030. **Based on this analysis, the priority targets for investments identified are:**

1. **EXPAND TECHNICAL ASSISTANCE AND EXTENSION SERVICES TO SMALL FAMERS TO 100%;**
2. **VALIDATE 100% OF RURAL ENVIRONMENTAL REGISTRIES (CARS);**
3. **ELIMINATE ILLEGAL DEFORESTATION;**
4. **CARRY OUT THE LAND TENURE REGULARIZATION OF 70% OF THE FAMILY FARMING LOTS;**
5. **REDUCE BY 90% THE DEFORESTATION OF THE FOREST (AMAZON) AND**
6. **REDUCE DEFORESTATION IN THE CERRADO BY 95%.**

The values of demands and gaps are expressive and require a mobilization strategy that promotes synergies between the public and private sectors (including civil society here) for the realization of investments. Part of this demand would already be covered by projects still in progress and by the credit projections to be made available in the coming years, as well as resources from the state budget **Based on these projections, the amount of resources available over the next ten years for the PCI Strategy is estimated at around R$ 54.6 billion, which indicates a gap still to be financed of R$ 150.4 billion, or US$ 27.15 billion in 10 years, at the current price *(Figure 03).***

Of this R$ 150.4 billion, about 80% or R$ 120.3 billion (Figure 03), are investments that should take place in the field by the productive sector (such as restoration of pastures, planted forests, increase in productivity, restoration of Legal Reserves and Riparian Areas). Another R$ 30.1 billion are investments for other areas involving land tenure regularization, deforestation control, technical assistance, environmental regularization, and management of protected areas.

INVESTMENT MODELS

As a next step, the study focused on which investment models would be possible to maximize contributions from different sources of finance and their respective financial mechanisms. **The process of building investment models was based on combinations made between priority investment themes and priority financial instruments *(Figure 04).***

First, priority topics for investment were defined. This analysis was based on the PCI's priority goals identified above, together with the demand for investments to achieve each goal. As a result, it was possible to optimize the allocation of investments and, consequently, the effectiveness and results achieved by the PCI Strategy.

INVESTMENT MATRIX	INVESTMENT PRIORITIZATION					
THEMES	Validation of the Rural Environmental Registry (CAR)	Regularização Fundiária	Deforestation reduction	Consolidation of Protected Areas (UC and IT)	Sustainable Models for family Farming	Livestock Agriculture and Forestry
SUBTHEMES	Acceleration of the registration validation process, Family Agriculture SIMCAR CAR module, acceleration of PRA processes	Family Farming, Land Regularizartion	REDD (Completion of REDD Redness and implemenation of the next part, pay for results)	MT RPA, strengthening extractivism in IT and UCUS	Universalization of ATER for Family Agriculture (distance education, mobilization of private education systems, FIES/Agricultural technician)	Intensificação de Pecuária, ILPF/ Agrofloresta, aspectos jurisdicionais e visão integrada da paisagem + Adequação Ambiental (restauração
THEME N°	1	2	3	4	5	6

Figure 04: *Priority investment topics for the preparation of investment models*

Subsequently, a detailed analysis was carried out to identify the priority financing models for the PCI Strategy. The analysis was carried out from a total of 56 investment models where the combinations of each of the priority themes and financing instruments were individualized. Each of the combinations was subjected to a reasonableness test followed by a new suitability and feasibility test. Finally, the remaining models were submitted to an ordering by the factors, such as the prioritization of goal, coverage of the financial instrument, relevance, effectiveness, and efficiency.

The result of this analysis pointed to six investment models to finance the gap of R$ 119.27 billion in the PCI strategy: Endowment fund; Green Bonds; Blended Finance via Private Equity Fund; Credit Fund (FIDC) and Venture Capital Fund (VE) as well as Public Private Partnership (PPP).

Specifically, the sources of financing considered important for the implementation of the six models above were identified: **i)** Official Development Assistance; **ii)** Sovereign Funds and Foundations; **iii)** impact investors; **iv)** debt and banking markets; and **v)** stock markets.

ENDOWNMENT FUND

Endowment fund capitalized by payments for climate and biodiversity protection is the main strategy for receiving donation amounts. The same can be done through the creation of a state fund, under the responsibility of the PCI Institute together with a manager to receive funds, keep them under administration, approve projects and carry out disbursements and monitoring of results. Resources from this fund would be applied to projects that could provide a combination of grants, concessional credit and loans depending on the nature of the activities supported. To ensure its long-term financial sustainability, the fund could seek various sources of remuneration: **i)** charging interest on loans, **ii)** charging fees for services and, **iii)** income from financial investments with the fund's capital.

GREEN BONDS

Issuing green bonds (or Green Bonds) through a SPV with debt securitization to finance sustainable activities is an option capable of leveraging large volumes of resources. Potential issuers include: **i)** the State of Mato Grosso; **ii)** a large company; **iii)** a financial institution; or **iv)** a securitization organized by a manager and which can be structured through the creation of a Special Purpose Vehicle (SPV) or the issuance of a Certificate of Agricul-

tural Receivables (CRAs). To mitigate the risks of participants with low credit scores, it will eventually be necessary to structure operations such as the securitization of credit rights, long-term issues, staggered disbursements and controlled by a manager or even the establishment of projects with phases with detailed monitoring ***(figure 05).***
Para mitigar os riscos de participantes com baixas notas de crédito eventualmente será necessário estruturar operações tais como a securitização de direitos creditórios, emissões de longo prazo, desembolsos escalonados e controladas por um gestor ou mesmo o estabelecimento de projetos com fases com monitoramento detalhado ***(figura 05).***

Such securitized issues can have a similar effect to guarantee funds by leveraging possible guarantees. **These guarantees can be enhanced with the aggregation of a credit insurer or with a firm purchase agreement known as "offtake agreement by a client, for example a processing industry (figure 6).** Abroad, issuances usually exceed USD 100 million (approximately R$ 500 million) to offset structuring and distribution costs. Additionally, there is a need for a credit issuer with a good risk rating or for securitizations guaranteed by credit securities also with a good rating

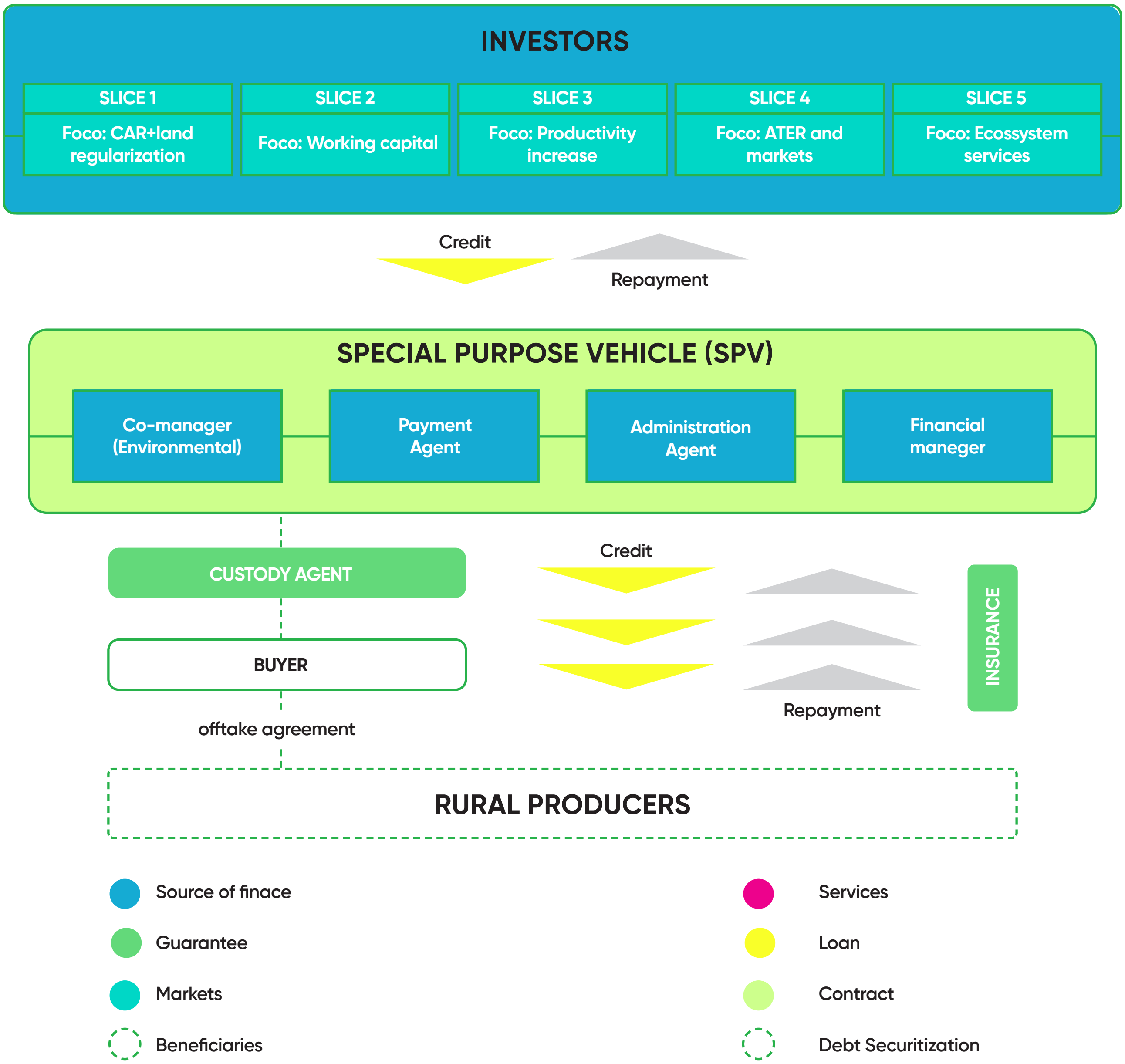


Figure 05: *Green Bonds via Special Purpose Vehicle with debt securitization and risk mitigation insurer*

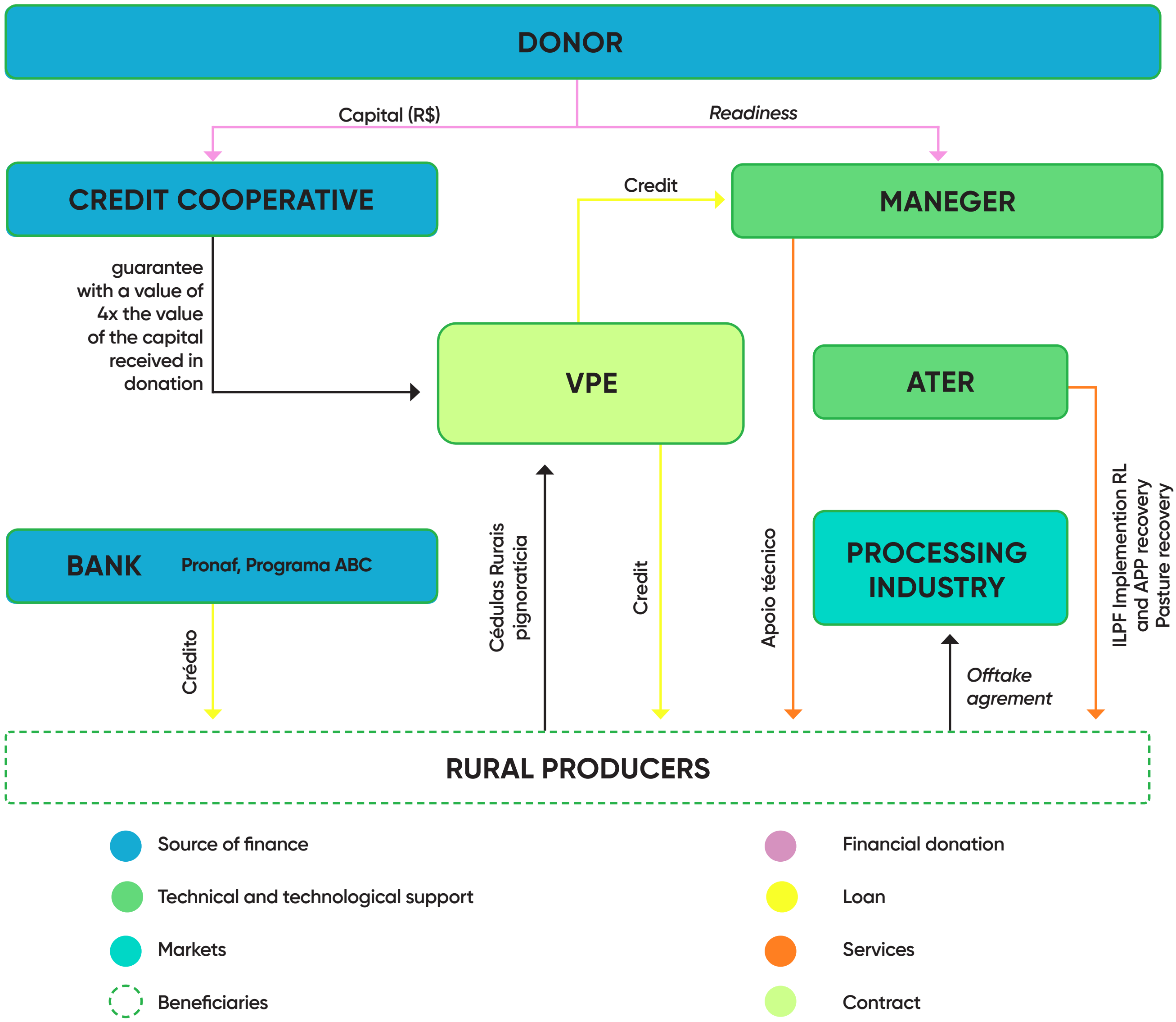


Figure 06: *Financial donation via a Special Purpose Vehicle with offtake agreement with a processing industry to guarantee future purchases*

PRIVATE EQUITY FUND (PE)

PE fund based on a Blended Finance structure to finance anchor companies has the potential to foster sustainable supply chains through financial donation for technical assistance. This Financial Model aims to finance sustainable production models, which would be developed by Anchor Companies, that is, companies that promote sustainable models of land use through different production activities (notably agro-industries), preferably including many family farmers in their value chain.

The creation of socio-environmental impact parameters guiding the investment criteria of this Private Equity Fund, potentially an Equity Investment Fund ("FIP"), could attract Impact Investors, thus creating an opportunity for structuring a Blended Finance Model, in order to leverage financial resources from Traditional Investors, who would be attracted by the Fund's innovative structure, since in its conception there would be an adjustment of the Risk-Return ratio, given by the composition of different types of investment quotas. Such quotas could be defined in 3 categories: Senior Quota, Mezzanine Quota and Subordinated Quota, each one housing a different type of investor, thus maximizing the fund's funding potential ***(Figure 07).***

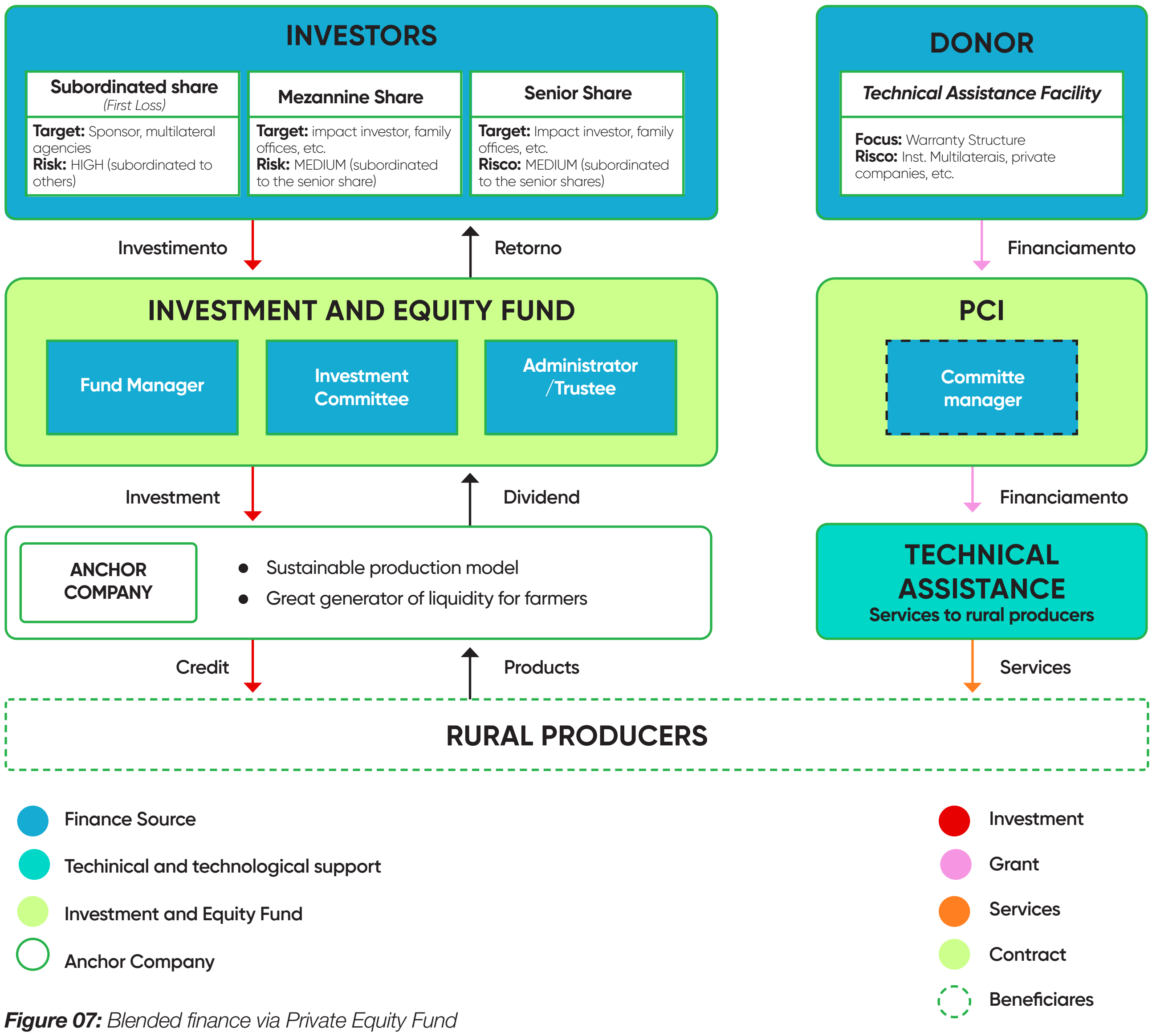


Figure 07: *Blended finance via Private Equity Fund*

CREDIT FUND (FIDC)

FIDC fund based on a Blended Finance structure to finance companies and producers that develop sustainable production activities. In this case, the focus would be on financing both Companies and Rural Producers, investment tickets would be smaller than the Participation Fund and capital would be more dispersed. For this, there would be a need for a slightly more complex structure of credit analysis by the Manager. The focus would be on financing sustainable production activities that were aligned with the objectives of reducing deforestation, environmental regularization and technical assistance and extension services.

As in the Equity Fund model, there could also be an additional layer of guarantees to further improve the risk/return equation for Investors. A Technical Assistance Facility could also be structured if the model of such a fund to focus on Rural Producers. This technical assistance support could be composed not only of the Technical Assistance ingredient "strictu sensu", but also of the environmental component of the production process, including support for the environmental regularization of properties and the planning of production sustainability (productive forest restoration, low carbon production models, etc.) ***(Figure 08).***

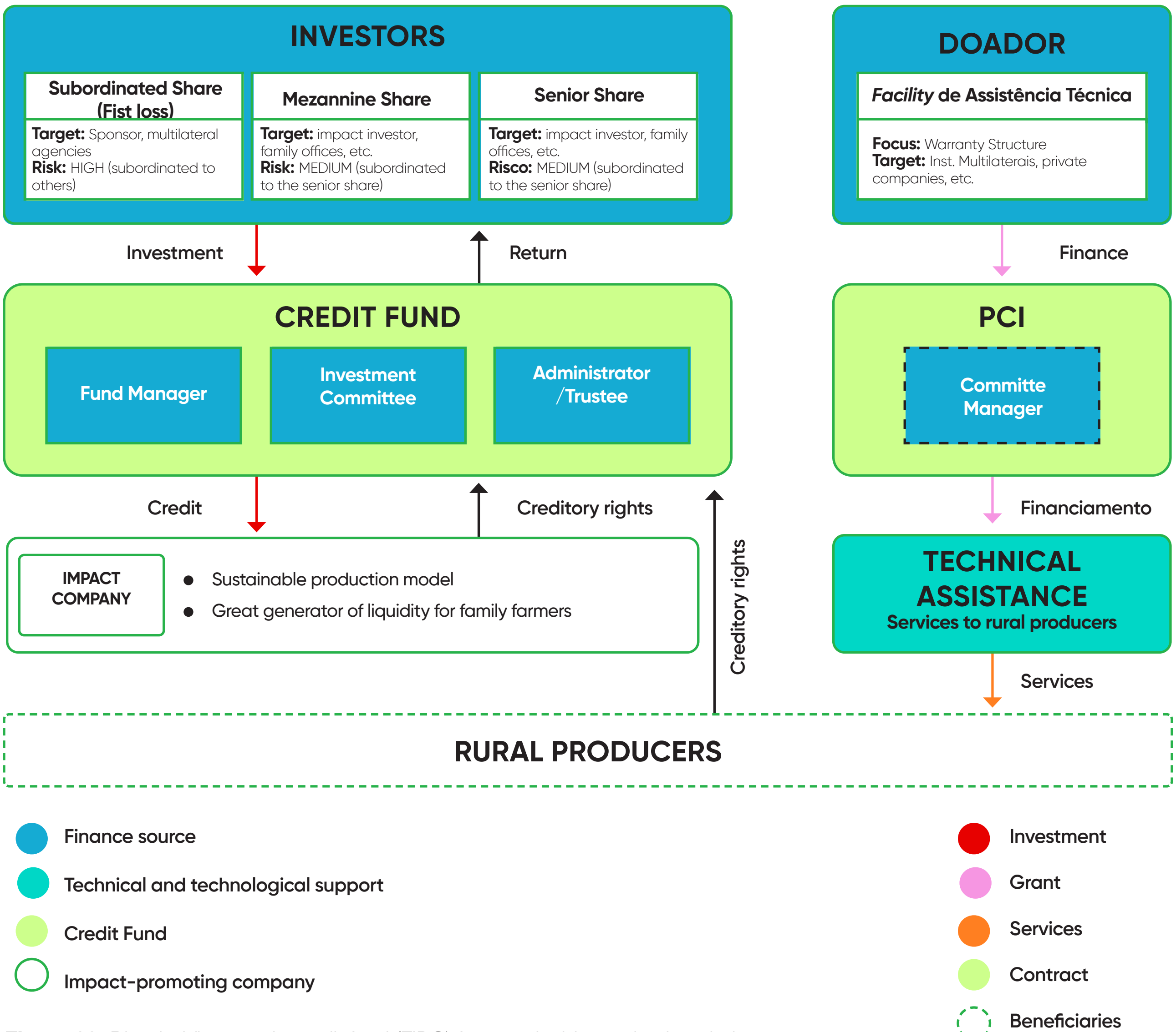


Figure 08: *Blended finance via credit fund (FIDC) for sustainable production chains*

VENTURE CAPITAL FUND (VC)

VC Fund via blended finance to finance "Startups" are aimed at innovative business models with high socio-environmental impact. It is an alternative investment modality in companies with strong growth potential, but normally in the initial stage of operations (and, therefore, with a high risk intrinsic to this phase of the business) and that have an innovation either of a technological nature or in the business model. Investments are made through the purchase of shareholding, usually minority, with the objective of achieving strong valuation of the company and seeking an exit from the operation within a given period. Such an investment strategy often includes not only financial support, but also support in strategic business definition, management, and connection with the market.

Venture Capital investment strategies can range from direct investment in equity participation in companies, or the structuring of regulated funds, through an FIP (Fund for Investment in Participation) or an FMIEE (Mutual Fund for Investment in Emerging Companies). It is proposed here to support the structuring of a regulated fund, seeking for such Impact Investors who accept the risk of this investment segment and who seek to promote innovative companies that operate in the state of MT and that offer a solution for the Sustainable Development Goals (SDGs) of Mato Grosso state ***(Figure 09).***

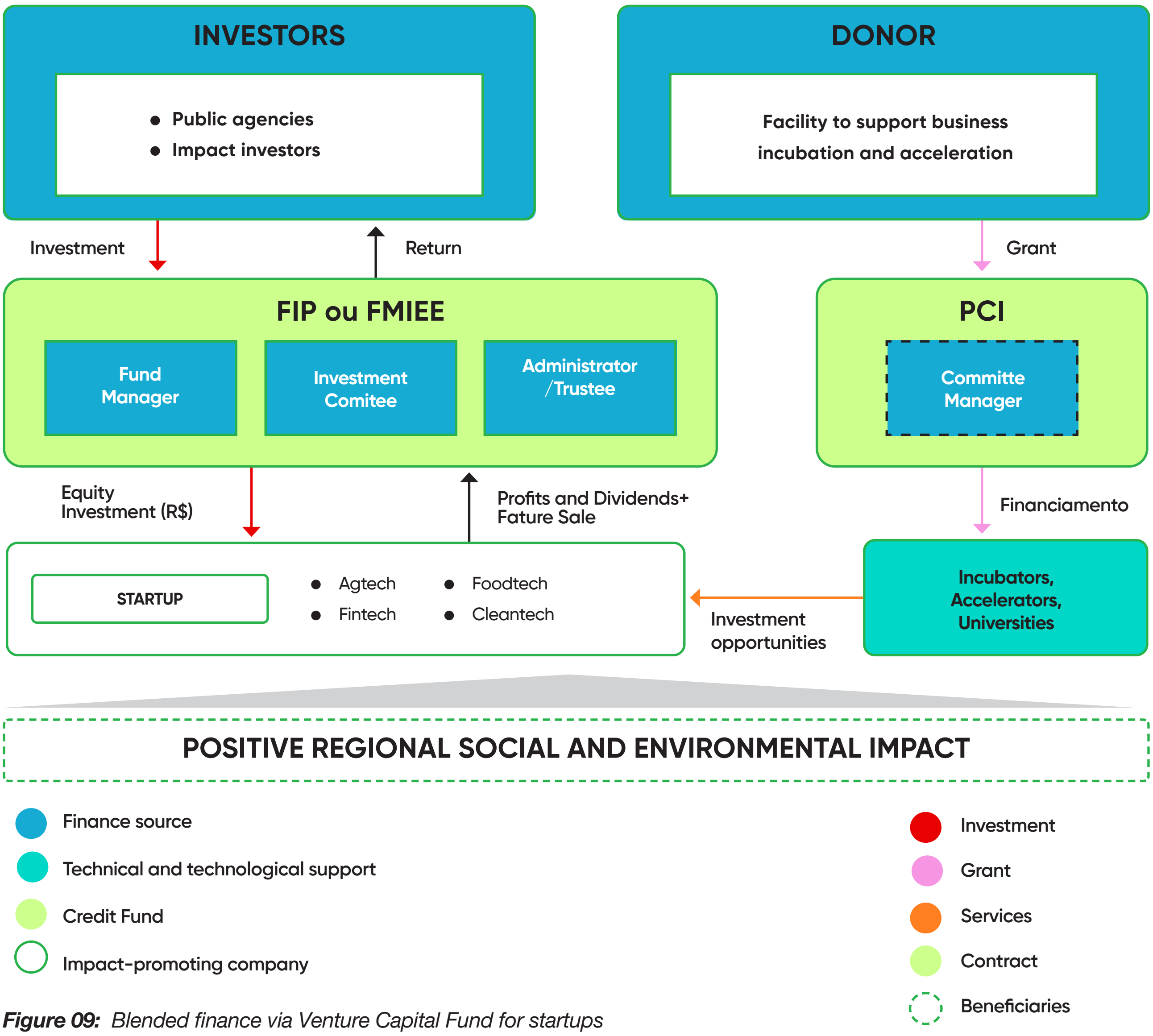


Figure 09: *Blended finance via Venture Capital Fund for startups*

PUBLIC AND PRIVATE PARTNERSHIP ("PPP")

PPP model is an option for promoting tourism and leisure activities as a way of generating economic viability in Conservation Units. This model implies the concession of visitation support services, through the attraction of private investments in infrastructure and management of areas of conservation units, expanding visitation in a sustainable way. The concession is a service provision contract signed between a public administration entity and a private partner that sets investments, remuneration and sustainability criteria to be observed during a determined period.

The concession projects aim to increase the tourist flow with positive social and economic impacts, especially for the communities surrounding the conservation unit, seeking to minimize the impact of the activity on the environment.

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