

# **Final technical report**

## **Project**

**“Natural resources management  
in Latin America: Lessons learned  
and opportunities for  
South-South cooperation with  
Africa”**

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# I. Background

The 2015 Sustainable Development United Nations Summit established a set of 17 objectives and 169 sub-objectives of the 2030 Agenda for sustainable development. The universal agenda known as the SDGs (sustainable development goals) is being implemented in different ways and offers a unique opportunity to promote local and regional adaptations, innovative policy solutions and locally owned understandings of sustainability. The concept of sustainable development has gained momentum in the African and the Latin American political discourse in recent years, especially after the Paris Climate agreements and the design of the Sustainable Development Goals (SDGs).

While several political leaders in different African and Latin American countries have endorsed their policies, implementation is still at a very early stage. Sustainable development appears as the first of the African Union long-term plan under the Agenda 2063: the goal is to achieve inclusive growth and sustainable development. While the agenda has a long-term view, it refers to aims of sustainability as to reach food security and contribute efforts against climate change.

There is a set of common challenges in African and Latin American economies related to the management of natural resources in a way that can boost inclusive and sustainable development. Short-term common challenges have to do with the natural resources boom, while over the long-term they are associated with China's rebalancing and its impacts on global markets.

With this project, Red Sur aimed at providing a policy-oriented assessment of the matrix of benefits and risks of the new global model for economic and social integration from the perspective of Latin American and African economies, to uncover spheres of coordination and conflict between these regions, and to explore the interregional mechanisms to deal with them. The project produced original knowledge aimed at contributing to understand challenges and opportunities that the new global growth model driven by emerging Asia pose to natural-resource rich Latin American and African economies, and to identify local meaning of sustainable development and potential policy spaces for cooperation. Specifically, the project assessed the emerging benefits and costs of the new wave of trade and financial globalization for Latin America and Africa, detecting common lessons in successes and failures. The project also drew policy lessons at a national and regional level as well as regarding South-South cooperation.

This project was the result of a research agenda for the future identified in a collaborative manner among research institutions from LA, Africa (Cape Town University and African Center for Economic Transformation – ACET, Ghana) and China (Chinese Academy of Social Sciences and Peking University).<sup>1</sup>

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<sup>1</sup> [See the workshop's presentations](#)

The International Development Research Centre – IDRC of Canada contributed to this project with USD 42,000 additional funds of the IDRC-Red Sur policy-oriented research project “SMEs, jobs creation and sustainability: Maximizing opportunities from South America’s commodities boom”. Through IDRC funding Red Sur and its partners implemented regional and multi-countries’ research to inform the policy agenda on how to foster small and medium enterprises (SMEs) development and quality job creation by considering the opportunities for productive diversification, technological and environmental upgrading and value-added generation in a commodities boom context. The complementarities and synergies of the latter four-year IDRC-Red Sur project with this project allowed for greater impact in policy-oriented activities. IDRC supported most of the background research of the [Flagship Report on natural resources and development 2016 - 2017](#), which is one of the main products of this project and will be described in detail in Section II.

This project approach on natural resources and sustainability dates back to Red Sur’s previous work in the field. Back in 2013, when this was a new field for most of the economists in the region, Red Sur promoted a participatory design of the conceptual framework of the [Observatory of Natural Resources and Development](#) and Red Sur’s [Flagship Reports](#) Series through two workshops. These [conceptual workshops](#), held in August and October, 2013, brought together representatives from the World Bank, IDRC, ECLAC and regional banks (IDB, IDB-INTAL and CAF), government officials, Red Sur researchers and other international experts. These workshops ensured policy relevance through the incorporation of policymakers’ interests and concerns, sound methodology validated with experts, and a trans-disciplinary perspective embedded from the early days in this research field.

Today, Red Sur is, among others, one of the leading independent academic networks in South America in assessing the development effects of natural resources in the region, and is well-positioned to influence the research agenda on these themes among policy makers and researchers in the region. In the last years it has done so in association with other highly-recognized partners such as IDRC, IDB, IDB INTAL, CAF and the OECD Development Center, raising the engagement of other key stakeholders in these themes (e.g. ECLAC and national governments). Its multidimensional approach aims at including every cost of and benefit from the use of natural resources, bringing together economic, social, and environmental data, research analysis, and policy recommendations.

## II. Activities and products

As a result of the activities carried out, the project identified key recommendations for policy makers and an innovative future research agenda covering main knowledge gaps in both target regions. However, the debates in regional workshops that were originally planned combining both regions were not easy to organize and it was decided to disseminate all the analysis online, and in direct communication with partners in Africa. Originally planned workshops combining both regions were substituted by an online fora, broader dissemination, international venues dissemination, and direct communication with partners in both regions. This implied a budget reallocation to organise such dialogue online through the Observatory on Natural Resources and Development. International events' participation was covered with cofunding from IDRC and organizers' supports. The cost of this substitution was covered with the item Regional Forum with a difference of USD 253 that was used under the item Consultants. The remaining budget was allocated to the policy paper under the format of a Flagship Report in English and Spanish, cofunded by IDRC. The total cost of the Flagship Report was USD 48,203 (IDRC contribution to that was USD 36,950, which covered the call for papers and translation, whereas PGTF funds covered USD 11,253). An additional cofunding of IDRC was allocated to Project Coordination, which completed the USD 42,000 of parallel funds for this project.

The project delivered the following research products:

- a) Background paper ***Development, sustainability and natural resources in South America. Conceptual framework and research agenda***, by José María Fanelli (UDES/Red Sur) (available in [Spanish](#)).
- b) Background paper ***Economic Transformation, Natural Resources and Sustainability in Africa***, Nicolás Depetris Chauvin (available in [English](#)).
- c) It contributed to **Red Sur's Flagship Report natural resources and development 2016 – 2017**, available in [English](#) and [Spanish](#).

These products were produced along with the following activities: 1) Research and publications' production, 2) Coordination and dissemination, and 3) Natural resources and sustainable development policy dialogues.

### 1) RESEARCH AND PUBLICATIONS' PRODUCTION

**1.1. Selection of the researchers** in charge of preparing two Background Papers and the third edition of Red Sur's [Flagship Report on natural resources and development 2016 - 2017](#), titled "Extractive industries and sustainable development: Challenges for Latin America and the Caribbean".

### **1.2. Preparation, drafting and final editing of two policy-oriented Background Papers:**

The research for Africa: background paper “*Economic Transformation, Natural Resources and Sustainability in Africa*” was carried out by Nicolás Depetris Chauvin. It analyzed the importance of considering the sustainability dimension in the current process of economic transformation in Africa, and if this can generate a bias against environmental issues. Given the need to incorporate the sustainability dimension in the economic transformation strategies and the possible trade-offs between economic and environment objectives, the study proposes elements for a research agenda on how African countries could manage and harness their natural resources for sustainable economic and social development. A special emphasis was given to the fact that renewable and non-renewables natural resources should be linked in the national transformation strategies.

The research for the South American background paper “*Development, sustainability and natural resources in South America. Conceptual framework and research agenda*”, by José María Fanelli (UDES/Red Sur), which explored the links between sustainable development and natural resources for middle income countries rich in natural resources. The work explores the links between sustainable development and natural resources for the case of economies rich in those resources and of middle income, as is the case of the great majority of South American countries. The hypothesis that animates the research is that to understand the role of the natural resources in sustainable development in such a context it is necessary, first, to put the emphasis on the question of sustainability and, second, to address sustainability from a multidimensional perspective.

**1.3. Preparation, drafting and final editing of the third edition of Red Sur’s [Flagship Report on Natural Resources and Development 2016 - 2017](#)**, titled “*Extractive industries and sustainable development: Challenges for Latin America and the Caribbean*”. This Flagship combines contextual analysis and the monitoring of quantitative and qualitative data with research in different natural resource-related topics. The series present natural resources and development indicators, which are also available online through the [Development and Natural Resources Observatory](#). The third edition of Red Sur’s Flagship provides information and analysis to better understand how extractive industries affect the economies of the region as well as the welfare of today’s citizens. It also examines if today’s generations are employing non-renewable resources to promote sustainable development considering the welfare of future generations.

## **2) COORDINATION AND DISSEMINATION**

**2.1. Design and launching of the Observatory of Natural Resources and Economic Development/DyR** (<http://desarrolloyrecursos.org/>), the platform where Red Sur’s Flagships and short pieces from other authors are accessible online. This platform articulates academic research with dissemination and debate, enabling the participation of broader groups via forums (policy makers, the private sector, the media and civil society).

It does so by publishing data and updated analysis on the topics of the new economy of natural resources and the implications for development in the countries of South America. Some examples of forums published for debate at the DyR observatory are: *“China, the super-cycle of commodities and South America”* by Ramiro Albrieu and Guillermo Rozenwurcel; or *“The fiscal impact of the exploitation of non-renewable natural resources in the countries of Latin America and the Caribbean”*, by Juan C. Gómez Sabaíni, Juan Pablo Jiménez and Dalmiro Morán.

**2.2. Dissemination activities:** the **background papers** were disseminated through different channels: Red Sur websites [redsudamericana.org](http://redsudamericana.org) and <http://desarrolloyrecursos.org/>, social networks, by mailing to Red Sur’ 6,700 international contacts database. Research findings resulting from the Flagship have been widely disseminated among policy makers and key stakeholders. The communication strategy was based on an open access dissemination plan and active participation in national and international events (detailed below).

### **3) NATURAL RESOURCES AND SUSTAINABLE DEVELOPMENT POLICY DIALOGUES**

#### **3.1. Meetings of the Policy Dialogue on Natural Resource-Based Development, OECD, Paris.**

June 29 and 30, 2015, June 22-23, 2016. Nov. 30 - Dec. 1, 2016. In terms of political dialogues, Red Sur has taken an active role in this Policy Dialogue through the participation in the preparatory processes, and through the presentation of the main findings from Red Sur case studies during both policy dialogues where policy makers from both regions were actively engaged. The work and analysis of the Policy Dialogue also feeds into other international processes such as the 2030 Agenda for Sustainable Development, the G7 CONNEX Initiative, the G20 Development Working Group and the G20 Anti-Corruption Working Group. **Audience:** policy makers, academics and civil society from developed and developing countries.

**3.2. Experts Meeting on the Latin American and Chinese Economic Perspectives - 2016: Partners for a development in transition. Paris, July 1, 2015.** Organized by the OECD Development Center, CAF and ECLAC. At this meeting, the Executive Director participated as a speaker of *Session 4: Economic links between China and Latin America: trade, finance and new instruments*. **Audience:** meeting of experts.

**3.3. The future of extractive industries in LAC and the role of Science, Technology and Innovation.** In September 21 and 22, 2016, Red Sur and IDRC of Canada held this workshop in Buenos Aires, Argentina. This workshop brought together regional and international experts and decision makers in different key areas related to the future opportunities and challenges for extractive industries development, and Red Sur presented all its papers related with natural resource and sustainable development during the workshop.

**3.4. Flagship presentations:** a) **Dissertation** "Recursos Naturales y Desarrollo: Desafíos y oportunidades para América Latina", Facultad de Ciencias Económicas y Estadística, Universidad Nacional de Rosario, Rosario, Argentina, October 2015. **Audience:** Academia and civil society. b) **Seminario Innovación y Recursos Naturales. Itapúa, Paraguay**, June 2015, by Red Sur, CADEP and ID. **Audience:** Local producer organizations.

**3.5. South South cooperation debates:** Red Sur coordinator participated at the **Technical Brainstorming** meeting on: "*South-South co-operation in a new development context: towards a consensus agenda for action*" held on Feb. 9, 2018 in Paris. The event was co-hosted by the United Nations Office for South-South Cooperation and the Development Centre of the Organisation for Economic Co-operation and Development (OECD), in collaboration with the Finance Center for South-South Cooperation. In this debate Red Sur Coordinator shared common positions that emerged from this project in terms of South South cooperation vision, opportunities and modalities<sup>2</sup>.

## III. Policy proposals and future research agenda<sup>3</sup>

The main objective of the project was to produce policy proposals and a future research agenda across the global South, to understand real challenges and visions under SDGs in South America and Africa and to promote South South cooperation in this sense. This section summarizes the main research findings in terms of policy proposals and emerging elements for a future research agenda.

The main actors and beneficiaries of the projects are:

- Negotiators and government officials belonging to the LA and African countries, particularly in the Ministries of Foreign Affairs, Economy and Finance, Industry, Agriculture, Trade and Development.

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<sup>2</sup> Link to interview (in Spanish):

[https://www.youtube.com/watch?v=MiOWqxFU10o&t=27s&index=12&list=PL8y\\_-mZiPrZ7ohG6aEezfVfaUrA0HruCj](https://www.youtube.com/watch?v=MiOWqxFU10o&t=27s&index=12&list=PL8y_-mZiPrZ7ohG6aEezfVfaUrA0HruCj)

<sup>3</sup> All this section comes from the papers produced under this project:

Depetris, Nicolás (2017). [Economic Transformation, Natural Resources and Sustainability in Africa](#), Working Paper N° 9 / Red Sur Working Document Series 2017 - 2018.

Fanelli, José María (2017). [Desarrollo, sostenibilidad y recursos naturales en América del Sur. Marco conceptual y agenda de investigación](#). Working Paper N° 8 / Red Sur Working Document series, Natural Resources and Development Flagship Report 2016-2017.



- Business groups, trade unions, non-governmental organizations (NGOs), regional networks, and other actors.
- The academic community as a whole –especially in Latin America and Africa– will be able to take advantage of the studies undertaken on topics of mutual interest. It will also benefit from the interaction with relevant decision makers and social actors, enabling them to improve the quality and orientation of ongoing and future research agendas.

The findings and key messages resulting from this research will continue to be disseminated electronically to target audiences since the SDG agenda is gaining attention under the 2030 Agenda and developing countries are reconfiguring their own commitments and priorities at the national and local level. **Policy implications** drawn from the research findings of the Background Papers relevant to the international agenda to promote South-South cooperation and regional visions were shared in the preparatory process towards the II UN Conference to be held in Buenos Aires in 2019 (see details in the previous section) and will be used by Red Sur and partners from Latin America and Africa to position a common agenda for sustainable development in the road to Buenos Aires.

In **Africa**, sustainable development challenges are extensive and include environmental challenges, deforestation and desertification, high population pressure and land degradation, resources conservation, displacement of communities from traditional lands, poor investment decisions and revenue management. Moreover, Africa is the continent which contributes the least to climate change, but suffers disproportionately from it. Therefore, it is in African countries' best interest to contribute against climate change.

The paper for Africa characterizes the relation between natural resources and economic transformation in Africa looking to the possible contribution of both renewable (agriculture) and non-renewable (extractives) resources. It discusses the importance of including the sustainability dimension and reviews the current policy initiatives on the subject in Africa, and propose elements for a research agenda on how African countries could manage and harness their natural resources for sustainable economic and social development.

However, the paper also alerts that there is an open issue on how important it is for African countries (and other developing countries) to adopt such policies. As the ECA describes, green growth and economic growth are no longer viewed as opposite paths, but as one that can have strong synergies (ECA 2016a). Nevertheless, it is worth asking if it is feasible to achieve the goals of high economic growth, inclusive growth and green growth at the same time. The strong optimism of multilateral agencies has been offset by some mild criticism. Some policy analysts have questioned the approach of green growth for developing countries (Jacobs 2012; Scott, McFarland and Seth 2013). Some authors such as Resnick, Tarp and Thurlow (2012) argue that imposing a green growth industrial policy might be inconsistent with the natural comparative advantages and past investments of these countries. They argue that green growth strategies which are promoted as 'win-win' policies may induce high short-term costs.

Doing so requires that countries deviate from both the prescriptions of conventional development theory and their current development trajectories. In addition, they add that the adoption of green growth strategies shares many parallels with structural adjustment programs. These two reasons could generate anti-reform coalitions, including both powerful local actors as well as the poor.

This asymmetric nature of the economies of resources rich countries, otherwise known as 'the resource curse', undermines the potential for natural resources wealth to transform regional economies. To reverse the trend, African policymakers need to formulate policies that successfully tackle drivers of economic transformation while giving regard to sustainable development principles. These include infrastructure development, technological innovation, facilitation of private sector growth, human capital development and improvement of access to investment finance. Simultaneously, a concerted effort must be made to shift focus from exports to value adding activities downstream of the oil, gas and minerals production phase.

There are many policy and institutional challenges that need to be addressed to unlock the potential for oil, gas and minerals to promote economic transformation. Notably, policies on investments made by the state in national resource companies, policies on geological data management and policies to guide negotiations with investors and to regulate a range of sustainable development challenges. However, the policy areas that have the greatest potential to impact the economies of resources rich African countries and help governments maximize the value of natural resources wealth are three. Namely, policies on fiscal regimes, local content and the promotion of downstream processing activities. These three areas are not only interlinked, but collectively they can create a critical mass of financial, commercial and industrial activity which is necessary to impact the growth of economies of resources rich states significantly.

Design and implementation of fiscal regimes are important for economic transformation because taxation, royalties, resource rents, signature bonuses and other sources of revenue from projects are potentially effective and expeditious ways to raise the level of income needed to finance the development of economies of natural resource-endowed countries. Accurately assessed, efficiently collected and prudently invested in the right activities, the revenue can be transferred into other sectors of the economy. The difficulty lies in selecting the appropriate combination of fiscal instruments and designing a regime that realises the important but conflicting objectives at the different stages in the resources value chain and in the economy. Namely, the need to maximise revenue from upstream while achieving competitiveness downstream. The need to balance current and future development needs and the importance of balancing public expenditure with public savings. The finite nature of the resources and sustainable development principles necessitate the reconciliation of these divergent considerations because without the right balance, governments are unlikely to replicate the value of the resources wealth.

In the extractive sector, “project inputs” include all human capital, goods, services, engineering processes and financial instruments that are needed to develop oil, gas and mineral resource deposits. The scope of the activities covers pre-production and extends right through the operation phases of the projects. Typically, these inputs are detailed and quantified as part of the sponsor’s assessment of project viability at inception and as part of routine internal controls at the operation phase. During the project development phase, the data can be used by policymakers to estimate the potential economic value of local inputs positioning government teams to negotiate more effectively with investors. It is this broad and comprehensive schedule of requirements for developing projects that determine the proportion of those that are procured from the domestic market as opposed to those imported from foreign markets (otherwise known as “local content”). Governments can facilitate this through policies that link national institutions with sponsors of the project. By creating linkages between the development projects and domestic companies, governments can pave the way for national companies to participate meaningfully in the project supply and demand cycle. By promoting local inputs into these projects, African governments can also successfully leverage natural resources wealth, jumpstart domestic economies and strengthen domestic market capability. However, to achieve this, a number of challenges must first be overcome. For instance, countries need to invest in strengthening the ability of local firms to meet the demands of industry without compromising project economic viability. On the other hand, efforts must be made to upgrade the capacity of national public and private institutions to compete with their foreign counterparts. Hence, the need for fiscal regimes that target investment in building this capacity. The long-term goal being to increase the level of inputs from domestic suppliers progressively and thereby generating growth and raising the capacity of the national economy to compete globally.

To profit fully from the value of natural resources wealth, policymakers in resources rich countries must target as many of the potential economic deliverables from resources development projects as possible. One effective way of achieving this is by designing policies that promote activities downstream of the production phase. If successful, governments can position countries to capture the progressive economic value generated during the various stages starting with the production of raw material and ending with the manufacturing of finished goods. In this context therefore, the concept means the process through which governments can extract additional value from the exploitation of oil, gas and mineral resources by enforcing policies that successfully promote processing and manufacturing of goods at source. Downstream activities complement those upstream because while the latter tends to be capital intensive and skewed towards income generation, the former facilitates domestic linkages through the establishment of processing and manufacturing plants. In addition, because downstream processing plants and manufacturing processes are labour intensive, they tend to interface more effectively with less developed economies than upstream oil or mineral development projects because downstream activities require light industrial applications and less specialist engineering processes typical of upstream mining and oil projects. Therefore, downstream industrial activity is a more effective mechanism for promoting economic growth through technology and transfers skills, employment creation, growth in the SME sector and export of goods and services. This is because a vertically and

horizontally integrated process enables the country of origin to realize greater value through economies of scale, the multiplier effect and ancillary economic activities that are associated with mega projects. The caveat is that fiscal policies, trade promotion policies and other initiatives aimed at attracting investment in the sector are effective. Otherwise when such regulatory frameworks are imposed without regard to their potential effect on growth in other parts of the value chain, the outcome can be counter-productive.

The paper concludes that getting the balance right between achieving high levels of economic growth that contribute to poverty reduction and the preservation of the environment could be difficult, in particular, in the case of African countries.

In developing countries, politicians, citizens and entrepreneurs often bypass sustainable development considerations in their decision-making process given that natural resources are a ready source of valuable incomes and employment opportunities. Thus, governance structures and incentives frequently lead to unsustainable natural resources extraction rates, and the social cost of natural resources-based activities is often underestimated. In both cases, short-term, private/politically-driven goals collide with long-term social concerns. This is also the result of several factors, including inter-temporal myopia by decision makers, lack of information and transparency, regulatory inertia and the absence of channels for civil society to voice concerns on the environmental or socio-cultural damage caused by some forms of natural resources exploitations, among others (Tornell and Lane, 1999; Robinson, Torvik and Verdier, 2006).

The elements for a research agenda proposed from the analysis done for Africa, suggest to work in future research in at least two areas. The first one would be on **how to alleviate these trade-offs** (Basnett and Bhattacharya, 2015). The second one would be on **how to make these trade-offs more explicit so the policy maker can achieve a better balance**.

There is a large literature focusing mainly on developed countries' experiences that suggest that the trade-off between environmental and economic outcomes can be overcome through the use of appropriate technology (Gradus and Smulders, 1993; Mazzanti and Zoboli, 2008; UNCTAD, 2012). For instance, technology and innovation can help increase economic outputs and productivity without a commensurate increase in environmental degradation. There are a number of ways of transferring that technology to poorer economies, trade being one of the most important. However, it should be recognised that global trade rules are not conducive to technology transfer.

It remains to be seen whether the SDGs, as part of the means of their implementation, can deliver more on this front. Similarly, environmentally-efficient infrastructure can allow for increased economic output and productivity. However, at present there exists a huge gap in Africa in infrastructure and finance. Finally, the literature also points to the importance of regulations that support and incentivise firms to adopt new, cleaner technologies (Porter and van der Linde, 1995; Mazzanti and Zoboli, 2008) but there are no many documented cases of effective regulations in the African context.

There is a general optimism, in particular among multilateral agencies, that economic transformation in Africa could be based on green growth strategies. This optimism is linked to the idea that African countries will create their own path towards development by leapfrogging (or bypassing) stages of development. There are multiple examples like mobile banking and telecommunications where the concept of leapfrogging technologies was a success in Africa. That has led many to believe that green technologies will provide new opportunities to combine development and sustainability in Africa (Ford, 2016).

However, research is needed in Global South countries to better understand to what extent it would be possible to mitigate environmental damages by leapfrogging when considering larger economic sectors such as agriculture and extractive industries, and it is important to understand what would be needed for African or South American countries to achieve this.

The second area that requires further research is how to link renewable and non-renewable natural resources in national economic transformation strategies. Environmentally and economically, the interface between renewables and non-renewables up and downstream of the value chain is stronger than is frequently assumed and requires a delicate policy balance. This is particularly true in case of forestry, land, water and exploitation of extractive resources as pertains to environment and social impacts (AfDB, 2015). The need for conservation and a balance of subsistence and industrial needs is a particular challenge. As such, it is unlikely that the exploitation of the resources can be sustainable without reconciling the conflicting industrial development goals with subsistence economic needs. Therefore, it is important to develop an integrated approach to renewable and non-renewable resources exploitation that facilitates the adoption of a long-term planning perspective to promote green and blue economy principles. Further research work in this area will contribute towards better understanding of economic and environmental trade-offs associated with choices for developing the different resource types. For instance, policymakers will be guided on the reconciliation of conflicting environmental consideration for the development of extractives project on one hand and those of land and water resources. By the same token objective methods are necessary for policy makers to assess the economic value of using water basins to support extractives projects as opposed to reserving them as destinations for tourism.

Moreover, a strategy that covers renewables and non-renewables would have the advantage of enabling policy makers to address common issues that pertain to the management of different natural resources cost effectively. Many natural resource management policy challenges and opportunities are common between renewables and non-renewables and an understanding of their generic nature can serve as a platform for addressing sector specific aspects. Common challenges include policies for implementation of sustainable development solutions, conservation, negotiating concessions, managing conflicting resource needs, promoting transparency and linking resources projects to mainstream economies. For example, many of the mechanisms adopted to improve transparency in the mining, oil and gas industry are applicable to land and water sectors and are therefore easily adaptable. An understanding of the drivers of illicit trade as relates to one sector can serve as a foundation for tackling illicit trade in another. Strategically, formulating resources policies in an integrated

approach can also ensure that national policies for the exploitation of the resources are reconciled and harmonized, achieving a better economic and environment balance.

On the other hand, the **paper for South America** produced within this project aimed to contribute to the analysis of the implications of these goals for South America, with the purpose of identifying a set of topics and questions that merit a greater research effort. The hypothesis that animated the research is that to understand the role of natural resources in the sustainable development in such a context it is necessary, first, to put the accent on the question of sustainability and, second, to address sustainability from a multidimensional perspective. It ranges from natural capital to macroeconomics, where the interaction between the intertemporal allocation of the natural resources endowment and other factors that affect sustainable development is the axis that structures the analysis. The focus of the research work is analytical and the main objective is to identify existing theoretical and applied topics and studies that may be useful to structure a South South research agenda on the link between natural resources, development and sustainability, where the latter is conceived as a condition that stipulates not only the rational use of natural capital but, also the development process.

The paper was organized around 5 dimensions to understand sustainable development and, in line with this, policy and future research proposals are organized around these dimensions:

- (i) Characteristics of the growth and structural change process
- (ii) Intensity and use of natural capital
- (iii) Demographic transition stage of the economy
- (iv) Distribution and social inclusion sphere
- (v) Institutional framework and policies

***(i) Characteristics of the growth and structural change process***

In developing economies of this type, growth and macroeconomic phenomena cannot be analyzed with the same tools used for developed countries, where growth is balanced and macroeconomics has a highly credible policy regime, because the development process involves both changes and structural transformations. Research efforts on sustainability issues require a systemic approach.

One of the central questions to be investigated is how to ensure that the funds coming from natural resources are channelled towards productive diversification. From the point of view of sustainability, the question is how to ensure that transformations and changes occur without generating coordination failures that could destabilize the process or translate into inappropriate intertemporal allocations. Additionally, the questions below refer to intertemporal coordination and allocation. It is key to investigate the factors that could help the financial system and the capital market to develop, so that these can become instruments for reallocating the surpluses generated by natural resources to other activities. The regime for capital movements must be investigated jointly with financial development issues because, when markets are incomplete, these movements tend to have pro-cyclical components that can generate sustainability problems and detract resources from development.

**Research questions:**

*What initial conditions, coordination failures or wealth redistributions associated with natural resources exploitation could generate imbalances that lead to the interruption of the growth process for prolonged periods?*

*What initial conditions, coordination failures or wealth redistributions associated with natural resources exploitation are those that favor the perpetuation of duality and the traps of low growth?*

*What are the most important financial mechanisms in the allocation of natural resources income and what are the most important consequences for sustainability when they are not available?*

*What are the main obstacles to develop appropriate financial systems and capital markets to efficiently allocate natural resources income?*

*How should capital movements regimes be to avoid, while financial development is low, that there are disincentives to saving and distortions in the allocation between different types of capital?*

**(ii) Intensity and use of natural capital**

A central sustainability dimension is that related to the natural capital component of society's wealth. Of the 17 SDGs, 7 refer directly to natural capital and its components. A central objective to promote sustainability is to separate economic growth from environmental degradation, in accordance with programs on sustainable consumption and production.

In South America, it is not the norm to consider these natural capital principles when developing strategies and, if considered, the issues continue to be introduced in an isolated manner and with partial equilibrium criteria; even if governments are generally promoting the SDGs agenda in practice its implementation remain segmented. In this context, if countries in the developing world are serious in terms of SDGs integral implementation, it is necessary to investigate how to better integrate the objectives referred to natural capital with those related to economic growth and inclusion.

**Research questions:**

*What criteria should be followed to allocate natural resource rents to the different types of capital that make up wealth in a broad sense?*

*What fiscal reforms are necessary to rationalize inefficient subsidies to fossil fuels that encourage its wasteful consumption?*

*Is it possible to implement environmental fiscal reforms in South America to fight against climate change?*

*What effects would tax and expenditure reforms that try to adapt to the criteria of the 2030 sustainable development agenda have on distribution and on inclusion?*

*What effects would a reduction in land use to reduce greenhouse gases emissions have on structural change dynamics, given the productive specialization of South America?*

### ***(ii) Demographic transition stage of the economy***

Most of the economies with comparative advantages in natural resources in South America have two other structural characteristics: they have per capita incomes that place them at middle or upper middle income and are going through a demographic bonus, so that in the 2030s they will begin to face an aging process. One of the most important challenges is to use natural resources to place the economy on a sustained growth path that allows it to become wealthy before it becomes old, emulating the case of the developed countries that are currently facing the aging stage.

This project's results warn that excessive consumption or misallocation of natural resources today would leave tomorrow's generations with less wealth just by the time when they have to face pensions and the vulnerable health of an aging population. A frequent problem is that social security systems are spending an exaggerated proportion of the budget and this generates incentives to redistribute the fiscal space against public investment and human capital.

#### ***Research questions:***

*What are the macroeconomic and use conditions of fiscal space essential for natural resources to fulfill the mission of contributing to the sustained growth of per capita income, while ensuring that intertemporal allocation adapts to the demands of the demographic transition?*

*What are the conditions that the net saving of natural resources consumption must meet to be in line with the sustained growth that is required in terms of achieving the goal of a society to become rich before it becomes old?*

*Is it possible to specify conditions from the analytical point of view that are functional to produce synthetic indicators of fiscal, demographic and broad-wealth sustainability?*

### ***(iv) Distribution and social inclusion sphere***

In dual economies, the levels of labor informality are high and regressive biases are often observed in the personal and regional income distribution. Under these conditions, it is common that distributive conflicts arise that can translate into low-growth traps associated with scarce savings. In this case, because the conflicts over appropriation of natural resource revenues are processed through governance structures that generate distorted incentives, the consumption of natural resource rents becomes excessive and a very low portion is allocated to the accumulation of the different types of capital. The fiscal space plays a critical role when it comes to accounting for the links that exist between development and natural resources through different channels: (a) allocation of income to the investment in order to contribute to the transformation of natural resources in reproducible capital; (b) redistribution of resources income appropriated by the public sector to meet equity and anti-poverty objectives; (c) use of macroeconomic stabilization mechanisms in the face of variations in international prices; (d) intervention and use of fiscal resources to correct deviations of the relative prices between tradable and non-tradable prices in the face of shocks in the terms of trade.



**Research questions:**

*How to design and manage the use of the fiscal space in a way compatible with the demands for an efficient natural resources income allocation, and the appropriation of those incomes by different sectors in line with inclusion and macroeconomic stabilization objectives?*

*How to design mechanisms of low "transaction costs" for the management of the fiscal space competition (between local and national states, between segments of the public sector, before private demands)?*

*How to design financing mechanisms for social protection so that this financing is not affected by the volatility associated with natural resources?*

**(v) Institutional framework and policies: policy proposals and future research agenda**

Sustainability is particularly affected when the curse distorts the process of saving and investment. This occurs mainly through public investment. Deficient governance can make that natural resources revenues are appropriated in a way that shifts public investment or that makes it inefficient in terms of territorial distribution.

In a future research agenda it will be relevant to make a detailed study of the ways in which the natural resources' curse operates and the channels through which these affect governance. If the bond between natural resources and macroeconomics is a source of imbalances and volatility due to deficient institutions and policies, growth sustainability can be easily affected. Thus, investigating how to strengthen natural resources-related organizations' governance to avoid the curse symptoms is essential for a development strategy focused on sustainability. The way in which natural resources affect growth is framed by the quality of the fiscal framework and the currency regime. We need to understand better how the macroeconomic regime should be designed to manage external and fiscal restrictions when natural resources have a strong impact on both, as it is the case in South America. In the same line, as a minimum, it would be necessary to develop mechanisms to evaluate the "portfolio" of investments in reproducible capital and international saving funds.

**Research questions:**

*How can we avoid that the natural resource curse affects sustainability?*

*Which are the mechanisms through which volatility of international natural resources prices can generate aggregated fluctuations?*

*Which fiscal mechanisms exist or could be designed to mitigate and buffer those fluctuations?*

*Are low-growth traps and the macroeconomics of natural resources related? Which are the channels? Do they work through the excessive consumption of resources or through Dutch diseases' relative prices distortions?*

*How should authorities manage the investment portfolio in order to maximize the effect on growth without putting an excessive pressure on sustainability?*

Finally, as a follow up effort to have broader understanding and support to this research agenda, Red Sur and partners will continue to position these research agenda and policy analysis in relevant venues and advocacy opportunities, as well as in academic space to promote independent innovative research from the South and owned analysis to understand challenges of opportunities of SDGs and the 2030 Agenda in the different contexts.

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