LATIN AMERICAN STUDIES ASSOCIATION

AVANZAR2030 Innovating for Sustainable Agrifood Systems

IICA

OPSAa

Panel • International Trade, Domestic Economic Activity, and Sustainability in Colombia's Agri-food Sector: Current Situation, Resource Traps, and Possible Escapes

Innovating for Sustainable Agri-food Systems:

A Synthesis of Evidence with Potential Applications to Colombia

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1. CONTEXT FOR

SUSTAINABLE AGRIFOOD SYSTEMS

1. CONTEXT • SUSTAINABLE AGRIFOOD SYSTEMS

Colombia's agriculture plays a key role in the country's economy, income and employment opportunities, as well as in the national and global food supply

Agricultural value added (AVA) (constant USD)
2022
20,562,204,483

Annual variation of the agriculture sector (AVA) (%)
2022
-1.77

Agriculture sector as a (%) of GDP
2022
5.78

Contribution of the agriculture sector to total employment (%)
2022
14.60

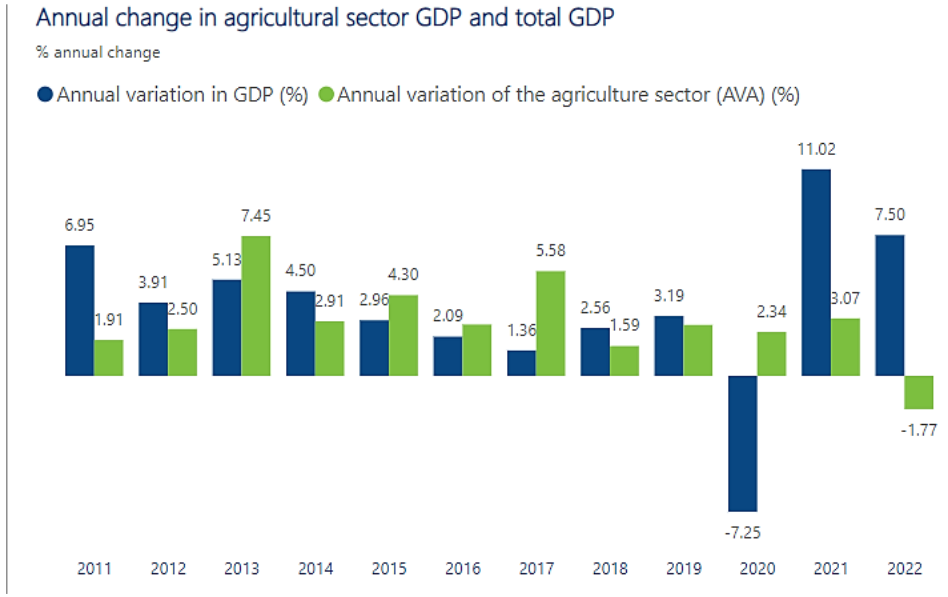
Productivity; agricultural value added per agricultural worker (USD/worker)
2019
5,278.2

Land area devoted to agriculture (% vis-à-vis total land area in the country)
2021
38.50

Exports by products and aggregates
Agri_food.
USD in 2023
21,399,689,219

Imports by products and aggregates
Agri_food.
USD in 2023
17,936,975,478

Trade Balance
Agri_food. USD Exp./USD Imp. in 2023
1.14

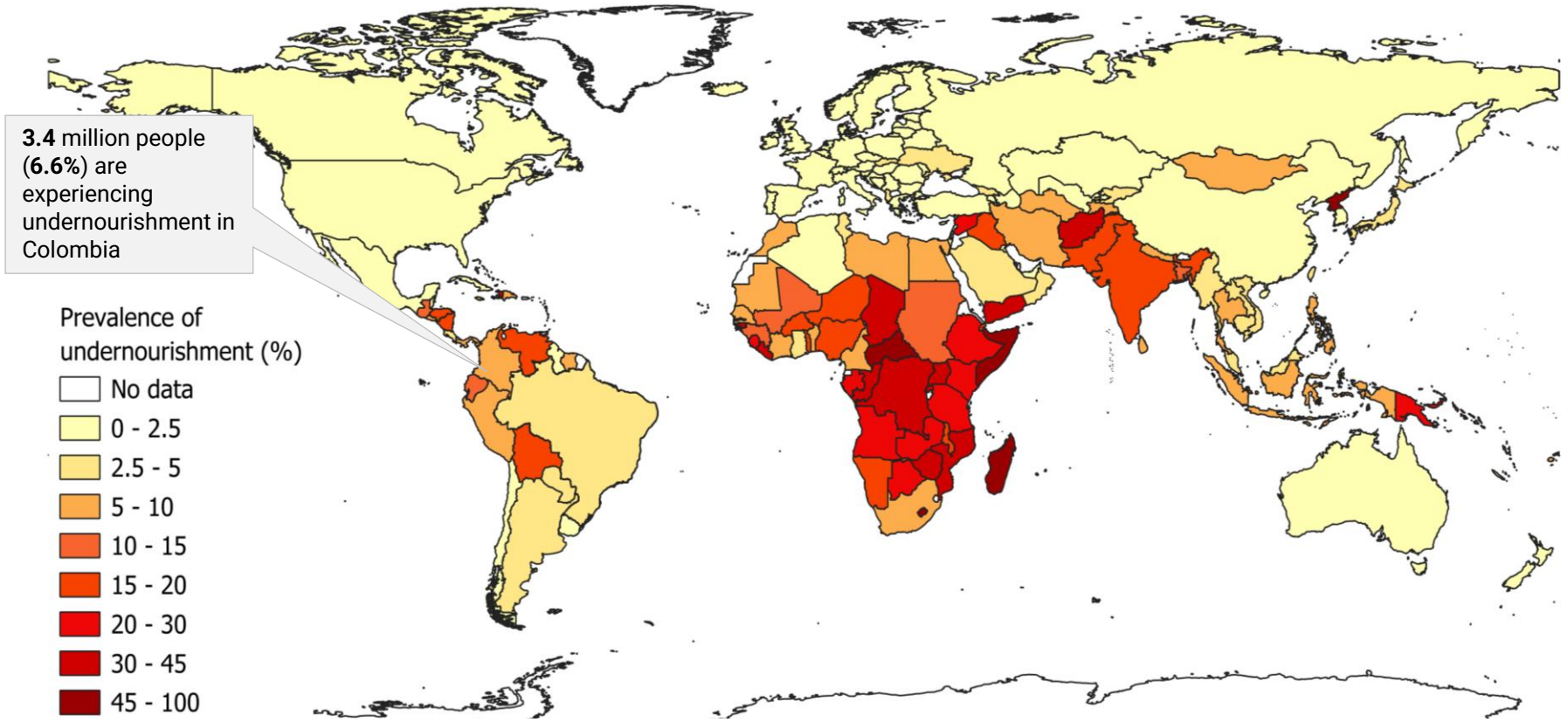


Source: OPSAa (IICA) based on data from USDA (2024), FAO (2024); World Bank (2024).

CONTEXT • SUSTAINABLE AGRIFOOD SYSTEMS

The Challenge of Eliminating Hunger

Prevalence of Undernourishment by Country (%, 2021)



Undernourishment

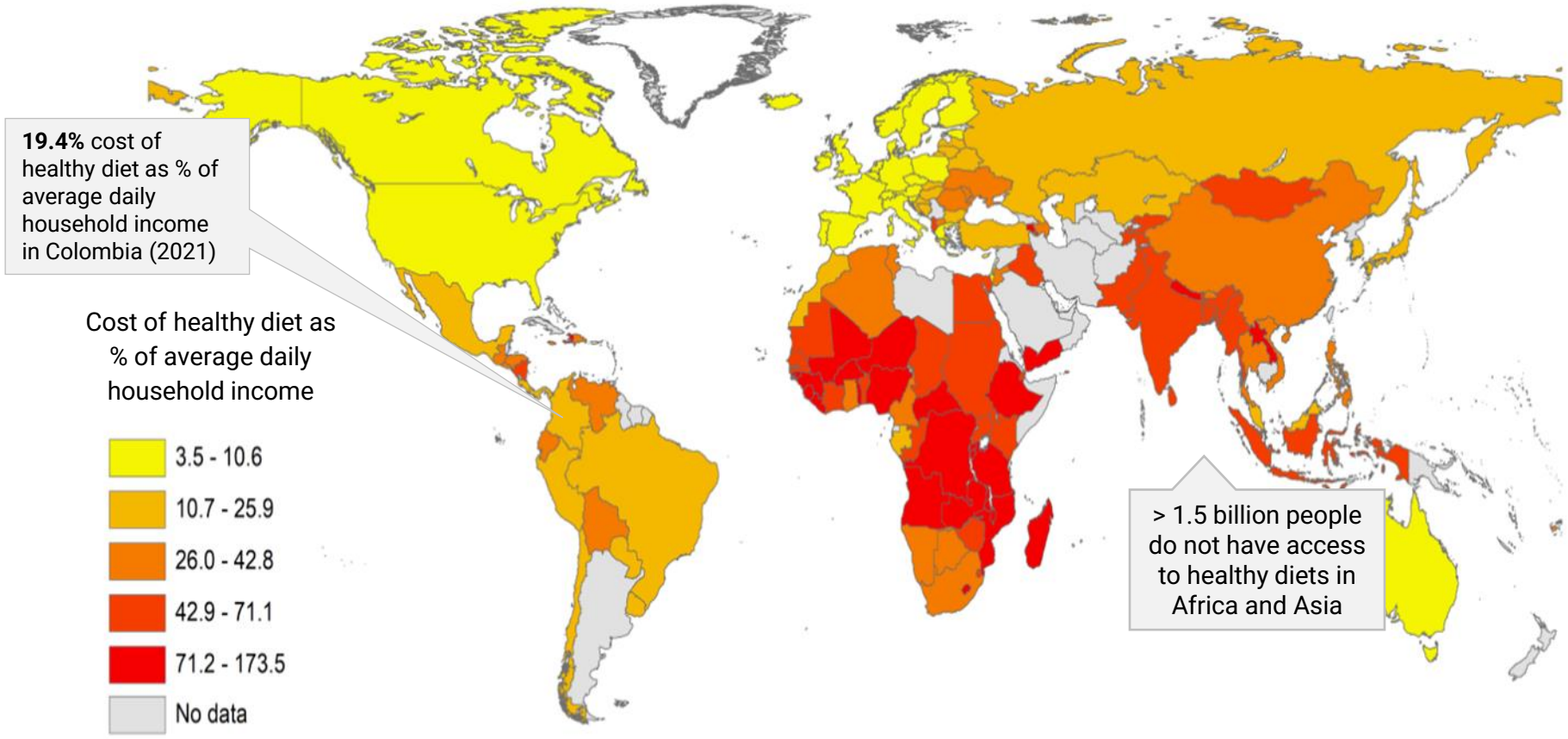
"Undernourishment is solely determined by the sufficiency of energy (calorie) intake. It does not consider the quality or diversity of someone's diet. It is often used interchangeably with the term 'hunger", FAO

Source: Developed by Insper Agro Global based on FAOStat data.

CONTEXT • SUSTAINABLE AGRICULTURE

The Challenges of Accessing a Healthy Diet:
Healthy Diets are Relatively More Expensive Across Income Levels

The Cost of a Healthy Diet as % of Average Daily Household Income



Cheaper and less perishable products:
Carbohydrates, sugar, snacks, tubers, vegetable oils, soft drinks, nuts.
More expensive and perishable products:
Fruits, vegetables, dairy, eggs, meats in general, fresh fish.

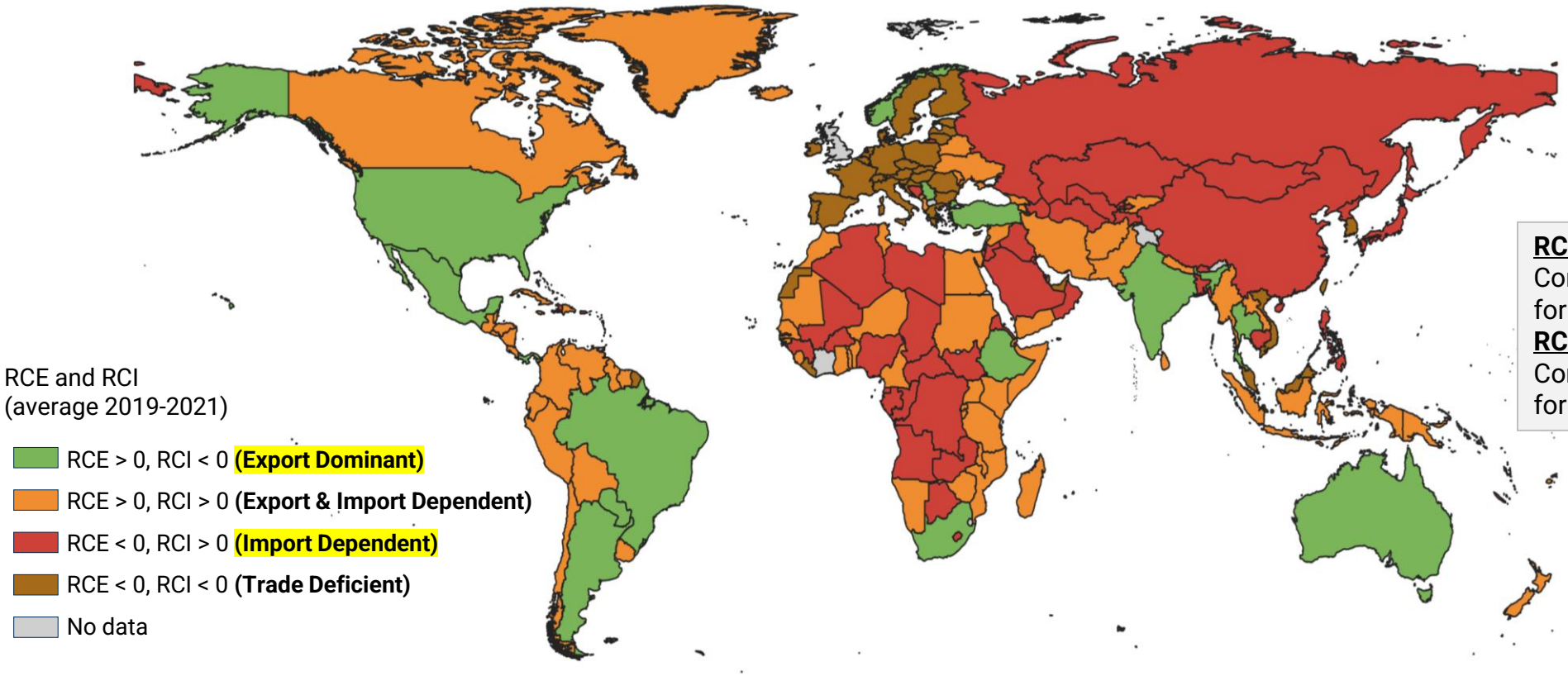
Source: Developed by Insper Agro Global extracted from the presentation by Derek Headey, Principal Research Fellow at the International Food Policy Research Institute (IFPRI).
Note: Estimated based on consumer food price data from the ICP for the EAT-Lancet reference healthy diet (2011).

CONTEXT • SUSTAINABLE AGRIFOOD SYSTEMS

The Challenge of Optimizing International Trade to Improve Food Security and Nutrition

Opportunities for balancing excess and deficit between countries

Complementarities between countries with greater export capacity (RCE >) and those more dependent on imports (RCI>0)



RCE: Revealed Comparative Advantage for EXPORTS
RCI: Revealed Comparative Advantage for IMPORTS

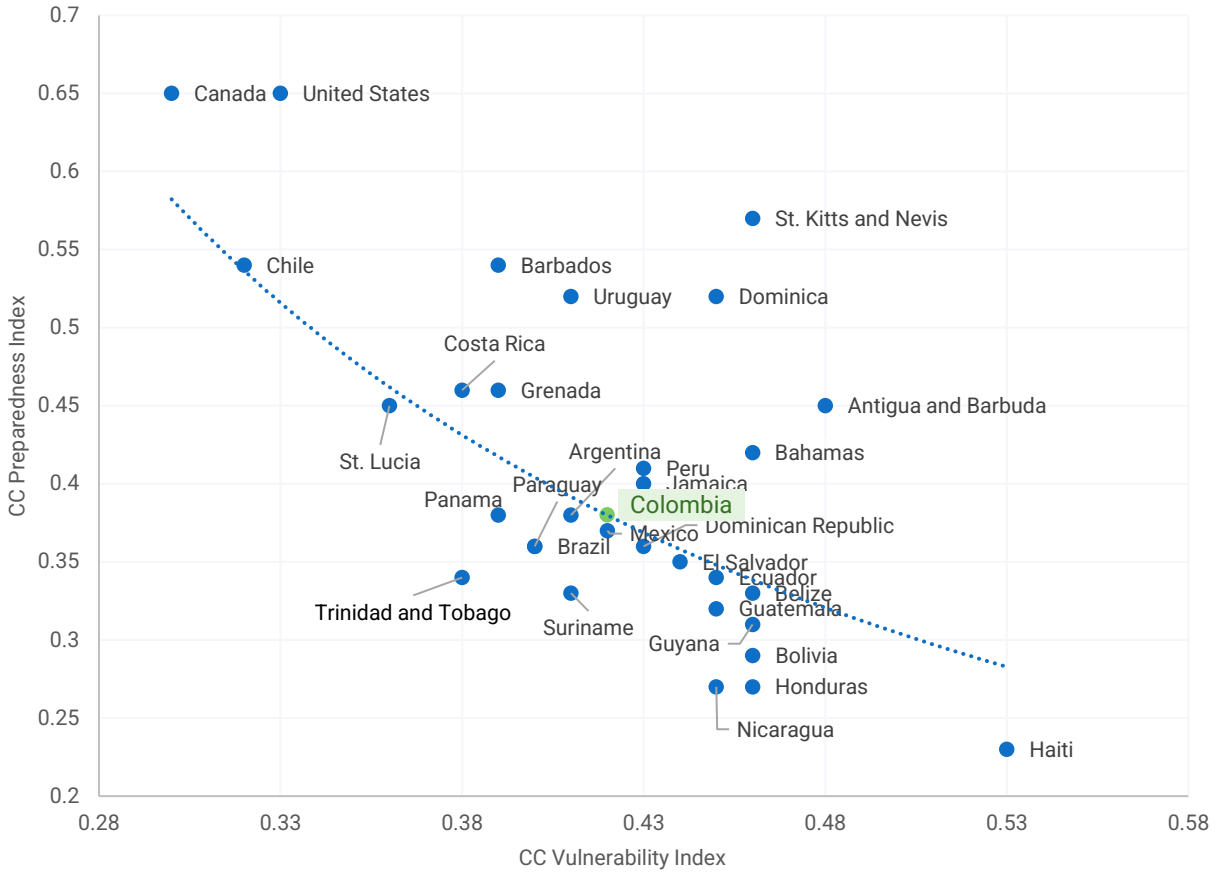
Source: OPSAA (IICA) based on mirror data from Trade Data Monitor (TDM). Note: Methodology in https://repositorio.iica.int/handle/11324/7709 and definition of food in USDA/ERS: https://www.ers.usda.gov/data-products/us-food-imports/documentation/. Explore the data in https://opsaa.iica.int/commerce

CONTEXT • SUSTAINABLE AGRIFOOD SYSTEMS

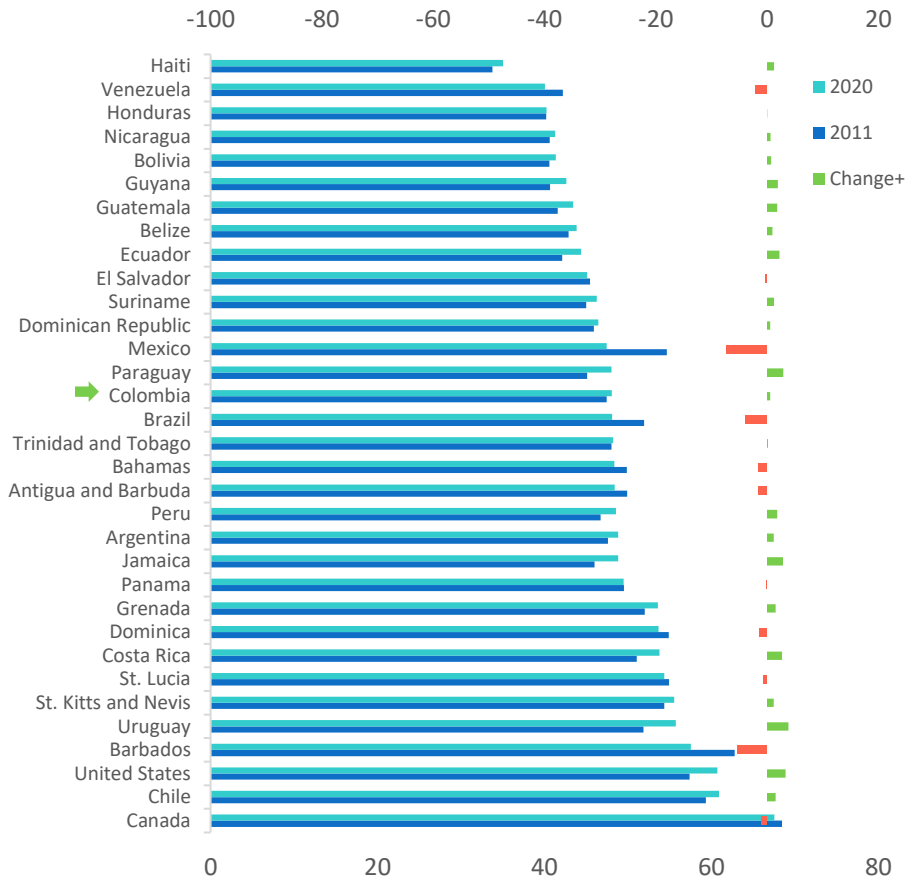
The Challenges of Improving Resilience to Climate Change

Countries must reduce vulnerabilities and increase preparedness to climate change

Vulnerability to CC and level of preparedness



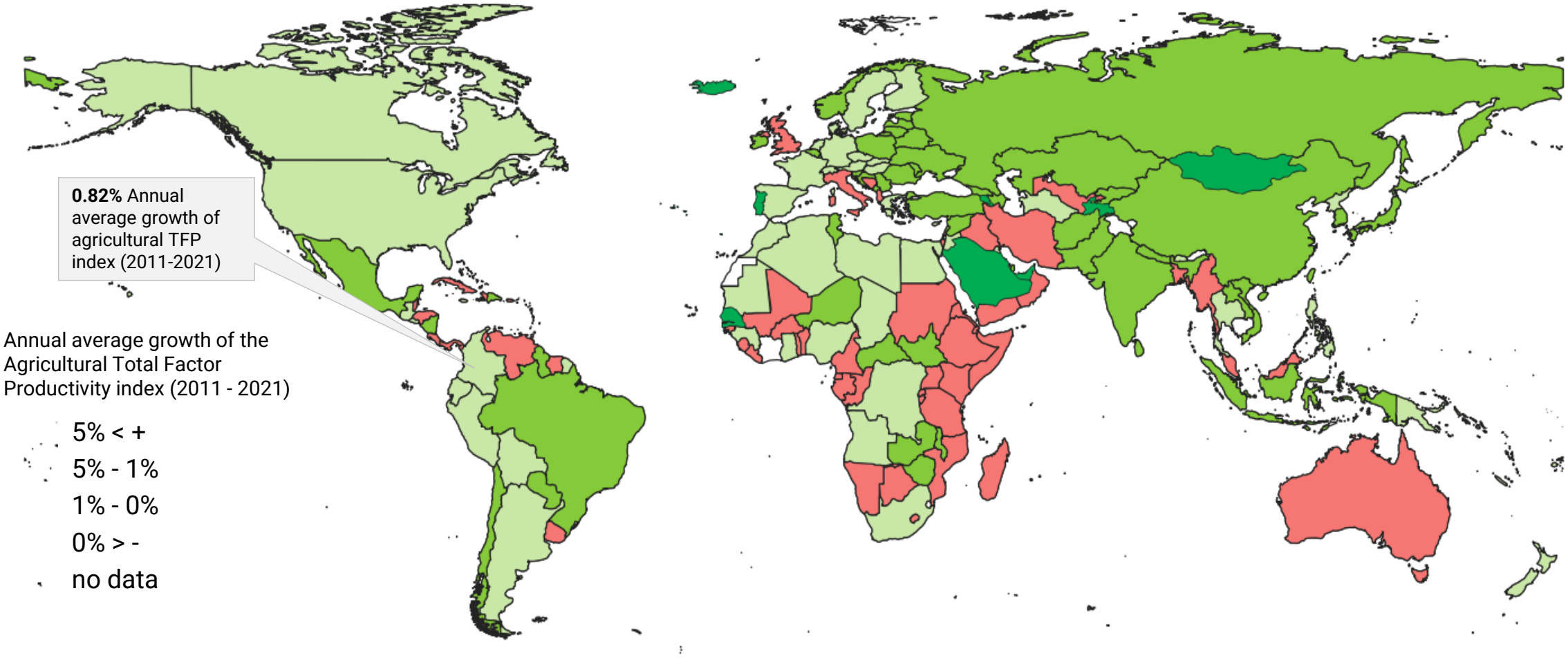
Global climate change resilience index



Source: OPSAa based on *Notre Dame Global Adaptation Initiative.*

CONTEXT • SUSTAINABLE AGRIFOOD SYSTEMS

The Challenge of Closing the GAP in Agricultural Productivity



Source : OPSAA (IICA) based on data from USDA/ Economic Research Service as of September 2023. **Note**: changes in Total Factor Productivity represents the growth in agricultural output that is not explained by the increase in traditional inputs (land, labor, capital or material inputs), reflecting improvements in overall efficiency and innovation in the sector.

2. METHODOLOGY

2.1 MAPPING POLICY INTERVENTIONS • OPSAa
2.2 EVIDENCE SYNTHESES - AVANZAR2030 •

* PRELIMINARY RESULTS *

2.1 MAPPING POLICY INTERVENTIONS • OPSAa

Observatory of Public Policies for Agrifood Systems (OPSAa) • Information systematization process

OPSAa

IDENTIFICATION

1. Full-Text screening
2. Identify sources
3. Classification

8 COMPONENTS

Determine the type of information according to the 8 components that integrate the OPSAa data structure.

1. Policies (Investments and public expenses and policy frameworks)
2. Good Practices
3. Indicators
4. Resources
5. Events
6. Dimensions
7. Evidences
8. Dialogue Rooms – OPSAa network

11 POLICY DIMENSIONS

Characterize the component according to the policy dimensions, which follow the development of the Theory of Change.

1. Policy area (18 areas - selected following criteria of relevance for the improvement of AFS and for being strategic elements in IICA's technical cooperation actions)
2. Results
3. Scope
4. Period
5. Beneficiaries
6. Policy instruments
7. Financing
8. Sector
9. Actors
10. Contextual
11. Impact

RECORDS

1. Data collection process
2. OPSAa backend

REPORTS

1. OPSAa website (frontend)
2. PBI dashboard
3. Policy briefs
4. BlogIICA

Source: https://opsaa.iica.int

2.1 MAPPING POLICY INTERVENTIONS • OPSAa

Colombia • Mapping policies interventions processing using OPSAa

IDENTIFICATION

1. Implemented from 2010 to 2024.
2. Explicit focus on Colombia.
3. Scope – national, regional o subnational

COMPONENTS SCREENING

1. 220 policy frameworks
2. 132 initiatives with public expending (at national, local o regional level)

DIMENSIONS

1. For comparative purposes, OPSAa outcomes classification is adapted for Avanzar2030.
2. The other OPSAa policy dimensions were not adjusted for the analysis

INCLUDED

1. 220 policy frameworks
2. 132 initiatives

COMPARATIVE

1. For comparison, **19 out of 220** policy frameworks identified in the articles are analyzed alongside the evidence synthesis.

2.2 METHODOLOGY • EVIDENCE SYNTHESES

AVANZAR2030
Innovating for Sustainable Agrifood Systems

The initiative is an evidenced-based process to identify promising innovations in agrifood systems for building sustainability across environmental, social, and economic dimensions.

Funded by

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epam
Embrapa
UNITED NATIONS
ECLAC
Food and Agriculture Organization of the United Nations
GPS
GRUPO DE PAÍSES PRODUCTORES DEL SUR
HAVAS.ai
HESAT2030
Ending Hunger Sustainably, Nutritiously, and Equitably
THE INTEGRITY COUNCIL FOR THE VOLUNTARY CARBON MARKET
IDB
IFAD
Investing in rural people
INIA URUGUAY
INFORMATION TRAINING AND OUTREACH CENTRE FOR AFRICA
ITOCA
JUNO
Transforming Evidence for Agriculture, Food and Climate
UC Chile
UF UNIVERSITY of FLORIDA
VIRGINIA TECH
WORLD BANK GROUP
WWF

30

Researchers from
23 institutions

2.2 METHODOLOGY • EVIDENCE SYNTHESES

AVANZAR2030
Innovating for Sustainable Agrifood Systems

The initiative is an evidenced-based process to identify promising innovations in agrifood systems for building sustainability across environmental, social, and economic dimensions.

INNOVATION

INNOVATION POLICY

What are the innovative policy instruments and institutional arrangements that had been implemented to improve interventions towards outcomes leading to sustainable agri-food systems?

INNOVATION TECHNOLOGY

What interventions have contributed to the adoption of technologies and practices that have increased sustainability in the bovine sector at the farm level?

INNOVATION INSTITUTIONS

What are the incentives and institutional mechanisms implemented to attract financial and technical resources that can support the scaling of implementation of climate action in the agri-food system to reach national goals?

2.2 METHODOLOGY • EVIDENCE SYNTHESES

AVANZAR2030

PROTOCOL

QUESTION – G1
What public policies have been implemented across LAC countries in the period 2010-2023 that affect, positively or negatively, sustainable agriculture and food outcomes?

OBJETIVE
Identify policy interventions that affect, positively or negatively, sustainability in the agrifood systems.

KEY ELEMENTS
1. **Setting:** LAC
2. **Population:** Stakeholders of AFS
3. **Interventions:** include multiple interventions
4. **Comparators:** Public policies that were not effective in achieving sustainable AFS.
5. **Outcomes:** Food security, economic, social and environmental sustainability
6. **Publication type:** Original research (qualitative and quantitative reports) and/or reviews of existing research, including gray literature.

DEFINITIONS
1. Agrifood systems
2. Food security
3. Public policy
4. Public policy instruments
5. Innovation
6. Sustainability

ELIGIBILITY CRITERIA
1. Literature published in 2010 or later.
2. Explicit focus on LAC or one of its countries - regions.
3. Explicit focus on one or more specific public policies implemented within AFS and with the goal of influencing outcomes in AFS.
4. Analytical work with an identifiable methodology.

SOURCES
Web of Science Core Collection, Scopus, CAB Abstracts, and gray literature resources (provided as a separate list).

Citation Management

SEARCH STRATEGY
Present the full electronic search strategy for Web of Science Core Collection, including any limits used, such that it could be repeated.

DATA EXTRACTION

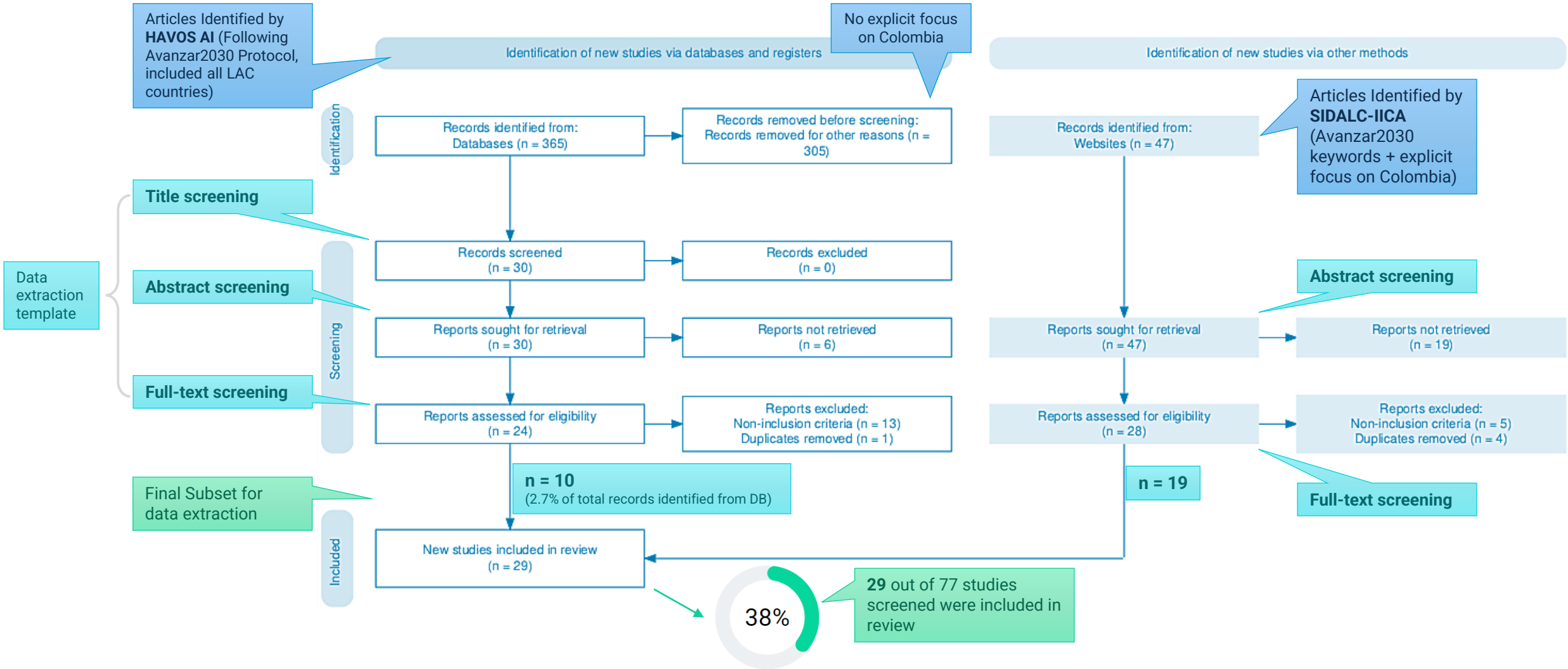
STUDY RECORDS
1. Data management – Google form, Excel
2. Selection process (screening, eligibility and inclusion).
3. Data collection process

ANALYZE AND SYNTHESIZE

REPORT FINDINGS

2.2 METHODOLOGY • EVIDENCE SYNTHESES

COLOMBIA • PRISMA flow diagram shows the process of screening literature for systematic review



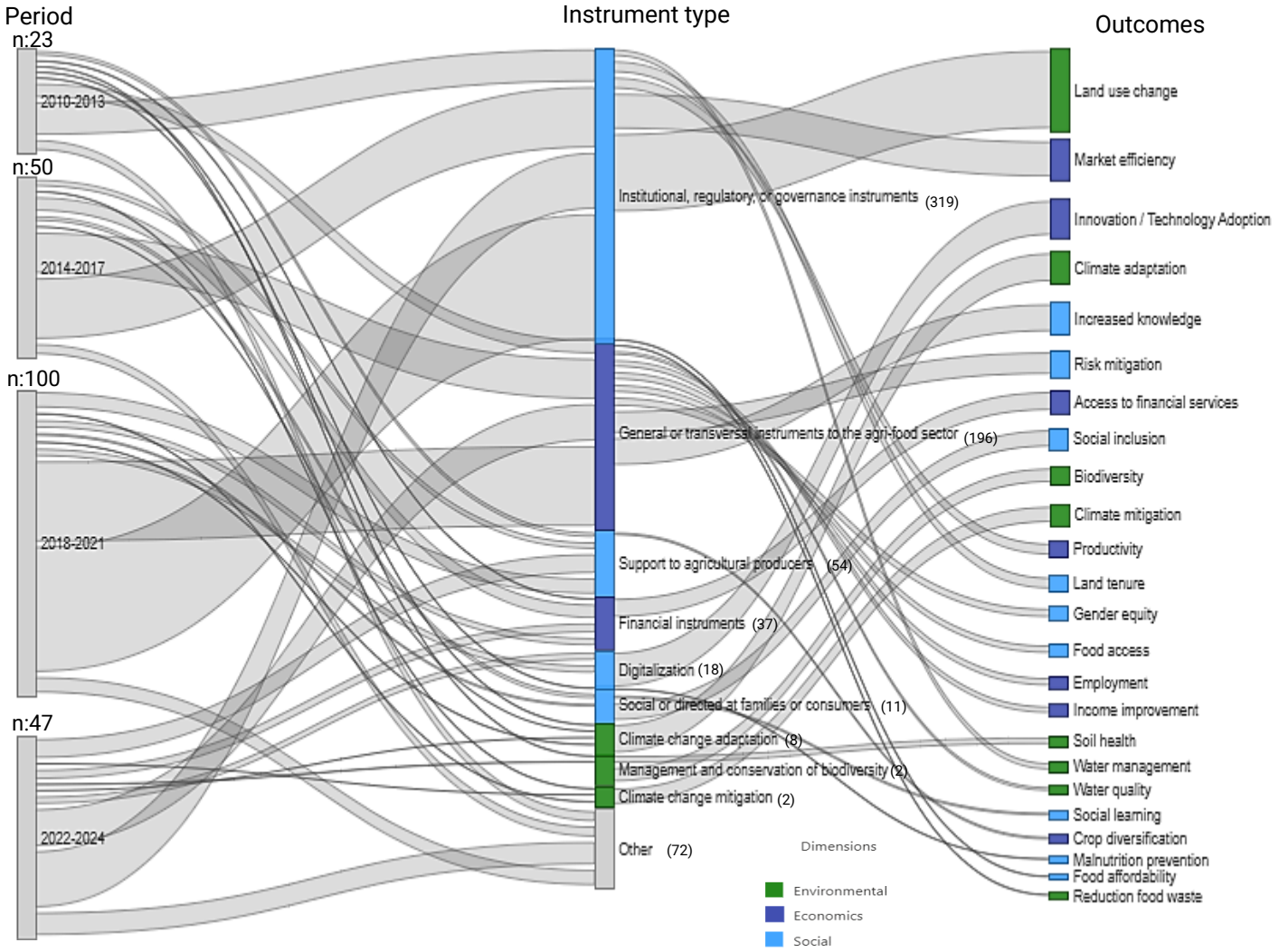
Source: Elaborated using PRISMA2020. Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis Campbell Systematic Reviews, 18, e1230. https://doi.org/10.1002/cl2.1230

RESULTS

3. MAPPING POLICY FRAMEWORKS • OPSAa

COLOMBIA • The systematized content on the OPSAa platform highlights the existence of a solid regulatory framework

2010-2024 (N= 220 Policy frameworks)



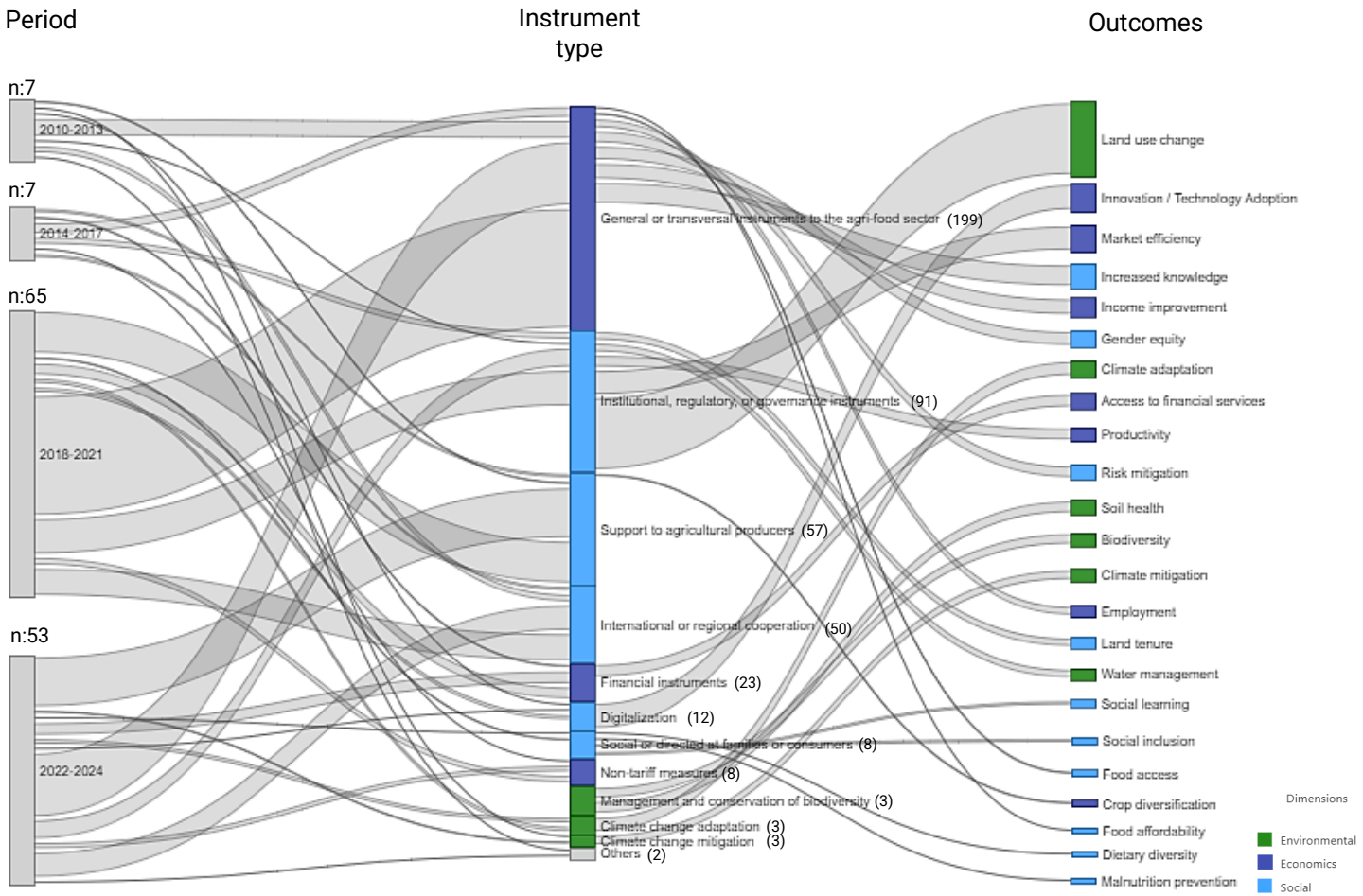
Instrument type	Instrument	Freq	%
Institutional, regulatory, or governance instruments	Regulations, standards, and legal frameworks	175	24.3%
	Strategies, plans, policies or guidelines; sectoral or national	36	5.0%
	Intersectoral and interinstitutional coordination	33	4.6%
	Strengthening of public institutions	25	3.5%
	Strategic planning	24	3.3%
General or transversal instruments to the agri-food sector	Support for research and technological development	21	2.9%
	Investment in public infrastructure	17	2.4%
	Inspection and control	16	2.2%
	Education and awareness	15	2.1%
	Guides, manuals, protocols	15	2.1%
Institutional, regulatory, or governance instruments	Influence on public policies	15	2.1%
General or transversal instruments to the agri-food sector	Territorial planning and agricultural zoning	14	1.9%
Support to agricultural producers	Technical assistance to producers	13	1.8%
Support to agricultural producers	Training and education for farmers	13	1.8%
General or transversal instruments to the agri-food sector	Sanitary, phytosanitary, and biosafety standards	13	1.8%
	Other (72 instruments)	274	38.1%
	Total	719	100.0%

Source: https://opsaa.iica.int/frames

3. MAPPING PUBLIC EXPENDITURE • OPSAa

Land use change and *Innovation/technological adoption* are the areas with the highest investment level in Colombia

2010-2024 (N= 132 initiatives of investments and public spending)



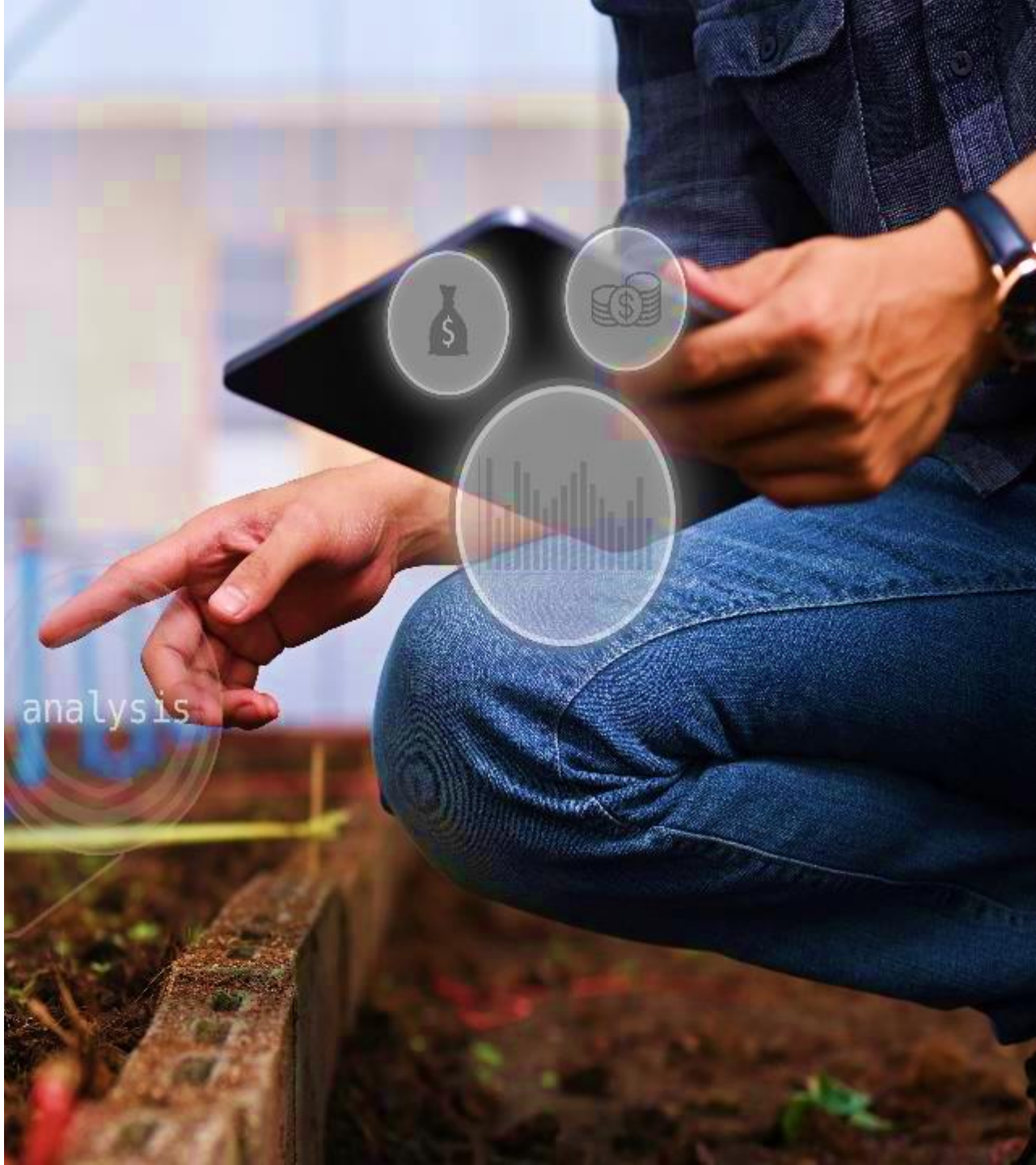
2023

Instrument type	Instruments	Freq	%
Institutional, regulatory, or governance instruments	Strategies, plans, policies or guidelines; sectoral or national	5	9.6%
Support to agricultural producers	Payments or subsidies for the acquisition of variable inputs (e.g. fertilizers)	4	7.7%
General or transversal instruments to the agri-food sector	Education and awareness	3	5.8%
General or transversal instruments to the agri-food sector	Studies and diagnostics	3	5.8%
Support to agricultural producers	Training and capacity building for farmers	3	5.8%
Institutional, regulatory, or governance instruments	Strengthening of public institutions	3	5.8%
General or transversal instruments to the agri-food sector	Linkage of producers and value chains to markets	3	5.8%
Support to agricultural producers	Support for the adoption of agricultural technologies (transfer to producers)	2	3.8%
Support to agricultural producers	Payments or subsidies to the producer based on agricultural production	2	3.8%
International or regional cooperation	Early warning systems	2	3.8%
Support to agricultural producers	Support or subsidy for the acquisition of productive assets	1	1.9%
International or regional cooperation	International humanitarian and development assistance	1	1.9%
	Other (20 instruments)	20	38.5%
	Total	52	100%

Note: The review of 132 initiatives was considered. Other instruments include public or private, voluntary or mandatory standards and support to expand manufacturing and processing capacity.
Source: https://opsaa.iica.int/initiatives

4. EVIDENCE SYNTHESES

RESULTS



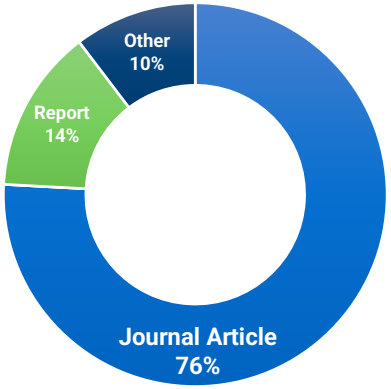
4. EVIDENCE SYNTHESES • DATA

COLOMBIA • Data characterization

Type of publication

- **22** out of 29 are **journal articles**.
- **4** are reports.
- **3** are in other categories.

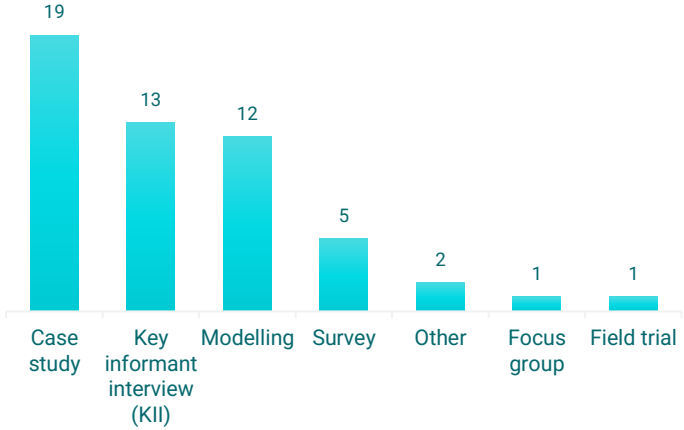
Distribution by **TYPE OF PUBLICATION** (N=29)



Study methods

- **52%** used more than one method.
- **65 %** were *case studies*
- **72%** were *ex-post* analysis.

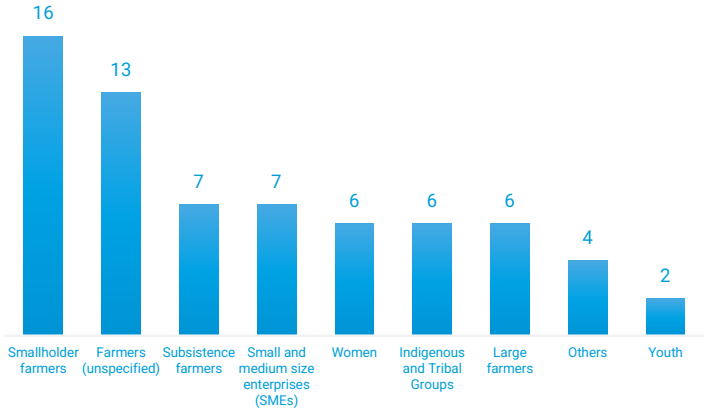
Distribution by **METHODS OF STUDY**



Population groups

- **55%** targeted small farmers
- **24%** focus on *subsistence farmers*.
- ***44%** focused on farmers (unspecified)*
- **20%** focused on *women*.
- **6%** focused on the *youth*.
- **10%** do not indicate a target population.

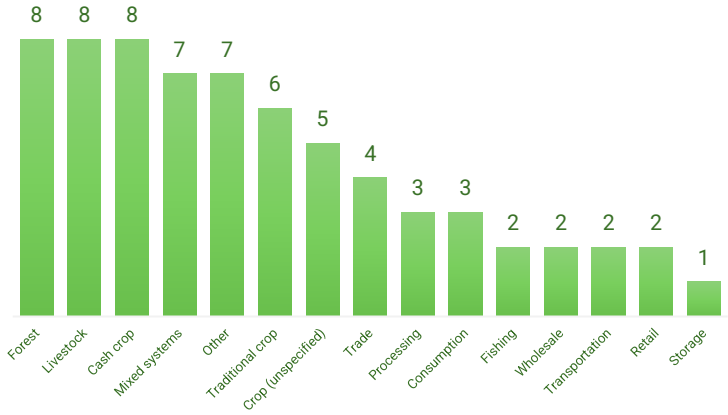
Distribution by **TARGUETED POPULATION** groups



AFS targeted

- **62%** showcase multiple target AFS sectors.
- ***12%** on Forest, Livestock* and *Cash crop*.
- **14%** on the AFS *trade sector*.
- **10%** did not indicate a targeted sector.

Distribution of **TARGUETED AFS SECTOR**



4. EVIDENCE SYNTHESES

COLOMBIA • 56% of the policy interventions analyzed falling under the economic category

OBJETIVE

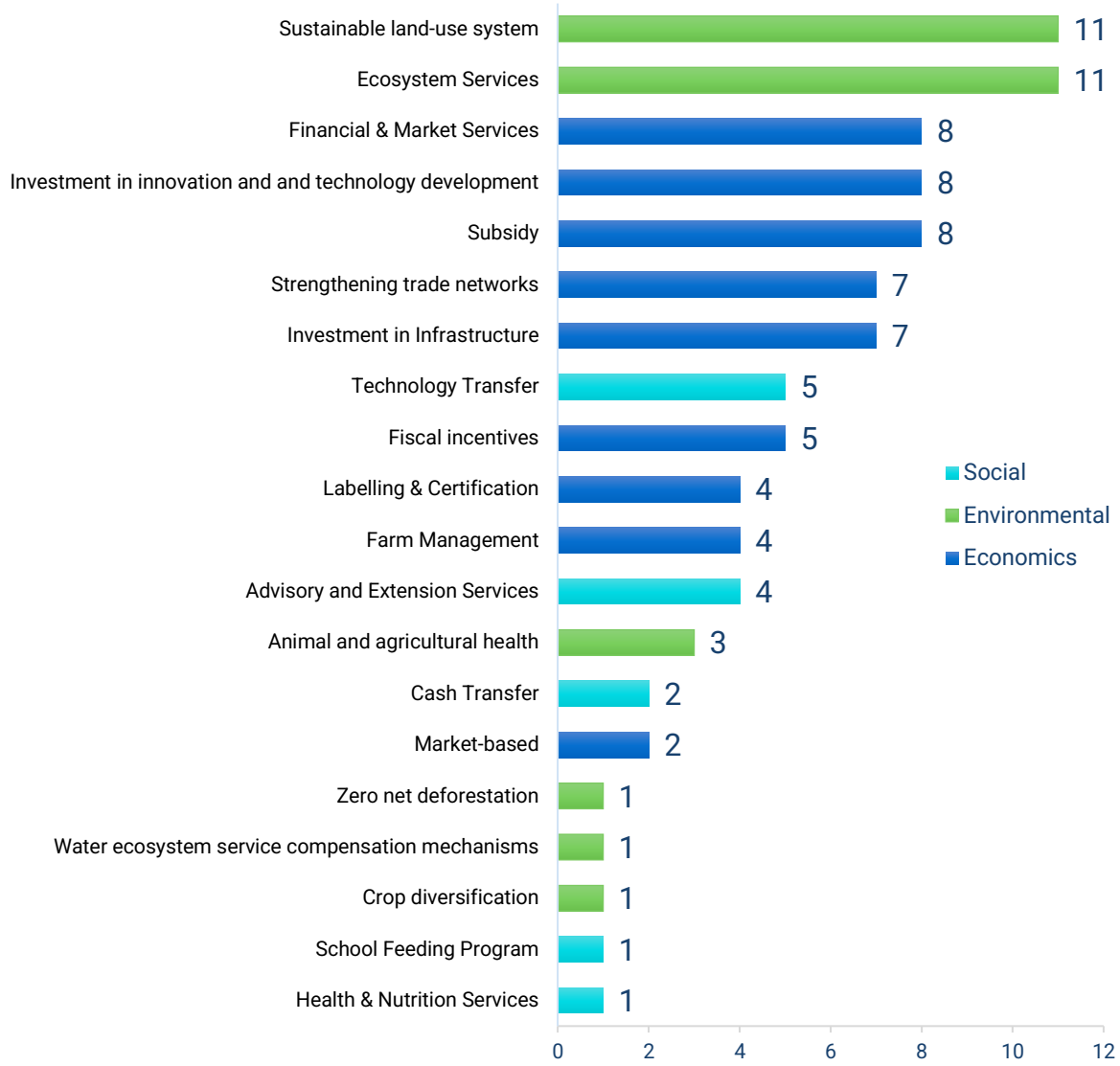
Identify policy interventions that affect (positively or negatively) sustainability in the agrifood systems.

- Articles typically showcased multiple interventions.
- Programs were classified into three broad categories of incentives.

Distribution of programs by category:

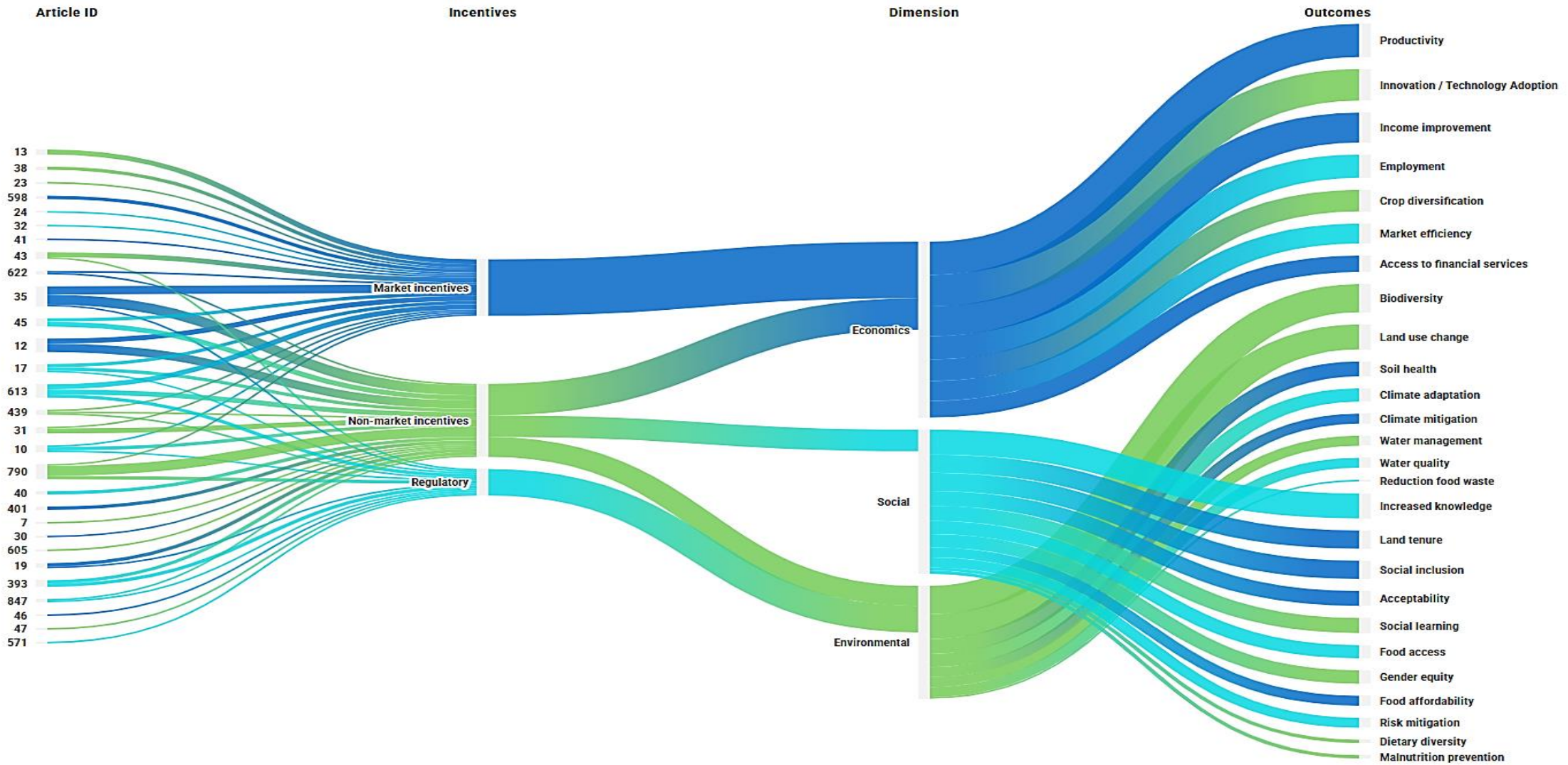
- **56%** economic
- **30%** environmental
- **14%** social

Summary of the predominant program types (N = 29)



4. EVIDENCE SYNTHESES

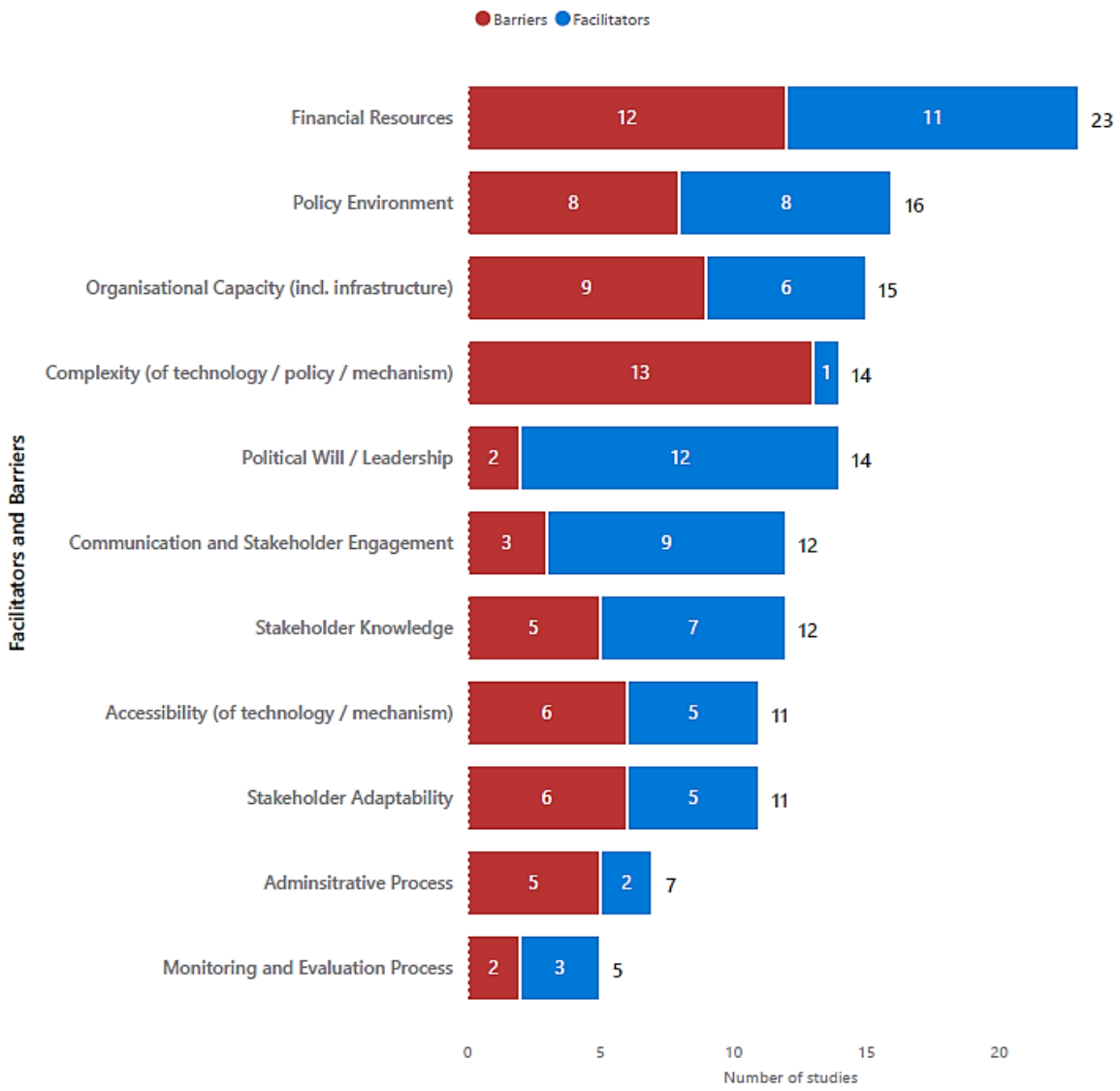
Associations between Incentive Types, Sustainability Dimensions, and Outcomes (N=29)



4. EVIDENCE SYNTHESES

- Analysis focused on whether each critical factor acted as a barrier or facilitator.
- Only articles evaluating the factor were included, excluding those where it was "not evaluated or not relevant."
- Financial resources, the most evaluated factor, were discussed in 23 out of 29 articles, with 12 identifying it as a barrier and 11 as a facilitator.

Critical factors in the policy analysis

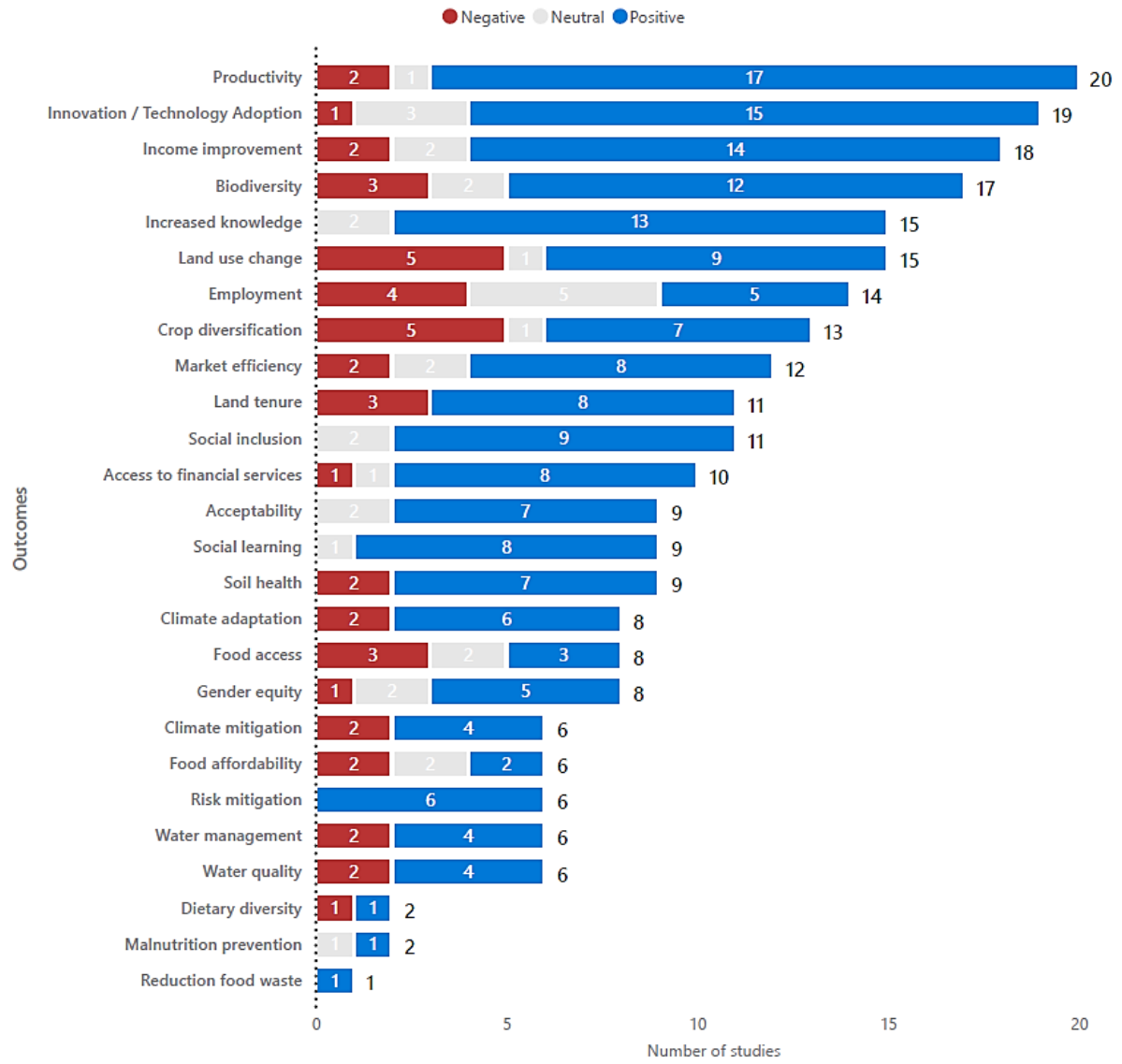


Note: For each critical factor, N is the total of articles that evaluated each factor as facilitators or barriers. Sort descending by N.

4. EVIDENCE SYNTHESES

- Analysis evaluated each outcome's impact as negative, neutral, or positive, excluding non-evaluated or irrelevant cases.
- Productivity was the main outcome in 20 of 29 studies, with 17 reporting a positive impact.

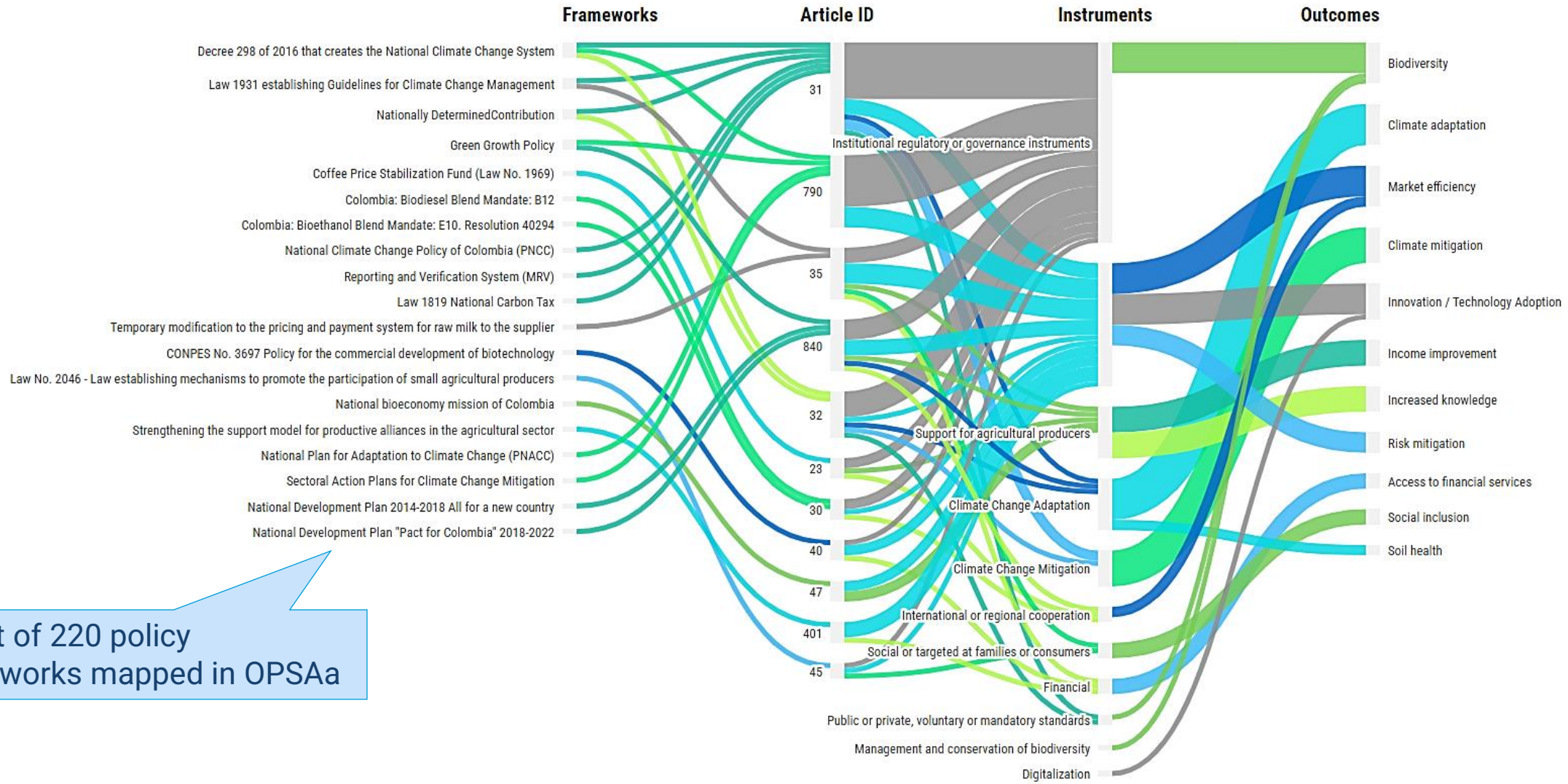
Types of outcomes examined in the review



Note: For each outcome, N is the total number of articles that evaluated the type of outcome as negative, neutral or positive. Sort descending by N.

4. EVIDENCE SYNTHESES • POLICY FRAMEWORKS

COLOMBIA • 11 out of 29 articles explicitly analyzed or linked a program with a policy frameworks



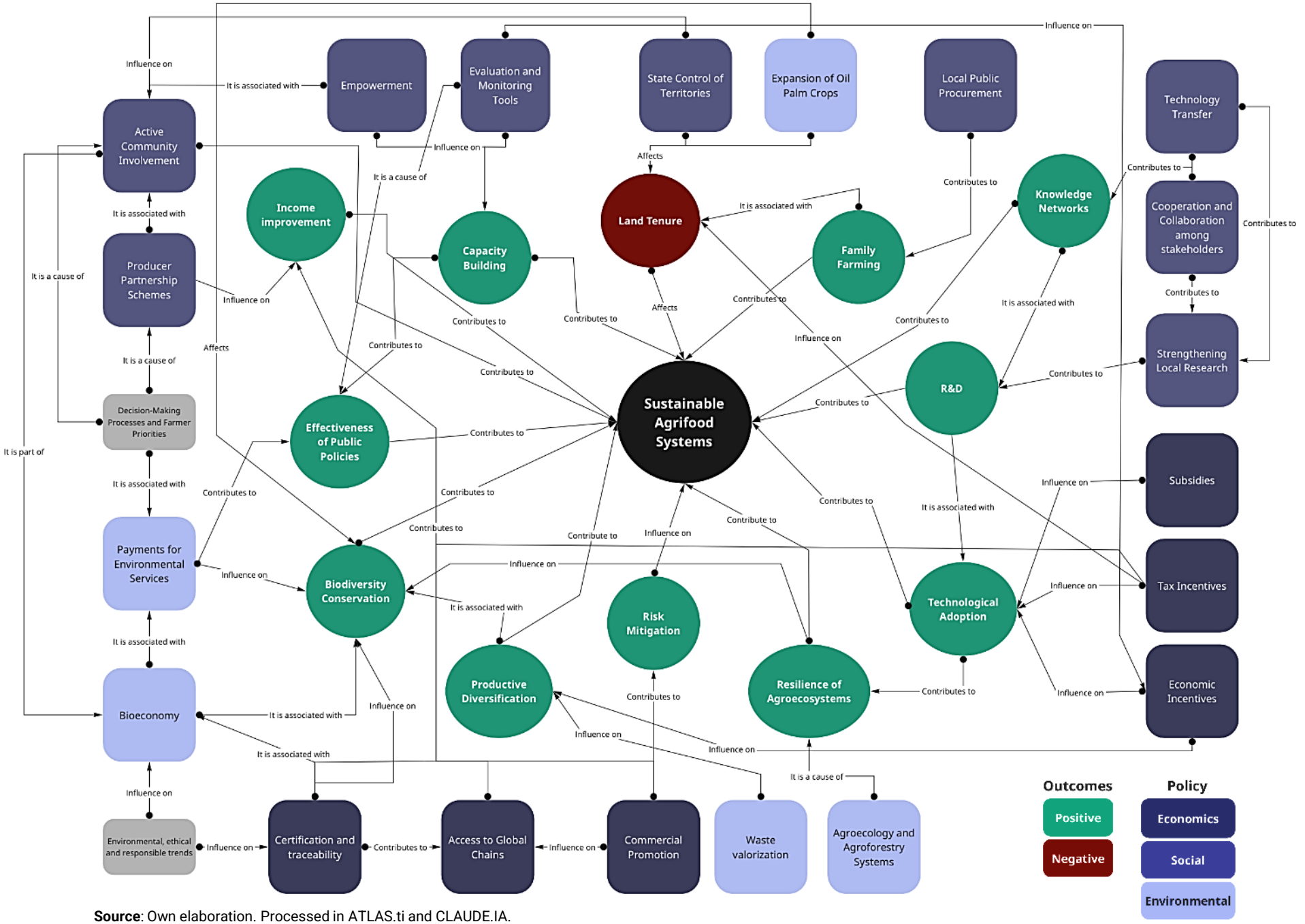
19 out of 220 policy frameworks mapped in OPSAa

5. IN CONCLUSION

IDENTIFYING PROMISING POLICY INNOVATIONS IN AFS REMAIN A CHALLENGE

5. IDENTIFYING PROMISING INNOVATIONS IN AFS

- **9 out of 29 articles** present a theory of change, outlining a results chain that links the policy implementation to the resulting changes and their impacts.
- With a focus on sustainability, including economic, environmental, and the social dimensions, with institutional governance as a crosscutting dimension.



Source: Own elaboration. Processed in ATLAS.ti and CLAUDE.IA.

5. PRELIMINARY CONCLUSIONS

TOWARDS A NEW GENERATION OF POLICIES BASED ON EVIDENCE

- **Policy Analysis Gap**: There is a significant gap between the policies implemented and those analyzed for effectiveness.
- **Evaluatable Policies**: Designing policies with clear objectives, measurable goals, cost estimates, and robust monitoring and evaluation strategies remains challenging.
- **Collaborative Evaluations**: Partnerships between universities, research centers, the public sector, and the private sector are essential for participatory policy evaluations.
- **Transparency and Accountability**: Enhancing transparency and accountability in public budget allocation is crucial for achieving desired outcomes.
- **Evidence-Based Policies**: Transitioning to evidence-based policies requires transforming data in evidence and evidence in knowlege.
- **Multi-Stakeholder Engagement**: Engaging multiple stakeholders is vital for comprehensive and inclusive policy development and implementation.

Thank you!

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Ediner Fuentes
Alejandra García
Eugenia Salazar

ANNEX 1

LIST OF INCLUDED ARTICLES • *N* = 29

Article ID	PUBLICATION TITLE	ARTICLE URL/DOI
7	Conditional Cash Transfer Programmes and Gender Vulnerabilities: Case Studies of Brazil, Chile and Colombia	https://hdl.handle.net/10419/71801
10	Payment for ecosystem services, sustained behavioural change, and adaptive management: peasant perspectives in the Colombian Andes	doi:10.1017/S0376892912000045
12	A Strategy for Scaling-up Intensive Silvopastoral Systems in Colombia	http://dx.doi.org/10.1080/10549811.2013.817338
13	Oil palm plantations in Colombia: a model of future expansion	http://dx.doi.org/10.1016/j.envsci.2013.01.003
17	Smallholders' Agricultural Cooperatives in Colombia: ¿Vehicles for Rural Development?	DOI: 10.13043/DYS.73.7
19	Evaluation of the Permanence of Land Use Change Induced by Payments for Environmental Services in Quindío, Colombia	10.1371/journal.pone.0147829
23	La política de precios del café en Colombia	http://hdl.handle.net/11445/3166
24	Aceite de palma certificado sostenible: análisis de la cadena de valor	https://publicaciones.fedepalma.org/index.php/palmas/article/view/12042/11996
30	Addressing a robust decision in the sugarcane supply chain: Introduction of a new agricultural investment project in Colombia	https://doi.org/10.1016/j.compag.2018.12.030
31	Green Growth in the Pacific Alliance: Advances and Cooperation Opportunities	https://wedocs.unep.org/bitstream/handle/20.500.11822/28679/Alianza-Crecimiento-verde.pdf?sequence=1&isAllowed=y
32	Emissions trading in the development model of Colombia	https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1808436
35	COVID-19 and the bovine livestock sector in Colombia: Current and potential developments, impacts and mitigation options	https://hdl.handle.net/10568/108354
38	The benefits and challenges of Fairtrade trade for two small producer organizations in Colombia and the Dominican Republic	https://repositorio.cepal.org/server/api/core/bitstreams/da8153c4-7f95-4a09-bb9e-937d3750e795/content
40	Colombian and Brazilian Regulations Applied to the Production and Registration of Biological Inoculants for Agricultural Use	https://repository.agrosavia.co/bitstream/handle/20.500.12324/37083/Ver_Documento_37083.pdf?sequence=5&isAllowed=y
41	AGRICULTURAL POTENTIAL OF THE DEPARTMENT OF CUNDINAMARCA FOR THE MICROCREDIT SECTOR	https://revistas.unilibre.edu.co/index.php/criteriolibre/article/view/9564/8868
43	Vulnerability and coping strategies within wild meat trade networks during the COVID-19 pandemic	https://doi.org/10.1016/j.worlddev.2023.106310
45	Caracterización de los factores estratégicos para la sostenibilidad del sector cafetero. Caso del Cauca, Colombia	DOI: 10.7200/esicm.54.296
46	Joint environmental and social benefits from diversified agriculture	DOI: 10.1126/science.adj1914
47	A decision support procedure for the bioeconomy transition: A Colombian case study	https://doi.org/10.1016/j.jenvman.2024.120042
393	Can we avert an Amazon tipping point? The economic and environmental costs	https://doi.org/10.1088/1748-9326/aca3b8
401	Case Study in the Santa Rosa de Cabal Association of Blackberry Growers (musa), Department of Risaralda	http://dx.doi.org/10.16925/9789587600476
439	Conserving biodiversity, meeting people's needs	https://www.rural21.com/english/current-issue/detail/article/conserving-biodiversity-meeting-peoples-needs.html
571	Global timber investments and trends, 2005-2011	https://doi.org/10.1186/1179-5395-44-S1-S7
598	Impacts of biofuels on food security in Colombia: a system thinking approach	https://doi.org/10.15446/rfnam.v67n2.44180
605	Implementing the voluntary guidelines on the responsible governance of tenure of land, fisheries and forests from the working with people model: lessons from Colombia and Guatemala	https://doi.org/10.1080/03066150.2022.2120811
613	Increasing world consumption of beef as a driver of regional and global change: A call for policy action based on evidence from Queensland (Australia), Colombia and Brazil	10.1016/j.gloenvcha.2008.10.008
622	Integrating Farming and Pa´ramo Conservation: A Case Study From Colombia	http://dx.doi.org/10.1659/MRD-JOURNAL-D-10-00048.1
790	Tackling the implementation gap of climate adaptation strategies: understanding policy translation in Brazil and Colombia	https://doi.org/10.1080/14693062.2022.2085650
847	The Value of Biodiversity in Economic Decision Making: Applying the IEEM ESM Approach to Conservation Strategies in Colombia	https://doi.org/10.18235/0002945

ANNEX 2

LIST OF POLICY FRAMEWORK REVIEWED IN THE ARTICLES

Article ID	PUBLICATION TITLE	POLICY FRAMEWORK RELATED	URL
23	La política de precios del café en Colombia	Coffee Price Stabilization Fund (Law No. 1969)	https://opsaa.iica.int/frame-2818
30	Addressing a robust decision in the sugarcane supply chain: Introduction of a new agricultural investment project in Colombia	Colombia: Biodiesel Blend Mandate: B12	https://opsaa.iica.int/frame-2494
30	Addressing a robust decision in the sugarcane supply chain: Introduction of a new agricultural investment project in Colombia	Colombia: Bioethanol Blend Mandate: E10. Resolution 40294	https://opsaa.iica.int/frame-2475
31	Green Growth in the Pacific Alliance: Advances and Cooperation Opportunities	National Climate Change Policy of Colombia (PNCC)	https://opsaa.iica.int/frame-943
31	Green Growth in the Pacific Alliance: Advances and Cooperation Opportunities	Decree 298 of 2016 that creates the National Climate Change System	https://opsaa.iica.int/frame-832
31	Green Growth in the Pacific Alliance: Advances and Cooperation Opportunities	Reporting and Verification System (MRV)	https://opsaa.iica.int/frame-1052
31	Green Growth in the Pacific Alliance: Advances and Cooperation Opportunities	Law 1819 National Carbon Tax	https://opsaa.iica.int/frame-718
31	Green Growth in the Pacific Alliance: Advances and Cooperation Opportunities	Law 1931 establishing Guidelines for Climate Change Management	https://opsaa.iica.int/frame-2714
31	Green Growth in the Pacific Alliance: Advances and Cooperation Opportunities	Nationally Determined Contribution	https://opsaa.iica.int/frame-589
32	Emissions trading in the development model of Colombia	Decree 298 of 2016 that creates the National Climate Change System	https://opsaa.iica.int/frame-832
32	Emissions trading in the development model of Colombia	Nationally Determined Contribution	https://opsaa.iica.int/frame-589
35	COVID-19 and the bovine livestock sector in Colombia: Current and potential developments, impacts and mitigation options	Temporary modification to the pricing and payment system for raw milk to the supplier	https://opsaa.iica.int/frame-1669
35	COVID-19 and the bovine livestock sector in Colombia: Current and potential developments, impacts and mitigation options	Law 1931 establishing Guidelines for Climate Change Management	https://opsaa.iica.int/frame-2714
40	Colombian and Brazilian Regulations Applied to the Production and Registration of Biological Inoculants for Agricultural Use	CONPES No. 3697 Policy for the commercial development of biotechnology	https://opsaa.iica.int/frame-4052
45	Caracterización de los factores estratégicos para la sostenibilidad del sector cafetero. Caso del Cauca, Colombia	Law No. 2046 - Law establishing mechanisms to promote the participation of small agricultural producers	https://opsaa.iica.int/frame-2816
47	A decision support procedure for the bioeconomy transition: A Colombian case study	National bioeconomy mission of Colombia	https://opsaa.iica.int/frame-2825
401	Case Study in the Santa Rosa de Cabal Association of Blackberry Growers (musa), Department of Risaralda	Strengthening the support model for productive alliances in the agricultural sector	https://opsaa.iica.int/initiative-1167-proyecto-de-fortalecimiento-del-modelo-de-apoyo-a-alianzas-productivas-del-sector-agropecuario-a-nivel-nacional-de-colombia-(paap)
790	Tackling the implementation gap of climate adaptation strategies: understanding policy translation in Brazil and Colombia	National Plan for Adaptation to Climate Change (PNACC)	https://opsaa.iica.int/frame-887
790	Tackling the implementation gap of climate adaptation strategies: understanding policy translation in Brazil and Colombia	Decree 298 of 2016 that creates the National Climate Change System	https://opsaa.iica.int/frame-832
790	Tackling the implementation gap of climate adaptation strategies: understanding policy translation in Brazil and Colombia	Green Growth Policy	https://opsaa.iica.int/frame-2551
790	Tackling the implementation gap of climate adaptation strategies: understanding policy translation in Brazil and Colombia	Sectoral Action Plans for Climate Change Mitigation	https://opsaa.iica.int/frame-846
847	The Value of Biodiversity in Economic Decision Making: Applying the IEEM ESM Approach to Conservation Strategies in Colombia	Green Growth Policy	https://opsaa.iica.int/frame-2551
847	The Value of Biodiversity in Economic Decision Making: Applying the IEEM ESM Approach to Conservation Strategies in Colombia	National Development Plan 2014-2018 All for a new country	https://opsaa.iica.int/frame-3885
847	The Value of Biodiversity in Economic Decision Making: Applying the IEEM ESM Approach to Conservation Strategies in Colombia	National Development Plan "Pact for Colombia" 2018-2022	https://opsaa.iica.int/frame-2531