

POLITICAL ECONOMY AND POLICY ANALYSIS (PEPA) SOURCEBOOK

A Guide to Generating Evidence for National Policies and Strategies (NPS) for Food, Land, and Water Systems Transformation

Lead authors

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Contents

List of contributors	ii
About the contributors	ii
Acronyms and abbreviations	iii
Acknowledgements and funding	iv
Executive summary	v
1. Introduction	1
1.1 Political Economy and Policy Analysis (PEPA) for agri-food systems transformation	1
1.2 What is political economy and policy analysis and why is it needed?	2
1.3 Why is a PEPA Sourcebook for food, land, and water systems needed?	2
2. The intersection of PEPA and food, land, and water systems	4
2.1 Food	4
2.2 Land	4
2.3 Water	5
2.4 Climate	5
2.5 Ecology	5
3. Systematic literature review of PEPA analytical tools, concepts, and frameworks	6
3.1 Methodology	6
3.1.1 Eligibility criteria	6
3.1.2 Information sources	7
3.1.3 Search strategy	7
3.1.4 Study selection process	7
3.1.5 Data extraction and items	7
3.2 PEPA literature for food, land, and water system transformation	7
4. PEPA frameworks and analytical tools for agri-food policy domains	10
4.1 Food and nutrition policy domain	11
4.2 Land and water policy domain	17
4.3 Climate and ecology policy domain	20
5. Steps for conducting Political Economy and Policy Analysis (PEPA)	24
6. Outlook of PEPA for food, land, and water systems transformation	27
7. Bibliography	30
8. Annexes	38
8.1 Annex A: Overview of reviewed articles	38
8.2 Annex B: Summary of the search strategy	44
8.3 Annex C: Data collection methods for PEPA frameworks and analytical tools	45
9. Glossary	46

List of figures

Figure 1: Distribution of empirical studies by country	8
Figure 2: PRISMA 2020 flow diagram for the systematic review	9
Figure 3: Summary of frameworks and analytical tools for agri-food system policies and strategies	10
Figure 4: Tools and frameworks for the food and nutrition policy domain	11
Figure 5: Tools and frameworks in the land and water policy domain	17
Figure 6: Tools and frameworks for climate and ecology policy domain	20
Figure 7: Steps for conducting PEPA	24

List of tables

Table 1: Inclusion and exclusion criteria	6
Table 2: Macro-, meso-, and micro-level frameworks and tools for food and nutrition policy domain	12
Table 3: Macro-level tools for food and nutrition policy domain	14
Table 4: Multi-level frameworks and tools for the food and nutrition policy domain	15
Table 5: Macro-level frameworks and tools for analyzing land and water policy domain	18
Table 6: Micro-, meso-, macro-, and multi-level frameworks for political economy and policy analysis in the climate and ecology domain	21
Table 7: Overview of reviewed articles	38
Table 8: PEPA data collection methods	45

List of case studies

Case study 1: Sustainable diets framework for policy analysis in Nepal	14
Case study 2: The Kaleidoscope Model of policy change – food security applications in Zambia	16
Case study 3: Participatory power mapping in California Village, Chiapas, Mexico	19
Case study 4: Assessing biodiversity policy integration in Peru	22
Case study 5: Policy windows for the environment – tips for improving the scientific knowledge acceptance	23

List of contributors

Chapter 1: Political Economy and Policy Analysis (PEPA) for agri-food systems transformation

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Chapter 2: Intersection of PEPA and food, land, and water systems

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Chapter 3: Systematic literature review of PEPA frameworks, analytical tools, and case studies

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Chapter 4: PEPA frameworks and tools for agri-food policy domains

Jonathan Mockshell, Danielle Resnick, Godfrey Omulo

Chapter 5: Steps for conducting PEPA

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Chapter 6: Outlook of PEPA for food, land, and water systems transformation

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Annex A to C – Overview of the reviewed literature, summary of search strategy, PEPA data collection approaches

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Acronyms and abbreviations

ACF	Advocacy Coalition Framework
ADS	Agriculture Development Strategy
BDI	Belief Desire Intention Model
BPI	Biodiversity Policy Integration
C&E	Climate and Ecology
DA	Discourse Analysis
DFFSG	Diagnostic Framework for Food Systems Governance
DIIS	Danish Institute for International Studies
DSOF	Driver-Strategy-Outcome Framework
FAPA	Framework for Analyzing Policy Approaches
FRDBC	Framework for Recognizing Diversity Beyond Capitalism
F&N	Food and Nutrition
KM	Kaleidoscope Model
KWO	Kingdon's Window of Opportunity
LAT	Legal Assessment Tool
L&W	Land and Water
MSA	Multiple Stream Approach
MSF	Multiple Streams Framework
MSIM	Multi-level Stakeholder Influence Mapping
MSNP	Multi-Sectoral Nutrition Plan
NBSAP	National Biodiversity Strategy and Action
NPA	Narrative Policy Analysis
NPS	National Policies and Strategies
PAWN	Partial-Dependence-Adjusted Weights
PCF	Power Cube Framework
PEPA	Political Economy and Policy Analysis
PEST	Political, Economic, Social, and Technological
PFA	Policy Framing Analysis
PFF	Porter's Five Forces
PM	Power Mapping
PNA	Policy Network Analysis
PNM	Process Net-Map
PPA	Public and Political Awareness Framework
PSA	Political Settlement Analysis
PY	Policy Translation
PTT	Policy Tool Typology
SDF	Sustainable Diets Framework
SESF	Social-Ecological System Framework
U&C	Uses and Customs

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Executive summary

Agri-food systems face multiple challenges. They must deal with prevailing structural weaknesses, partly deepened by the disruptions from the COVID-19 pandemic, civil conflicts, and climate change. Addressing structural weaknesses – such as inequitable access to healthy and nutritious food for all, loss of livelihoods and incomes, and increasing environmental shocks – requires not only technological, but also institutional innovations, as well as economic and policy responses. While development interventions often focus on technological innovations, they lack attention to the enabling policy environment and the political economy drivers necessary to achieve policy, economic, and social impact at the national level. In addition, solutions often fail to analyze the broader enabling environment in which policies are designed and implemented at the national level. A comprehensive understanding of the policy environment coupled with appropriate technological and institutional solutions can influence the success or failure of development interventions. However, political economy and policy analysis considerations are inadequately explored in the quest to transform food systems. Identifying the right policies and overcoming barriers to the implementation of development interventions fundamentally requires an understanding of the political economy and policy processes that shape policymaking. Despite numerous emerging approaches and frameworks for conducting political economy and policy analysis, practitioners and researchers working across food, land, and water systems lack a consolidated knowledge base. This Political Economy and Policy Analysis (PEPA) sourcebook aims to fill that knowledge gap.

This PEPA Sourcebook brings together a collection of frameworks, analytical tools, and methods for analyzing contested questions about transforming agri-food systems across multiple domains, including food and nutrition, land and water, and climate and ecology. Food system policy research and development asks what works where, why, and how? This question fuels other important questions and debates related to prevailing structural weaknesses in agri-food systems. What role should governments play in agricultural transformation? Are input subsidy programs an effective strategy to increase agricultural productivity? What are the merits of agroecology versus sustainable agricultural intensification or blended sustainability? Do small-scale farms have development potential or is supporting them ‘romantic populism?’ What social protection programs work best to solve food and nutrition security challenges? Are biotech crops part of the solution to solving food and nutrition security challenges in developing economies? What institutional innovations are “best-fit” for managing shared natural resources to avoid conflict and foster inclusion? Key agri-food system stakeholders disagree on how to answer these questions due to differences in ideas, beliefs, interests, resources, policy processes, developmental phase, influence networks, and political structures. These differences shape a policy environment characterized by the formation of stakeholder coalitions, fragmented policy instruments, and development programs that fail to provide adequate solutions to prevailing structural weaknesses in agri-food systems.

The PEPA Sourcebook aims to bridge the knowledge gap by providing a consolidated collection of frameworks, analytical tools, and related case studies for examining the political economy, policies, and policy processes of agri-food system transformation. The PEPA Sourcebook provides guidance for answering contested questions related to agri-food system transformation, understanding policy environments and processes, and setting policy agendas. The Sourcebook guides development practitioners in building coalitions and discourses, and in influencing policy environments. The frameworks and policy analysis tools are relevant for evaluating and characterizing national policies and strategies. They address specific issues related to agri-food systems,

focusing on the sub-topics of food and nutrition, land and water, and climate and ecology. The PEPA Sourcebook is designed to enable researchers, policymakers, and development practitioners to explore and answer political economy research questions, better understand policy environments, and link evidence-based policies to impact. The PEPA Sourcebook organizes political economy and policy analysis resources at diverse levels: macro (country or region), meso (sector), micro (problem-focused), and multiple (cross-cutting) levels. The Sourcebook supports development practitioners' efforts to understand and explain political interests, ideas, beliefs, networks, coalitions, influence, and power dynamics. The Sourcebook can help practitioners identify policy winners and losers and visualize the impacts of development strategies.

Collectively, the Sourcebook provides useful approaches to answering key questions relevant to inclusive agri-food system transformation, such as: (1) Who are the influential actors driving policy processes and programs? (2) What ideas, beliefs, and narratives shape crises and policy responses? (3) What are the "windows of opportunity" for reform and policy change? (4) What factors drive the effectiveness of policy implementation following reforms? and (5) How do gender and equity considerations shape policy development and implementation? This PEPA Sourcebook provides researchers, development practitioners, the donor community, and policymakers with knowledge resources for examining and managing policy processes. The Sourcebook helps practitioners negotiate the science-policy interface to explore solutions that work towards achieving the sustainable development goals (SDGs) by addressing structural weaknesses in the policy environment, weaknesses that often derail efforts to transform food, land, and water systems and achieve the SDGs.

1 Introduction

1.1 Political Economy and Policy Analysis (PEPA) for agri-food systems transformation

Agri-food system¹ transformation requires reforms at global, national, and local levels to address prevailing structural weaknesses in these systems, problems that are exacerbated by the COVID-19 pandemic, civil conflicts, and the climate crisis (FAO, 2021). Such reforms require changes to strategies and policy instruments to eliminate governance bottlenecks and accelerate technological and institutional innovations. Yet, the instruments for solving the prevailing weaknesses and disruptions in the policy environment remain highly debated and contested. Stakeholders in agri-food systems disagree on what policies work and why they work, where they can be implemented, and how they can be applied.

Addressing this issue requires a critical assessment of national strategies related to food and nutrition, land and water, and climate and ecology policy environments. A better understanding of the policy environment coupled with appropriate technological and institutional solutions can influence the success or failure of development interventions. Yet, policies and interventions for transforming food, land, and water systems remain under-researched. Development practitioners need to identify the right policies and understand the barriers to implementation. Development interventions and reforms fundamentally require understanding the political economy and policy processes that shape policymaking and stakeholder actions. Although there is a plethora of emerging approaches and frameworks, practitioners and researchers lack a consolidated sourcebook that organizes knowledge on political economy and policy analysis. This sourcebook aims to fill that knowledge gap.

This Political Economy and Policy Analysis (PEPA) Sourcebook brings together a collection of frameworks, analytical tools, and methods for examining contested issues critical for transforming agri-food systems in the areas of food and nutrition, land and water, and climate and ecology. In doing so, the Sourcebook can help researchers and practitioners address questions such as: What ideas, beliefs and narratives shape crisis situations and policy responses? What “windows of opportunity” exist to influence reform and policy change? What factors drive the effectiveness of policy implementation following reform decisions? How do gender and equity considerations shape policy processes, agenda setting, and implementation? Notwithstanding the importance of both global dynamics and subnational factors that influence agri-food systems, this PEPA Sourcebook explicitly focuses on the national level where most policies and strategies are developed and the level of analysis to which most political economy and policy analysis frameworks are directed.

¹ Agri-food systems (AFS) comprises the primary production of food and non-food agricultural products and their processing along the value chain across the subsectors of crops, livestock, forestry, fisheries, and aquaculture. AFS also encompasses the subsystems (domains) and typologies of food and nutrition systems, water-based systems, land-based systems and agroecology systems (Steinfeld et al., 2019; FAO, 2021).

1.2 What is political economy and policy analysis and why is it needed?

The dominant approach in international development generates insights about development interventions and their impacts through the use of rigorous quantitative economics (Mockshell & Birner, 2015). The ethos of such an analysis is to provide decision-makers with relevant evidence on how well a development program is working or is not working (Bourguignon & Pereira da Silva, 2003). In some cases, ex-ante quantitative assessment approaches are also used to generate information before development programs are implemented (Bourguignon & Pereira da Silva, 2003). However, determining what works where, why, and how in the policy environment requires going beyond strictly quantitative evidence (Birner & Resnick, 2010, Mockshell & Birner, 2020, Harrigan, 2003, Jayne et al., 2002, Resnick et al., 2018).

Political economy and policy analysis (PEPA) has gained popularity in recent years. Development actors have recognized that interventions often fail due to lack of political will or institutional weaknesses, even when quantitative and technical analysis predicted their success (Whaites et al., 2023, DFID, 2009). PEPA examines the interaction between policies and economic processes and related outcomes due to policy choices and institutions. PEPA is necessary to examine often-neglected topics, such as power dynamics, conflicting interests, coalitions and networks, "rules of the game," and stakeholder policy aspirations (Resnick et al., 2018). PEPA aims to understand policy champions, power relations, policy risks, and informal and formal policy processes. Whether formal or informal, politics is an important factor in determining how power or scarce resources are distributed among groups or individuals in a society (DFID, 2009; Haider & Rao, 2010). Political processes are dynamic and occur at the institutional, community, country, and regional levels. They can enable or derail a transformation or change process for food, land, and water systems. Thus, political economy analysis helps to identify policy contexts and achievable political strategies, revealing expectations and risks associated with specific national policies and strategies (Haider & Rao, 2010). PEPA is also useful in analyzing how decisions are made in policy environments. Development practitioners can develop successful outcomes by understanding the dynamic interactions between natural resources, socioeconomic factors, institutions and stakeholders (DFAT, 2016).

PEPA, therefore, enables practitioners and researchers to identify difficulties that arise from institutional barriers, problems, and a lack of political will, which must be overcome at some point in the project lifecycle (Whaites, 2017; de Schutter, 2019). PEPA enables development actors to 1) recognize key entry points to politically smart interventions and 2) understand how incentives, institutions, and ideas shape political actions and development outcomes (Whaites, 2017). Moreover, PEPA enables development practitioners to understand what motivates political behavior. PEPA analyzes how politicians influence policies and programs by identifying the main winners and losers of a given policy and assessing the overall impact of development interventions at the national level (DFID, 2009; Harris, 2019).

1.3 Why is a PEPA Sourcebook for food, land, and water systems needed?

The PEPA Sourcebook offers frameworks, concepts, and tools to address key policy issues related to food, land, and water systems (Whaites et al., 2023). Although there is growing awareness of the importance of integrating PEPA into development programs, the scope of applications across food, land, and water systems is limited. Development agencies and existing sourcebooks assess the impact of development interventions

on poverty and livelihoods ^{2,3} (World Bank 2007, 2016). However, agri-food systems analysis requires a tailored knowledge base to assess policy trade-offs across food and nutrition, land and water, and climate and ecology policy domains. PEPA for agri-food systems also needs to address criticisms that it remains highly fragmented, lacks external validity, cannot be replicated, and produces inadequate measurements (Resnick et al., 2018). Robust cross-cutting PEPA frameworks and tools are needed to analyze policy change at the macro, meso, and micro levels. Recognizing this knowledge gap, this PEPA Sourcebook aims to provide a compendium of frameworks, analytical tools, and example case studies for conducting a political economy and policy analysis of food, land, and water systems in low- and middle-income countries.

In search of new pathways for successful development interventions, assessments have explored the topic of PEPA within agri-food systems across a broad range of topics: policy, governance, agriculture (Lyu et al., 2021), food, water, land, and natural resources (Buur et al., 2017), and nutrition (Harris, 2019; Trevena et al., 2021). However, not all challenges faced by multi-sectoral programs are typically covered by narrowly focused, single-issue frameworks and tools targeting specific sectors and development programs. More robust, systematic, and holistic PEPA frameworks are needed to understand the complexity of the policymaking process (Resnick et al., 2018). Sustainable food systems are complex and involve many cross-cutting issues, motivating a call for more integrated PEPA methods and analytical tools (Duncan et al., 2019). The application of PEPA also helps provide evidence to inform national policies, strategies, and 'everyday political'⁴ decisions. PEPA can harness synergies while transforming food and nutrition, land and water, climate change and ecology systems (Whaites, 2017).

This PEPA Sourcebook is an essential guide that provides frameworks and analytical tools for analyzing how policy change occurs at broad geographic scales (macro-scale), by livelihood sectors (meso-scale), organized around specific problems (micro-scale), and arranged across levels (multipurpose) (de Schutter, 2019). Further, the PEPA Sourcebook aims to provide a compendium that makes sense of the crowded field of approaches, frameworks, and tools by identifying where there are commonalities and differences. Chapter 2 of this guide summarizes how PEPA intersects with food, land, and water systems. Chapter 3 highlights the systematic literature review methodology for PEPA tools and frameworks. The specific frameworks, tools, and related case studies for agri-food policy domains are presented in Chapter 4. The step-by-step approach for conducting PEPA is presented in Chapter 5. Chapter 6 provides an outlook for PEPA in food, land, and water systems research.

² The role of Political Economy Analysis in Development Policy Operations (World Bank, 2016).

³ Tools for Institutional, Political, and Social Analysis (TIPS) of policy Reform: A sourcebook for Development Practitioners (World Bank, 2007).

⁴ This is smart political thinking and working: continually engaging with the political environment to help a program navigate through obstacles while keeping the realities of the context in mind (Whaites, 2017).

2

The intersection of PEPA and food, land, and water systems

2.1 Food

PEPA has been key in evaluating various governmental and sectoral policies, their actors, power dynamics, and institutional frameworks. Food systems comprise the actors and interactions along the entire food value chain. Stakeholders and actors include input suppliers, commodity producers, transporters, processors, retailers, wholesalers, and consumers, as well as those working in food disposal (IFPRI, 2022). Food systems involve the creation of enabling policy environments and cultural norms around food. They affect human and environmental health at the level of individuals, communities, nations, and the whole planet (Downs et al., 2017).

An ideal food system should emphasize nutrition, health, and food safety. It should maximize production and efficiency to ensure affordable food production while integrating sustainability, climate awareness, and social inclusion (IFPRI, 2022). Considering the SDGs, food systems are supposed to be more sustainable and resilient in striving to meet the food and nutrition demands of the growing human population (Downs et al., 2017). PEPA has been instrumental in examining the effectiveness of various governmental and sectoral policies and the relationship between actors, power dynamics, and institutional frameworks (de Schutter, 2019). As such, the political economy of sustainable food systems is depicted to encompass various themes: diversity and innovation (Duncan et al., 2019), the food and health nexus (Rocha & Harris, 2019), and the politics of consumption, food sovereignty, and agroecology (Gliessman et al., 2019). Other related topics in food systems debates include food accessibility, ultra-processed foods, disparities between smallholder and commercial farmers, genetically modified organisms, livestock- versus plant-based diets, organic farming, and agricultural intensification (Steinfeld et al., 2019). A model food system is envisioned as nutritional, healthy, safety-driven, productive, effective, affordable, environmentally sustainable, climate-smart, and integrative (IFPRI, 2022). Achieving this vision demands concerted investments in agricultural research, along with policy reforms that leverage technological and institutional innovations, paving the way for evidence-based development.

2.2 Land

The land system comprises the terrestrial component of the Earth system, including all processes and activities related to the human use of land. The system includes socioeconomic and technological aspects of land management and the social and environmental effects of land use (Verburg et al., 2015). Changes to land systems have profound effects on the local environment and human well-being and play a significant role in global environmental change. Land is useful in providing food, fuel, fiber, and many other ecosystem services to society. It is also responsible for supporting production functions, regulating natural hazards, and providing cultural services (Akram-Lodhi, 2012).

This PEPA Sourcebook is useful in examining land, its access and development, land-use change, and land-grabbing discourses that are critical in agri-food policymaking. Like the rest of the world, land in the Global

South is either privately, communally, or state-owned. Different land use practices modify the quantity and quality of ecosystem services with implications on food and nutrition security. Shifts in the land system directly result from human decisions and actions, made by a range of actors or due to national land use planning and global trade agreements (Anderson & Leach, 2019). Yet, the post-colonial era has witnessed different shifts and transformations in land ownership in the Global South, creating avenues for multinational companies to own land, exacerbating land-grabbing (Kumeh & Omulo, 2019). Most importantly, the aggregate impact of local changes in land systems attracts far-reaching consequences on ecosystem services and human well-being (Verburg et al., 2015). Key issues related to land's role in agri-food policymaking include how land is accessed and developed, land-use change, land for biofuel and energy instead of food, and land-grabbing.

2.3 Water

This PEPA Sourcebook can help stakeholders sustainably manage natural fresh water resources, protect the hydrosphere, and meet the agri-food system's current and future demands. Water conservation refers to the preservation, control, and development of water resources – both surface and groundwater – and the reduction of contamination (OECD, 1997). Water conservation also entails assessing an action, behavioral change, improved design, or process implemented to minimize water loss, waste, or use (Kumari et al., 2021). Considering the increasing global demand driven by human population growth and climate change, actions aimed at producing food with less water, particularly in irrigated agriculture, are vital. Similarly, actions that build farmer resilience against floods and droughts and that use environmentally-friendly water technologies are indispensable (FAO, 2022). In this sourcebook, water conservation encompasses all the policies, strategies, and activities employed by governments and development actors. The resources cited in this sourcebook can help stakeholders sustainably manage natural fresh water resources, protect the hydrosphere, and meet the agri-food system's current and future demands.

2.4 Climate

Life on Earth is profoundly affected by weather and climate. Weather and climate are essential to human health, food production, and well-being (Baede et al., 2001). External forces can cause climate variability and changes at the global, continental, regional, and country scales. A climate system is an interactive system consisting of the atmosphere, hydrosphere, cryosphere, land surface, and biosphere, which are often influenced by various external factors, especially solar radiation (Baede et al., 2001). Human activities, such as the emission of greenhouse gases or land-use change, are driving climate change and its impacts on the agri-food system.

2.5 Ecology

Systems ecology is a holistic, interdisciplinary field of ecology focused on studying ecosystems by applying general systems theory to ecology. A central concept of systems ecology is that ecosystems are complex systems with emergent properties. Systems ecology aims to understand how human activities interact with biological and ecological systems (Patten, 2013). Recent studies show the benefits of environmental protection, conservation, and preservation. These efforts are widely acknowledged for promoting long-term sustainability. Consequently, the ecological challenge for agri-food systems calls for a shift to descriptive empirical ecology. Problems are becoming too complex to resolve without expanding the basic knowledge of environmentalism to a wider ecological science that considers complex systems (Patten, 2013).

3

Systematic literature review of PEPA analytical tools, concepts, and frameworks

3.1 Methodology

This PEPA Sourcebook provides a guide to analysis resources by following the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA 2020) statement (Page et al., 2021). Though developed to evaluate health intervention studies, PRISMA provides a rigorous approach to a systematic review in other domains, including agriculture (Supriya & Mamilla, 2022). The PRISMA 2020 statement is a 27-item checklist relevant for mixed-methods systematic reviews, including quantitative and qualitative studies (Page et al., 2021). PRISMA 2020 helped focus this survey of knowledge resources on studies featuring analytical tools and frameworks in agri-food systems – the food and nutrition, land and water, and climate and ecology domains – highlighting applicable policies and strategies.

3.1.1 Eligibility criteria

Table 1 outlines the eligibility criteria for determining whether sources should be included in or excluded from this Sourcebook. We included original articles written in English, focusing on analytical tools and frameworks used in agri-food systems across food and nutrition, land and water, and climate and ecology domains. We included articles written in the last two decades across all geographical locations.

Table 1: Inclusion and exclusion criteria

Item	Inclusion criteria	Exclusion criteria
Study methods or type	Qualitative, quantitative, social networks, mixed methods, power mapping	Study protocol, opinions
Subject	Agriculture, environment, social sciences, economics, political science, econometrics	Biological, engineering, energy, finance, biochemistry, genetics, computer science, medicine
Topics	Policy, power, politics, political economy, food, food policy, climate change, ecology, sub-Saharan Africa, land use, water management, methods, nutrition policy	Health, human disease, attitude, behavior, aquatic organisms, health promotion, education, risk assessment
Publication or source type	Journal article, journal issue, conference paper, conference proceedings, bulletin, bulletin article, book, book chapter, annual report, correspondence, editorial, standard or thesis published in the English language	Data paper, undefined Published in a language other than English with an absence of peer-review
Publication year	2002-2022	Pre-2002

3.1.2 Information sources

We searched the following electronic databases to find relevant agri-food systems literature: Scopus, CABI, AgEcon, BASE, Google Scholar, SSRN, and Google. The searches were conducted between August 10–30th, 2022. The search strategy used for all databases is detailed below. During the reference-checking step, we evaluated the abstract and full text of the identified studies to assess their eligibility for inclusion in the review.

3.1.3 Search strategy

The search strategy for each database used keywords, starting with a broad search using “agri-food” and “food systems”, and “agriculture”. The search was then narrowed to “nutrition”, “water”, “land”, “climate”, and “ecology” terms in cases where more information was needed. The initial searches for each database based on keywords and query strings are outlined in Annex B.

3.1.4 Study selection process

To select studies, the authors used an excel sheet to tabulate all the selected manuscripts from the databases. After removing ineligible and duplicate articles, we further reviewed the title and abstracts of the remaining articles to eliminate those that did not meet the review criteria. The full texts of the remaining manuscripts were then cross-examined by two reviewers separately to determine which articles met the inclusion and exclusion criteria. In the event of a conflicting judgment, the two reviewers discussed further before deciding to either include or exclude the paper from the review.

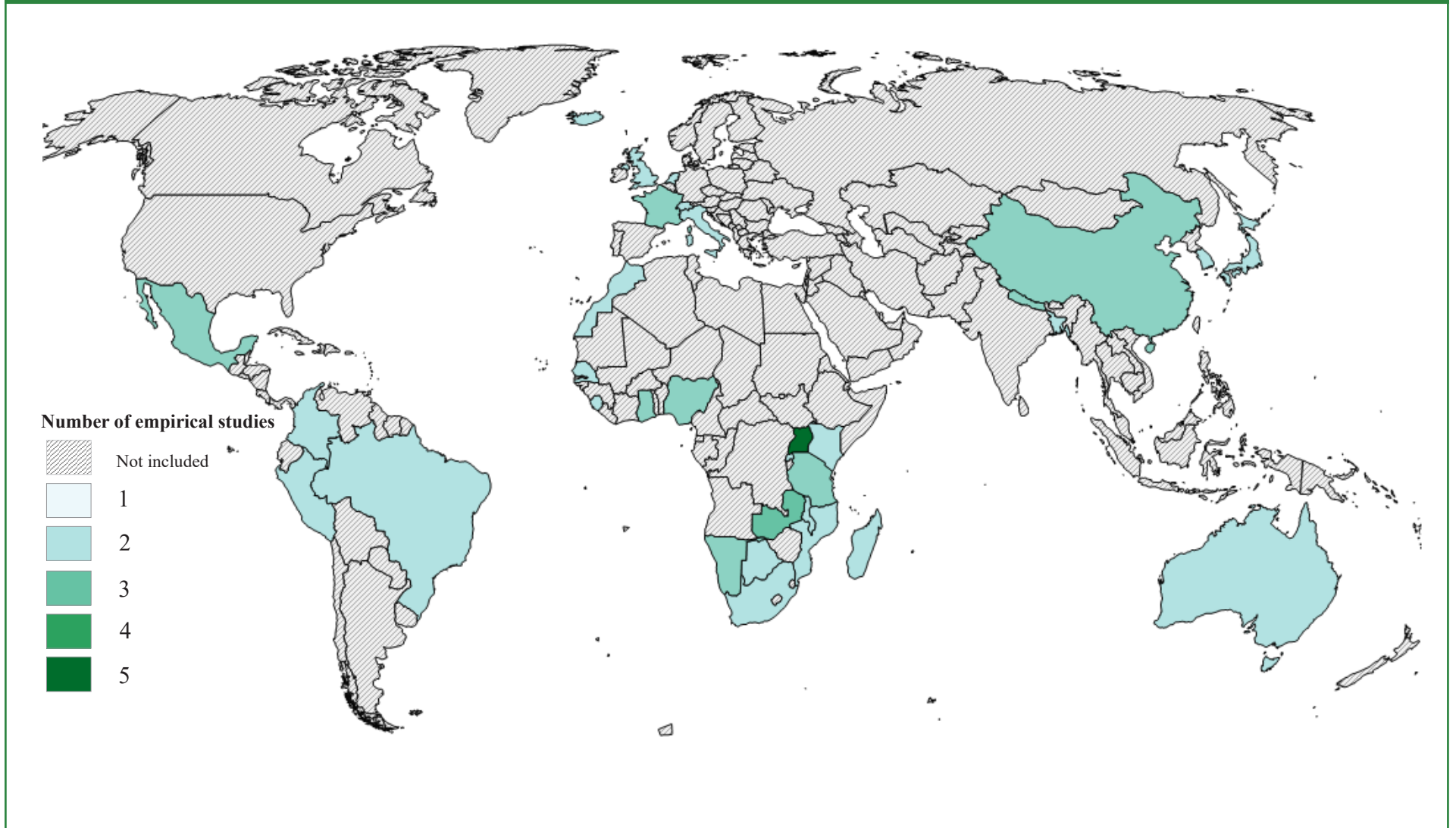
3.1.5 Data extraction and items

Metadata on all the assembled PEPA resources were extracted to complete the selection process. This information included relevant data on study characteristics, such as the methodology used, qualitative versus quantitative approaches employed, study location, and the scope of the study (macro, meso, micro or multi-levels). This metadata also recorded the type of resource that was documented, such as analytical tools, concepts, or frameworks, as well as keywords and journal or publication names. The authors’ names and publication titles were also recorded to avoid any overlap or redundancy.

3.2 PEPA literature for food, land, and water system transformation

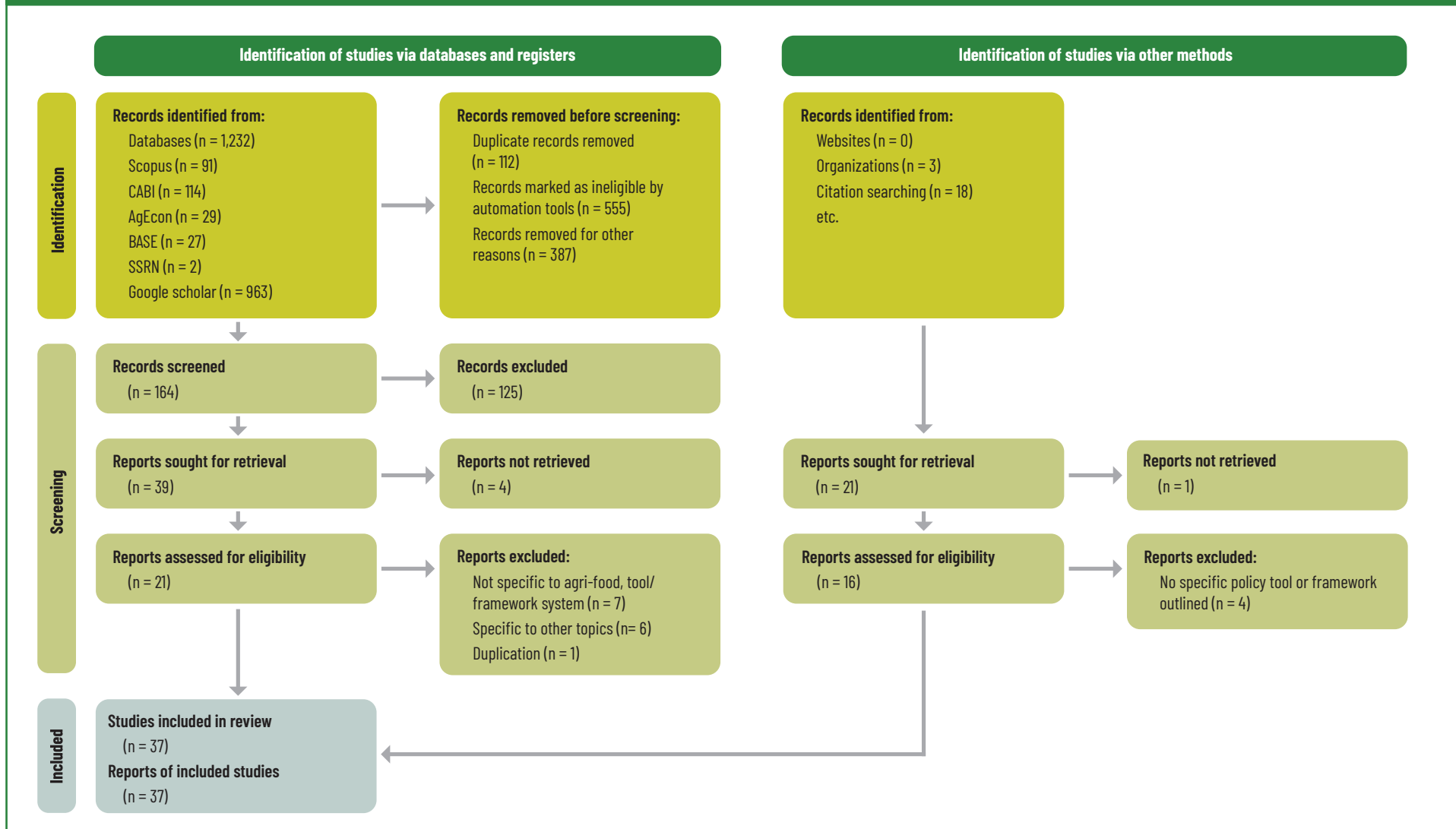
After reading the title, abstracts, or keywords for all the assembled articles from six database sources, we identified 1,232 articles eligible for review. Of these, 112 were duplicates and 942 were ineligible. These latter studies were judged to be outside the scope of the review. A further 164 articles were screened, of which 125 were excluded based on differences in the topic or subject area, document type, and language. Of the remaining 39 articles, 4 could not be retrieved and 16 additional articles were eliminated based on duplication or lack of relevance. Fifteen additional articles were added from grey literature and citation searching. A total of 37 articles from 22 journals, 6 institutions, and 32 countries worldwide (Figure 1) were selected for the systematic review (Figure 2).

Figure 1: Distribution of empirical studies by country. The case study countries are identified in the legend by color codes



Source: Authors

Figure 2: PRISMA 2020 flow diagram for the systematic review

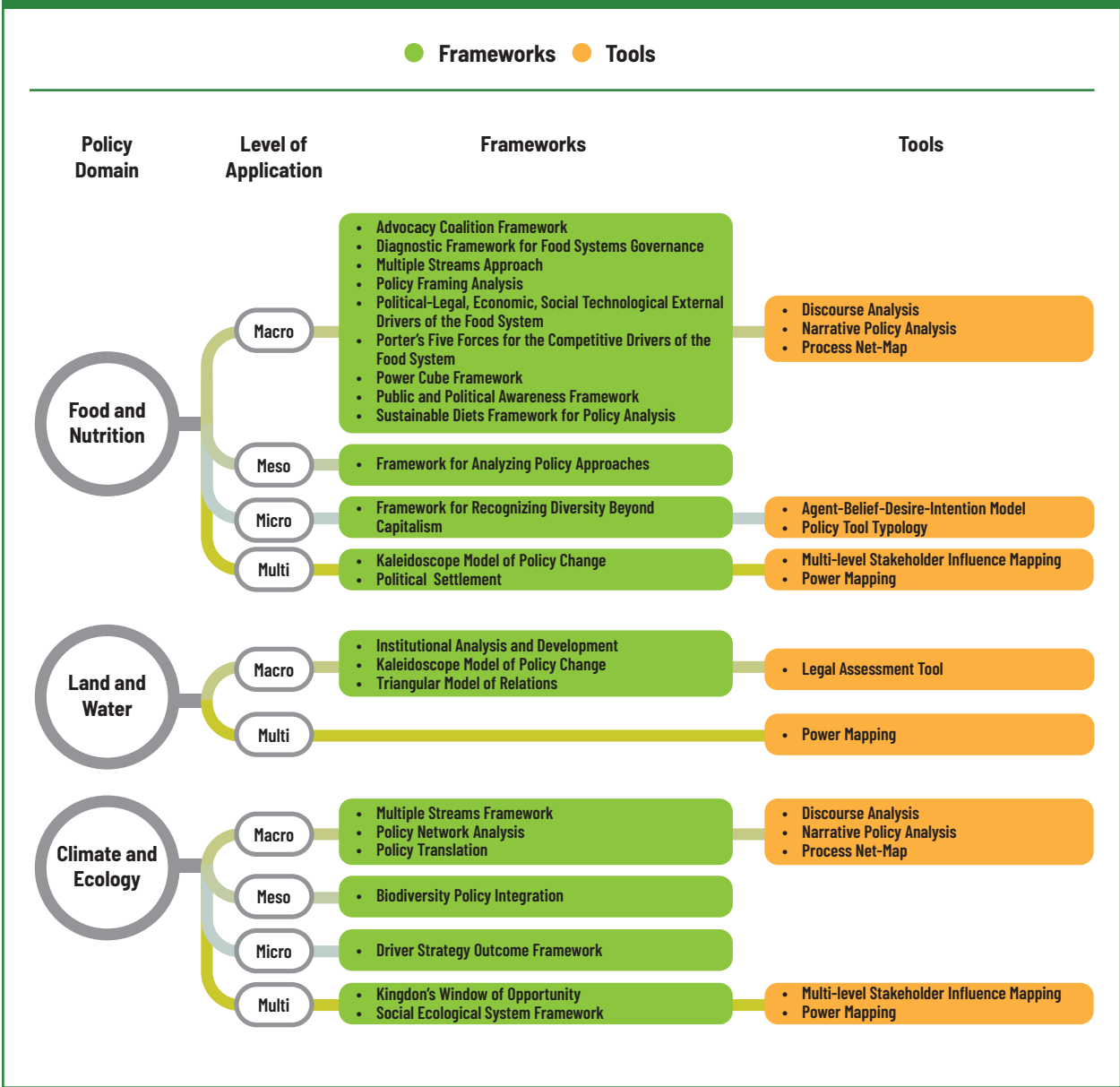


Source: Adapted from Page et al. (2021)

4 PEPA frameworks and analytical tools for agri-food policy domains

The PEPA frameworks and tools for national policies and strategies focus on three policy domains relevant to agri-food systems: food and nutrition systems, land and water systems, and climate and ecology systems (Figure 3). These three domains are synthesized for macro-, meso-, micro-, and multi-level analysis applications. Each policy domain includes relevant, practical frameworks and tools, and key research methodologies that can be used at different analysis levels based on a systematic review of the literature (Annex A and C). However, the outlined frameworks and analytical tools can be applied across the three domains and at different levels depending on the research question, scope, or problem addressed.

Figure 3: Summary of frameworks and analytical tools for agri-food system policies and strategies



Source: Authors

4.1 Food and nutrition policy domain

The frameworks and tools in the food and nutrition policy domain operate at several levels as described below (Figure 4). At the most basic level, the tools and frameworks can be thought of as those focusing narrowly on a particular problem. That problem is nested within a broader sector, with corresponding tools and frameworks for analysis. The sectoral analysis falls within broader country level political economy and policy frameworks. Finally, macroscale frameworks in tools integrate issues that operate at multiple levels.

Figure 4: Tools and frameworks for the food and nutrition policy domain



Source: Authors

Food and nutrition: Macro-level frameworks and tools

Macro-level PEPA frameworks and tools (Table 2) are focused on the national level. These frameworks and tools can help show the significance of the historical context, political climate, political or institutional culture, and prevailing national economic and social conditions (Holland, 2007). In addition to the overarching macro-level frameworks listed in Table 2, researchers often need specific tools for use in the macro-level political economy analysis. Table 3 details the tools that can be incorporated into many macro-level analysis frameworks, individually or in combination.

Food and nutrition: Meso-level frameworks and tools

Meso-level frameworks and tools (Table 2) focus on levels between the macro (national) and micro (individual/local) or the interactions between macro and micro levels. Meso-level analysis may also be focused on process, including the rules and incentives that govern the implementation of policy reform, which may be influenced by economics, organizational culture, or social norms (Holland, 2007).

Food and nutrition: Micro-level frameworks and tools

Micro-level frameworks and tools are focused on the individual or local level (Table 2). They can help identify winners and losers of policy reforms and can help illuminate local dynamics.

Table 2: Macro-, meso-, and micro-level frameworks and tools for food and nutrition policy domain

Framework	Description	Uses
Multiple Stream Approach (MSA), also known as Kingdon's Theory of Agenda Setting (Thow et al., 2021)	Diagnostic framework: Looks at factors that influence or promote policy change; conceptualizes policy change as resulting from the interplay between 1) the policy problem, 2) existing policy, and 3) political and institutional context.	Analyzing economic decisions related to nutrition and health.
Political, Economic, Social, and Technological (PEST) External Drivers of the Food System (Trevena et al., 2021)	Analytical framework: Looks at the food system considering 1) Political-legal drivers, i.e., government stability, the role of stakeholder groups, and ideologies; 2) Economic drivers; 3) Social drivers, e.g., culture and demographic factors; 4) Technological drivers, e.g., availability and adoption of technologies.	Analyzing the impact of nutrition policies on the agri-food system.
Porter's Five Forces (PFF) for the Competitive Drivers Framework (Porter, 1979; Porter 2008; Trevena et al., 2021)	Based on the concept of 'competitive rivalry': Rivalry is assessed in terms of the bargaining power of buyers and suppliers and the threat of entrants and substitutes.	Raising awareness of the existing competitive rivalry forces to minimize vulnerability within a given system in various agri-food system domains.
Public and Political Awareness Framework (PPA) for Evidence-Based Policymaking (Rocha & Harris, 2019)	Analytical framework: Focuses on five stages that may occur in the policymaking process to illuminate different tensions and competing interests within systems: Stage 1: Issues not yet considered for policy; Stage 2: Issues of public concern, in line with private actors' interests, not yet addressed in policy; Stage 3: Public concerns not yet addressed in policy that conflict with private sector interests; Stage 4: Issues addressed in policy, without apparent conflict with private sector interests; Stage 5: Public concern addressed in policy that conflict with private sector interests.	Understanding the political economy of food systems and contested public health policies.
Power Cube Framework (PCF) (Gaventa, 2005; Gaventa, 2006; Harris, 2019)	Analytical framework: Used to identify different forms of power, i.e., visible, hidden, and invisible powers, and then outline where and how power is exercised, as well as scales of power.	Building awareness of what drives various processes in agri-food system domains and identifying entry points for action.

Framework	Description	Uses
Sustainable Diets Framework for Policy Analysis (SDF) (Downs et al., 2017)	Analytical framework: Looks for similarities in various policy instruments. The analysis is based on five domains: 1) Nutrition and health; 2) Agriculture and food security; 3) Environment and ecosystems; 4) Markets, trade, and value chains for economic growth; 5) Sociocultural and political factors.	Studying key agriculture, nutrition, and environmental policies.
Diagnostic Framework for Food Systems Governance (DFFSG) (Termeer et al., 2018)	Diagnostic framework: Looks at the strengths and weaknesses of local or regional food system governance based on five principles: 1) System-based problem framing to deal with interlinked issues, drivers, and feedback loops; 2) Boundary-spanning structures to address fragmentation and enhance connectivity across boundaries, span siloed governance structures, and include non-state actors; 3) Adaptability to flexibly respond to inherent uncertainties and volatility; 4) Inclusiveness to addresses questions of whom to include and exclude to facilitate support and legitimacy; 5) Transformative capacity to overcome path dependencies and create adequate conditions to foster structural change.	Looking at food system governance holistically.
Advocacy Coalition Framework (ACF) (Jenkins-Smith & Sabatier, 1994; Weible and Sabatier, 2017; Mockshell & Birner, 2015; Mockshell & Birner 2020)	Diagnostic framework: Analyzes policy subsystems focusing on identifying policy themes, effective tools, beliefs, ideas, political resources, and coalitions with shared interests.	Identifying how policy coalitions work and interact to achieve certain goals. Revealing beliefs and ideas of stakeholder groups.
Policy Framing Analysis (PFA) (Daviter, 2011; Sakamoto et al., 2007)	Analytical framework: Analyzes agricultural policy initiatives of various governments or organizations by identifying the similarities and comparing the differences of the policy frames found in the agricultural policy documents.	Comparing agricultural policies of different governments or groups. Aiding identification of key rationales for policy change, and policy instruments that hamper the desired outcomes.
Framework for Analyzing Policy Approaches (FAPA) (Jahl et al., 2021)	Analytical framework that seeks to find the best combination of the below three elements given the food system and sustainability goals: 1) Multi- or mono-functional frames; 2) Levels of institutionalization; 3) Policy-society relationship.	Helping users understand governance mechanisms in agri-food system sub-domains.
Framework for Recognizing Diversity Beyond Capitalism (FRDBC) (Koretskaya and Feola, 2020)	Analytical framework: Contains the following dimensions: 1) Ontology: Space, time, human nature, the logic of relation; 2) Economic relations: Enterprise, labor, economic transactions, property, and finance; 3) Relation with the State: Participation in regulation and legitimation; 4) Knowledge.	Identifying capitalist, alternative capitalist, and non-capitalist configurations in businesses, co-ops, associations, and other socioeconomic entities within food systems. Analyzing interactions of different economic models within food systems.
Tool	Description	Uses
Policy Tool Typology (PTT) (Saviolidis et al., 2020)	Based on the idea that policy tools are avenues for policy implementation, categorizing tools can help illuminate proposed policy solutions. Categorizes policy tools into different types: 1) Strategic; 2) Governance; 3) Knowledge-based; 4) Market-based; 5) Direct activity regulation.	Categorizing policy tools by type. Helps users match types of policy tools to policy solutions under consideration.
Agent Belief Desire Intention Model (BDI) (Liu et al., 2021)	Analyzes farmers and their technology adoption process to understand farmer decision-making. This information is used to model the impact of different policies and policy tools on farmer technology adoption.	Seeing how farmer decision-making and technology adoption is influenced by the policy tools used.

Case study 1: Sustainable Diets Framework for policy analysis in Nepal

In Nepal, the Sustainable Diets Framework was used to identify gaps in current food policy and find areas of synergy between different policy instruments and documents (Downs et al., 2017). The analysis focused on three national policies: The Agriculture Development Strategy (ADS), National Biodiversity Strategy and Action Plan (NBSAP), and Multi-Sectoral Nutrition Plan (MSNP). These three policies were analyzed within the five major domains of the Sustainable Diets Framework: food security and agriculture; environment and ecosystems; markets, trade, and value chains; sociocultural factors; and political factors.

Results of the Sustainable Diets Framework analysis showed that although Nepal has successfully reduced the national poverty rate, many still suffer from malnutrition and food insecurity. In addition, the framework found that although the three national policies analyzed have many areas of overlap, there is little coordination between them. By applying the framework to nutrition and agricultural policies, a lack of alignment between production and consumption processes can be identified and addressed. Addressing where food system component work against each other is useful for policymakers in achieving policy coherence (Downs et al., 2017).

Table 3: Macro-level tools for food and nutrition policy domain

Tool	Description	Uses
Narrative Policy Analysis (NPA) (Roe, 1994; Mockshell & Birner, 2020)	Analytical tool: Looks at stories told by different actors to analyze policy issues. Four main steps: 1) Identify narratives dominating the issue in question; 2) Identify 'counter stories' and 'non-stories' about the issue; 3) Create a meta-narrative including dominant and counter stories; and 4) Examine if and how the meta-narrative realigns the policy issues in a manner responsive to decision-makers.	Showing how narratives have power in agricultural policy, aiding the reframing of polarizing issues, and helping people understand them in new ways.
Discourse Analysis (DA) (Hajer, 2006; van Dijk, 1996; Mockshell & Birner, 2015)	Looks at how different actors in policy debates positively assess their own beliefs and negatively assess the beliefs of those who disagree with them. Uses storylines with a clear beginning, middle, and end, as well as metaphors.	Examining various discourses and identifying the underlying policy beliefs of different actors.
Process Net-Map (PNM) (Schiffer, 2007; Ilukor et al., 2015; Duncan et al., 2019)	Participatory mapping tool: Analyzes steps of a process to identify stakeholders and their influence and visualize social networks. Four steps: 1) Asking the interviewee to describe the given process step-by-step; 2) Building influence towers; 3) Identifying obstacles to implementation; and 4) Creating a digital process map	A tool for understanding how processes are implemented, diagramming how processes are carried out compared to established procedures; identifying how power dynamics and overlapping responsibilities can impact participatory processes; identifying where interventions can be made to reduce corruption and maintain control in process pathways.

Food and nutrition domain: Frameworks and tools addressing multiple levels

Policy and development processes are complex, involving macro-, meso-, and micro-level dynamics and interactions between these levels. As a result, it can be helpful to have tools and frameworks designed to analyze food and nutrition systems at multiple levels of scale. Table 4 summarizes these frameworks and tools.

Table 4: Multi-level frameworks and tools for the food and nutrition policy domain

Framework	Description	Uses
Kaleidoscope Model (KM) of Policy Change (Resnick et al., 2018)	Includes 16 policy analysis variables, categorized into five stages of the policy cycle: 1) Agenda setting; 2) Policy design; 3) Policy adoption; 4) Policy implementation; and 5) Evaluation and reform.	Analyzing policies and multiple levels (macro to micro).
Political Settlement Analysis (PSA) (Kjær, 2015; Amaza et al., 2021; Chinsinga and Matita, 2021)	Focuses on underlying power arrangements in institutions; assesses political will to determine feasible policies. Involves the following steps: 1) Systematically mapping all key actors involved; 2) Identifying their interests and recognizing their forms of power - political, economic, social, and ideological; 3) Understanding stakeholder relationships; and 4) Appreciating the issues, narratives, and ideas shaping how and why stakeholders interact with each other.	Assessing political will and helping understand the reasons policies succeed or fail.
Tool	Description	Uses
Power Mapping (PM) (Guevara-Hernandez et al., 2010; Suhardiman et al., 2021)	A set of tools used to visualize the role of local actors and social forces play in local policy processes. Actors place themselves within a Venn Diagram of influence areas, following these steps: a) Identifying all the players - main decision makers, influencers, and stakeholders; b) Mapping the players in terms of decision influence; c) Identifying relationships - linking and connecting actors; and d) Asking relevant research questions.	Reveals local actors' areas of influence, and creates a visualization of local dynamics. Often used with Participatory Rural Appraisal or other participatory techniques.
Multi-level Stakeholder Influence Mapping (MSIM) (Sova et al., 2017)	Power mapping tool: Scores influence levels of actors involved in or affected by policy processes at the macro, meso, and micro levels. The actor group's closeness determines influence scores to the policy object.	Visualizing the influence levels of different groups in a policy process.

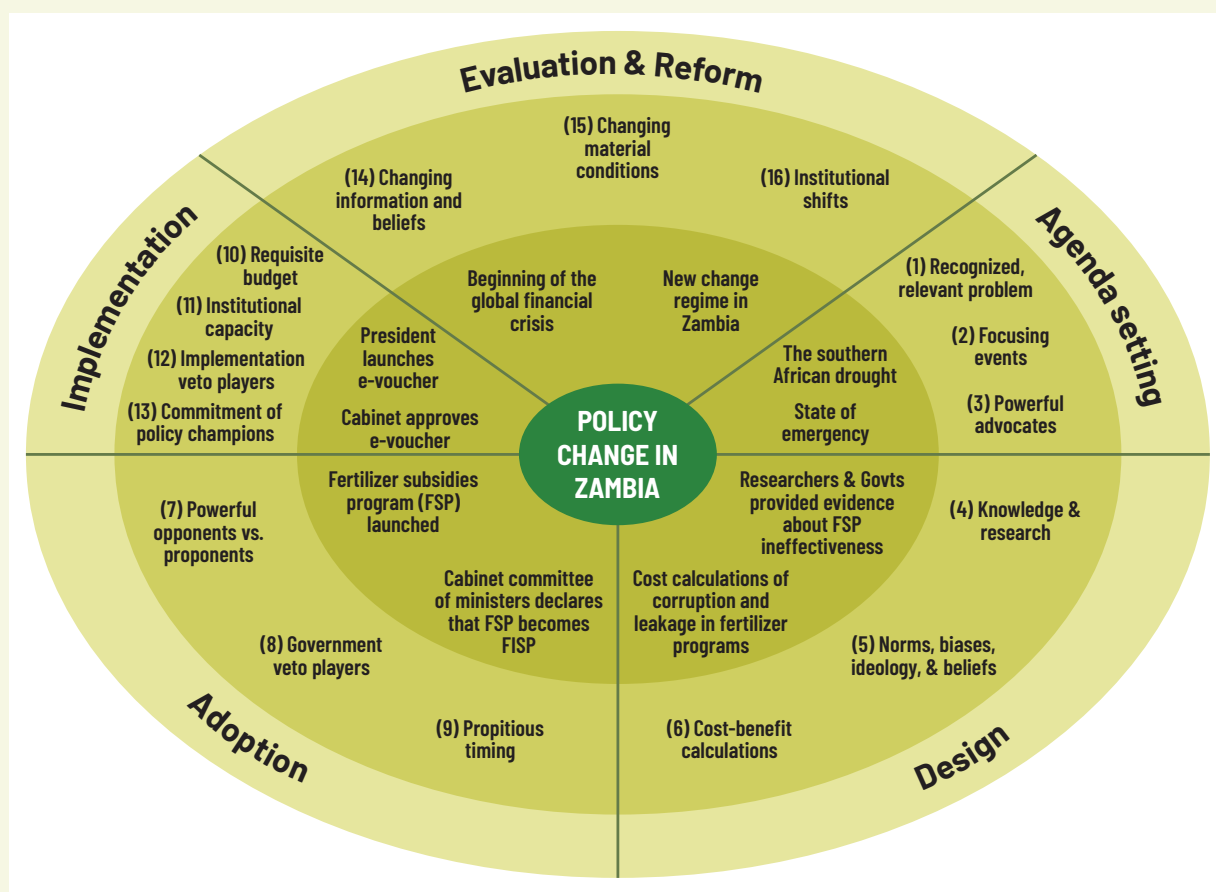
Case study 2: The Kaleidoscope Model of policy change – food security applications in Zambia

Resnick et al. (2018) developed the Kaleidoscope Model (KM) framework by analyzing policy processes related to food security in Zambia. This work aimed to further understand the importance of the policy environment in shaping development outcomes and in creating lasting impacts on food security in Zambia.

The Kaleidoscope Model comprises five policy cycle stages: agenda setting, design, adoption, implementation, and evaluation/reform. The approach uses a set of 16 operational hypotheses to determine the circumstances in which policies are developed and implemented. In Zambia, this framework was used to evaluate eight policy reforms related to food security policies, related to agricultural input subsidies and vitamin A fortification.

Most of the Kaleidoscope Model's core variables remained relevant for the two policies examined, while a small number appeared to lose applicability at times. This information can help practitioners and researchers assess when and where investment in policy reforms is most likely to have an impact (Resnick et al., 2018).

"In an era of growing pressure on donor resources and government budgets, the Kaleidoscope Model offers a practical framework through which practitioners and researchers can assess when and where investments in policy reforms are most feasible given a country's underlying political, economic, and institutional characteristics" (Resnick et al., 2018, p. 101).

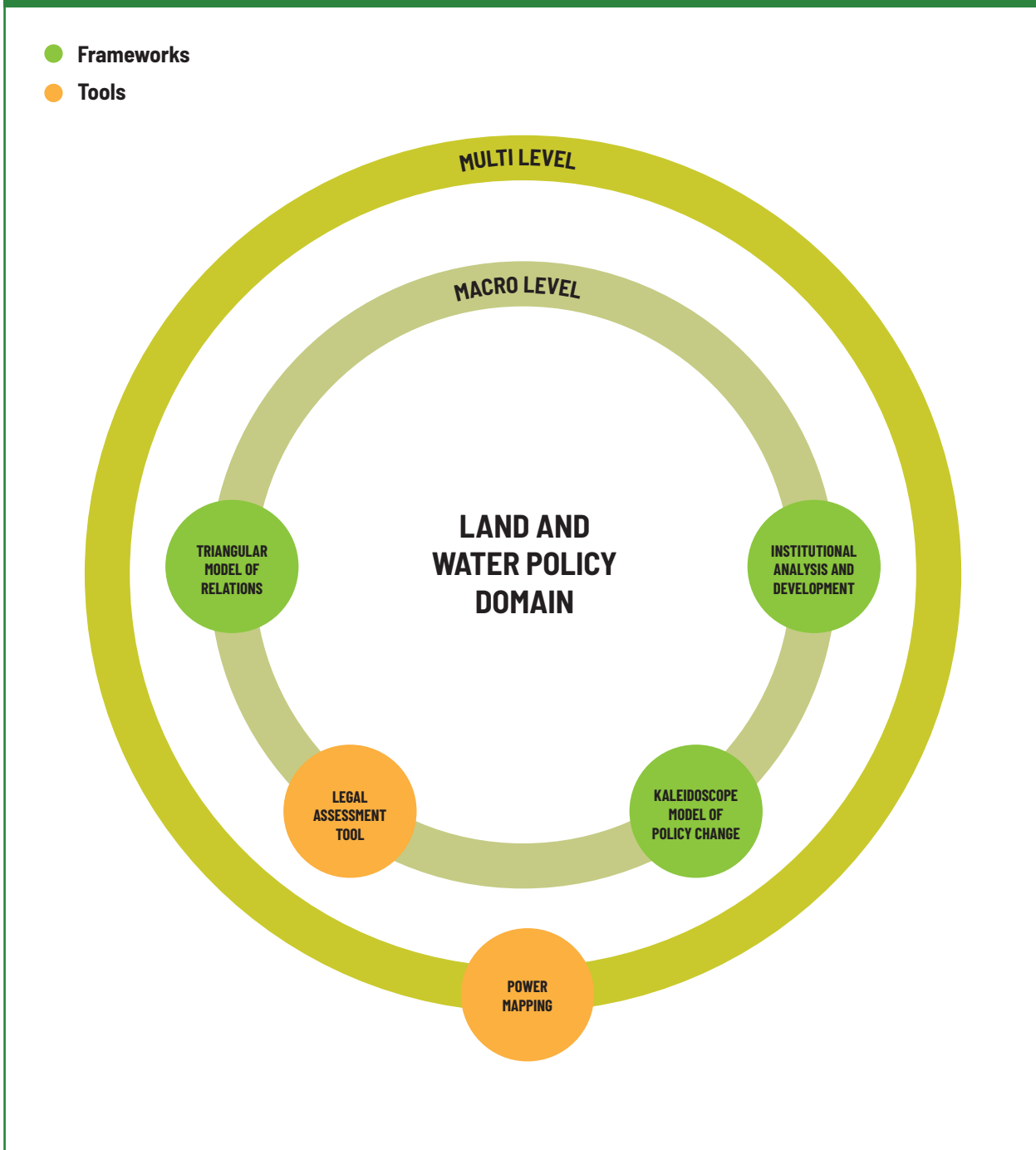


Adapted from Resnick et. al. (2018)

4.2 Land and water policy domain

This domain focuses on sustainable water and land management governance and how politics and power determine policymaking in the land and water sectors. It includes analyses that apply PEPA to address various land and water system issues and help unravel how stakeholders use their influence in the land and water sphere. This section offers macro- and meso-level tools and a meso-level framework (Figure 5, Table 5).

Figure 5: Tools and Frameworks in the land and water policy domain



Source: Authors

Table 5: Macro-level frameworks and tools for analyzing land and water policy domain

Framework	Description	Uses
Institutional Analysis and Development (Ostrom et al., 1994; Ostrom and Polski, 1999; Fan et al., 2019)	Investigates how institutions are formed and how they influence behavior. The main framework components include the physical world, community, rules-in-use, action arena (actors), patterns of interactions, outcomes, and evaluative criteria. The IAD Framework for Policy Analysis and Design takes the following steps: 1) Define the policy analysis objective and the analytic approach; 2) Analyze physical and material conditions; 3) Analyze community attributes; 4) Analyze rules-in-use; 5) Integrate the analysis; 6) Analyze patterns of interaction; and 7) Analyze outcomes.	Examining the outcome of common-pool resource management in the context of a community. Studying community-based factors, including perceptions and institutional capacity, that potentially influence failure or success in community-based water resource management in various countries.
Triangular Model of Relations (Buur et al., 2017)	Examines the relationship between local populations, investors, and ruling elites related to large-scale land and natural resource investments. Helps analyze the exchange of benefits, resources, and rights within these relationships. Attempts to analyze the following: 1) Reciprocal exchange deals between local populations and investors; 2) Compatible interests between ruling elites and investors; and 3) Productive social relations between ruling elites and local populations.	Helping policymakers and researchers investigate and target large-scale investment in land management. Helping them find an optimum scenario where local populations, elites, and investors gain without affecting each other's interests.
Tool	Description	Uses
Legal Assessment Tool (LAT) (Kenney and Campos, 2016)	Analyzes the legal context of countries through 30 legal indicators to explore gender-equality in land tenure; allows for quick, focused consultancy on legal matters for policymakers. LAT takes the following steps: 1) Analyze gender indicators and chosen categories across gender-related land issues; 2) Identify the current and historical institutional reforms related to land issues with a gender impact; 3) Identify the current stage of the public policy process; and 4) Support planning after considering reform gaps.	Planning and designing public policies in the land domain. Identifying the areas where women are at a significant disadvantage and where legal reform is needed.

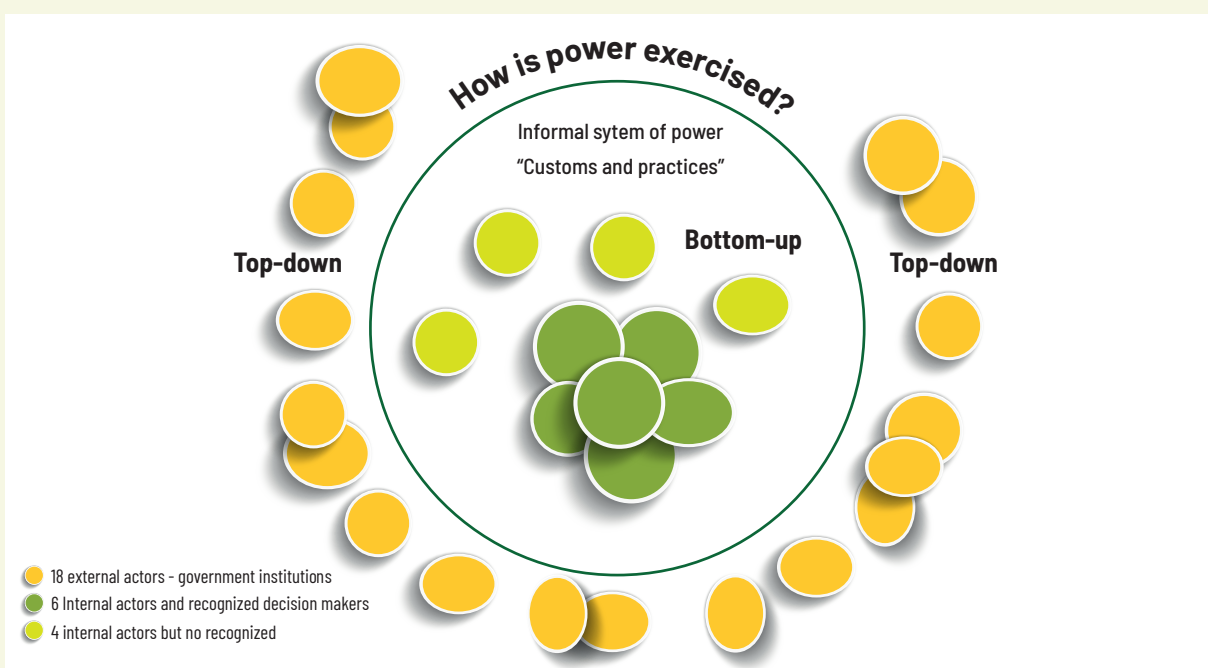
Case study 3: Participatory Power Mapping in California Village, Chiapas, Mexico

Guevara-Hernandez et al. (2010) conducted a participatory power mapping exercise with indigenous cattle keepers in California Village, Chiapas, Mexico. This study aimed to examine local power, its implication for village dynamics, and how people involved in local development understood and exercised power.

The study employed an action research approach as the principal framework for creating social order in the village. The approach builds on local customary law, referred to locally as 'usos y costumbres' (U&C), which are principles and practices evolved from the bottom-up within a community. Customary law was used to understand how village development-focused groups and committees engaged in collective action and made decisions. Participatory power mapping was useful within this context because it provided a tool that residents could use to show their understanding of their community and community relationships.

Participatory Power Mapping and the U&C framework showed that both village residents and outsiders must adhere to local values and norms to participate in development interventions and decision-making. This finding is interesting because power in Mexico is exercised based on a top-down model at a national level, especially for deploying state and federal resources to rural villages. However, at the local level, power is only seen as legitimate if actors follow local norms. When top-down local power structures fail to provide space for U&C modes of decision-making, tension often builds up within local systems and may result in protests or officially censured activities, such as the land occupation that gave birth to California Village.

"New research approaches towards community self-assessment can clarify how actors shape and re-shape local power structures through daily routines, contributing to a better understanding of community development from a productive perspective", (Guevara-Hernández et al., 2010, p. 6).

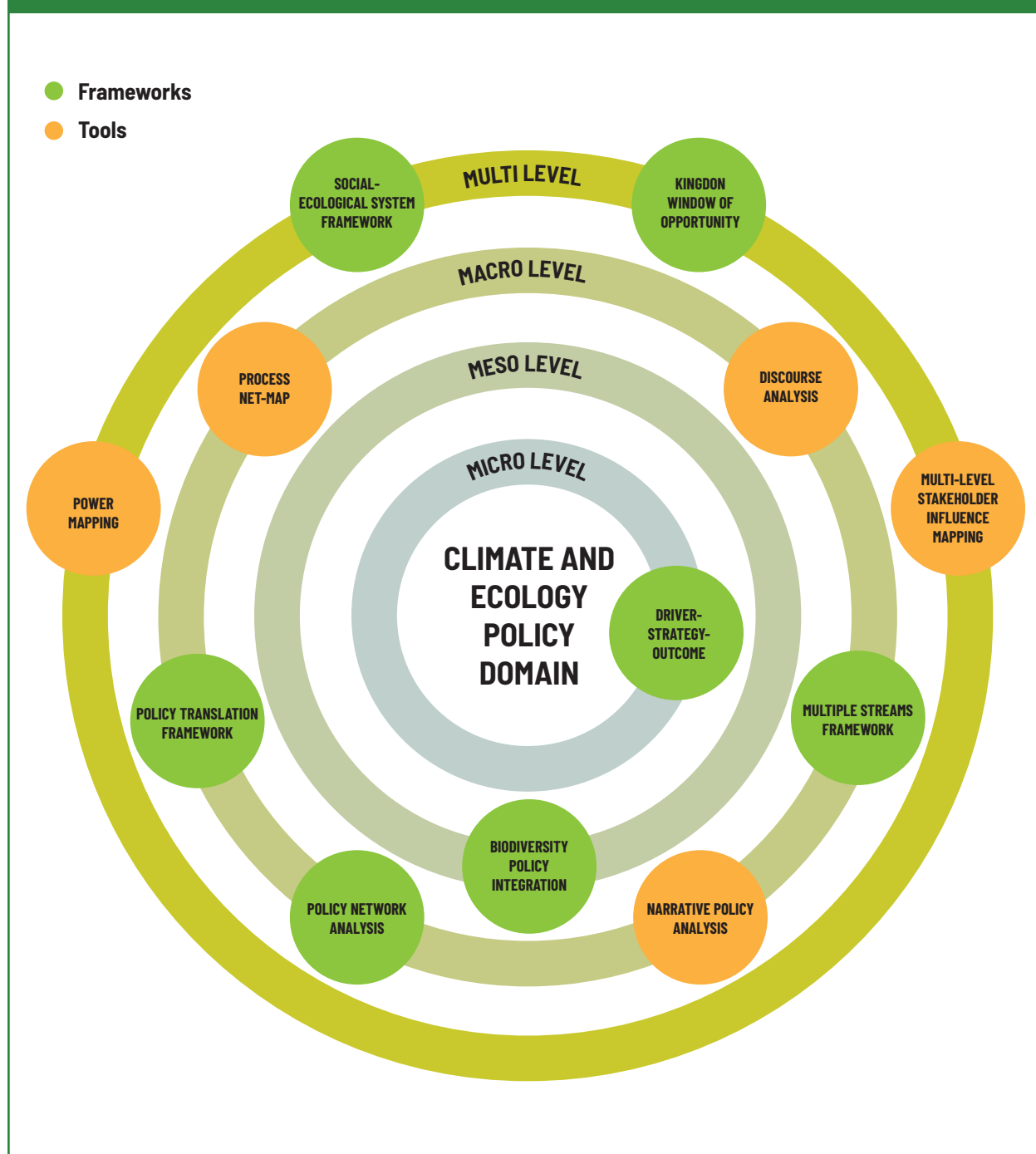


Adapted from Guevara-Hernández et al. (2010)

4.3 Climate and ecology policy domain

Climate and ecology domain: The climate and ecology policy domain includes political economy analysis focused on climate and environmental ecology issues and how these issues influence policymaking processes in various countries and sectors (Figure 6). The challenges related to the climate and ecology domain are discussed across the multi, macro, meso, and micro levels of analysis to pinpoint crucial frameworks and tools applicable to developmental initiatives and scientific research (Table 6).

Figure 6: Tools and frameworks for climate and ecology policy domain



Source: Authors

Table 6: Micro-, meso-, macro-, and multi-level frameworks for political economy and policy analysis in the climate and ecology domain

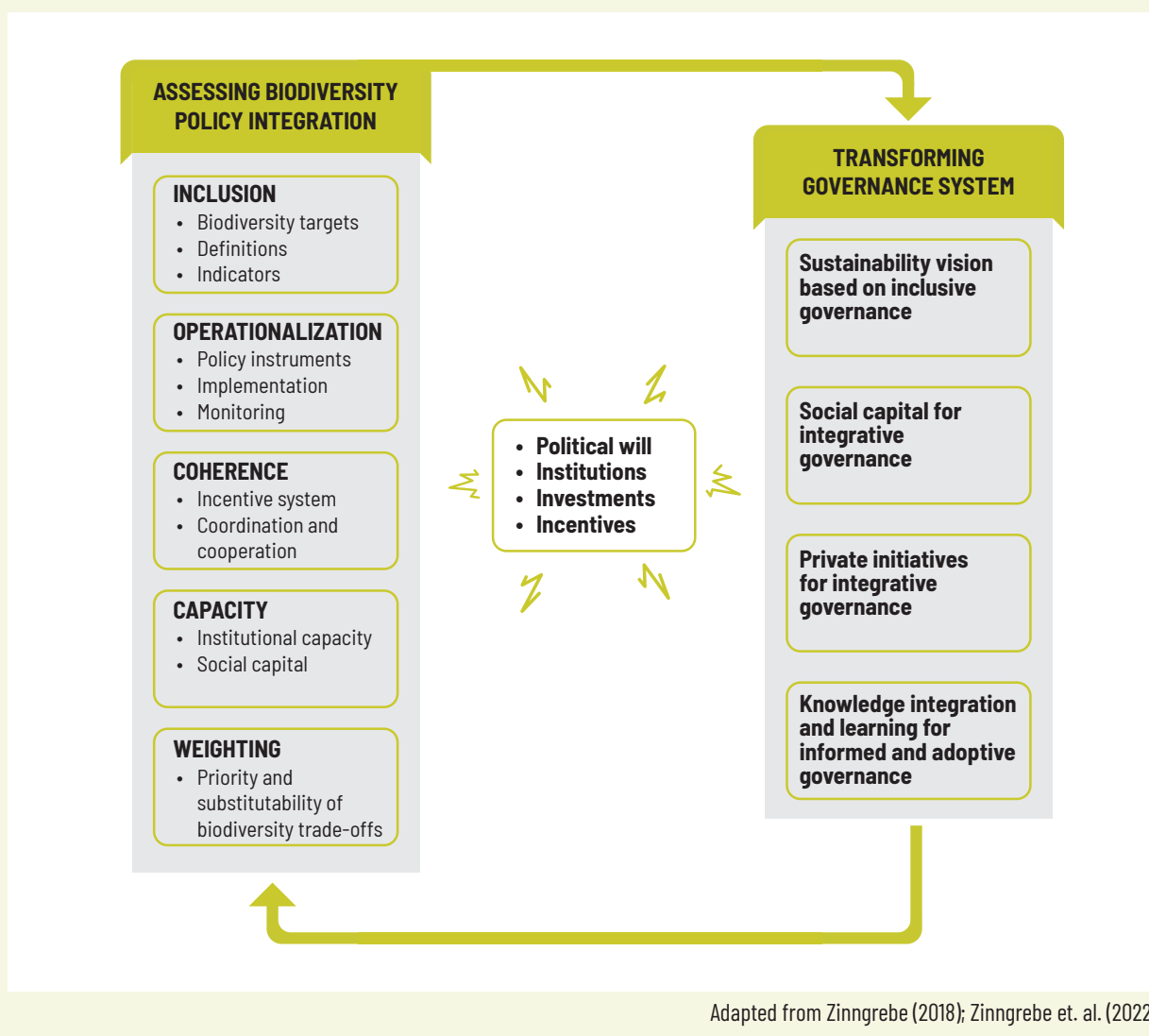
Framework	Description	Uses
Policy Translation (PT) (Milhorance et al., 2022)	Focuses on policy actors, policymaking processes, policy instruments, contextual shifts, and cost-benefit analysis. Four steps: 1) Define the context of the policy; 2) Analyze policy proposals; 3) Analyze relevant actors, resources, and opportunities, including integrated policy approaches; 4) Analyze institutional policy instruments available for translating policy.	Analyzing climate change policy. Examines knowledge transfers between actors; delineates and visualizes power struggles in the policy translation process.
Policy Network Analysis (PNA) (Ndeinoma et al., 2018)	Analytical framework: Identifies links and patterns between actors in a governance structure by mapping policy actors, identifying the structure of government bodies or institutions, and then measuring the power balance in decision-making. Focuses on power relations, resource mobilization, organization behavior, the policymaking process, and interest.	Developing new strategies through different stakeholder groups to effectively deal with policy issues.
Multiple Streams Framework (MSF) (Hernandez and Bolwig, 2021)	Diagnostic framework: Considers policymaking as a series of steps: 1) agenda-setting, 2) alternative specification, 3) authoritative selection among specified alternatives and 4) implementation. Focuses on the first two processes to explain why certain issues become relevant on the agenda, and why some proposals for addressing such issues are preferred over others.	Analyzing climate policy integration (climate streaming) to enhance the public policy-making process and operationalization
Biodiversity Policy Integration (BPI) (Zinngrebe, 2018)	Analytical framework: Examines how knowledge is transferred between different actors to put biodiversity targets in agendas. Considers the following: 1) Inclusion - the extent to which political sectors express the objective of biodiversity conservation; 2) Operationalization - identifying appropriate policy instruments; 3) Coherence - measuring the extent to which different objectives and policy instruments complement each other; 4) Capacity - identifying institutional capacity and available resources; 5) Weighing - defining priorities related to biodiversity objectives.	Connecting biodiversity development strategies with national policy efforts in high-biodiversity areas.
Driver-Strategy-Outcome Framework (DSOF) (Islam et al., 2021)	Analytical framework: Derived from social-ecological systems thinking and sustainable livelihood, resilience, and vulnerability assume that in an agrarian society, different chains embrace wealth-based economic structures. The framework is based on the following concepts which form the hypothesis for analysis: 1) Strategies - adjusting or improving a given technology or activity; 2) Drivers - institutional, climatic, or geographic; 3) Outcome - adaptation; 4) Wealth structure - land ownership	Useful in studying farmers' adaptation strategies, drivers, and outcomes of various technologies especially, those linked to climate change adaptation
Kingdon's Window of Opportunity (KWO) (Rose et al., 2020)	Identifies communication bridges between policymakers and researchers; supports having adequate resources to respond to opportunities when they arise; understands the scientific debate around the issue and connects with policymakers to bring the scientific debate to the national agenda.	Identifying upcoming windows of opportunity in specific areas.
Social-Ecological System Framework (SESF) (Vallejo-Rojas, 2016; Amblar, 2021)	Focused on biophysical systems and how they impact natural resource management. Applied through the following: 1) Identifying social, economic, environmental, and political context; 2) Measuring the size of the resource system and associated costs; 3) Identifying key players within the systems.	Identifying optimal conditions for cooperation applied to water pollution, water quality, and hydro systems.

Case study 4: Assessing biodiversity policy integration in Peru

In a recent policy assessment of Peru, Zinngrebe (2018) aimed to understand both the political dimensions of biodiversity loss and how concerned actors can use policy to protect biodiversity and mitigate the negative impacts of biodiversity loss.

Mainstreaming biodiversity protection across various political sectors and levels is considered a “best practice” for conserving global biodiversity. To fully understand the situation in Peru, the study used the Biodiversity Policy Integration (BPI) framework in several national-level political sectors, including agriculture, the economy, energy, and others. The analysis was based on political strategy plans, legal documents, and qualitative interviews with stakeholders.

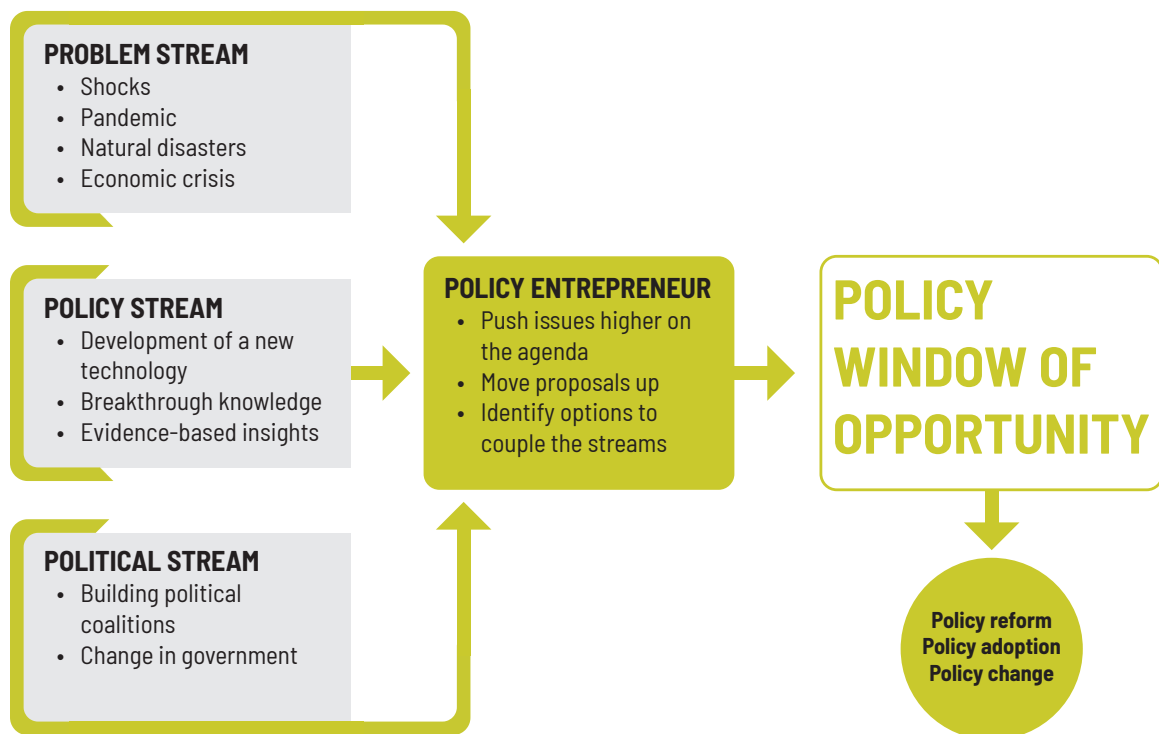
BPI analysis found that various sectors were generally committed to biodiversity conservation. The study identified three key components essential for improving BPI: framing sector-specific targets, favorable actor constellations, and adaptive institutional learning arrangements. Furthermore, sectoral support was deemed critical to generating ownership of biodiversity objectives in sector policy development and to facilitating institutional learning (Zinngrebe, 2018).



Case study 5: Policy windows for the environment - tips for improving scientific knowledge acceptance

Rose et al. (2020) sought to determine whether the responses of scientists, NGO staff, conservation policymakers, and others could be used to influence environmental policy. The study found four strategies environmentalists can use to respond to opportunities for creating successful policies.

This framework found that it is possible to achieve conservation objectives if stakeholders: 1) know the emergent opportunities, 2) respond quickly to them, 3) frame their research in line with appropriate windows, and 4) persevere to guide policy processes through development to successful implementation. The Policy Windows framework has been instrumental in exploring soft power from new academic perspectives and in considering how a crisis may prove useful to scientists. This framework provides evidence that is relevant to achieve real policy change, actors must establish political alliances, build coalitions, and gain credibility with decision-makers (Rose et al., 2020).



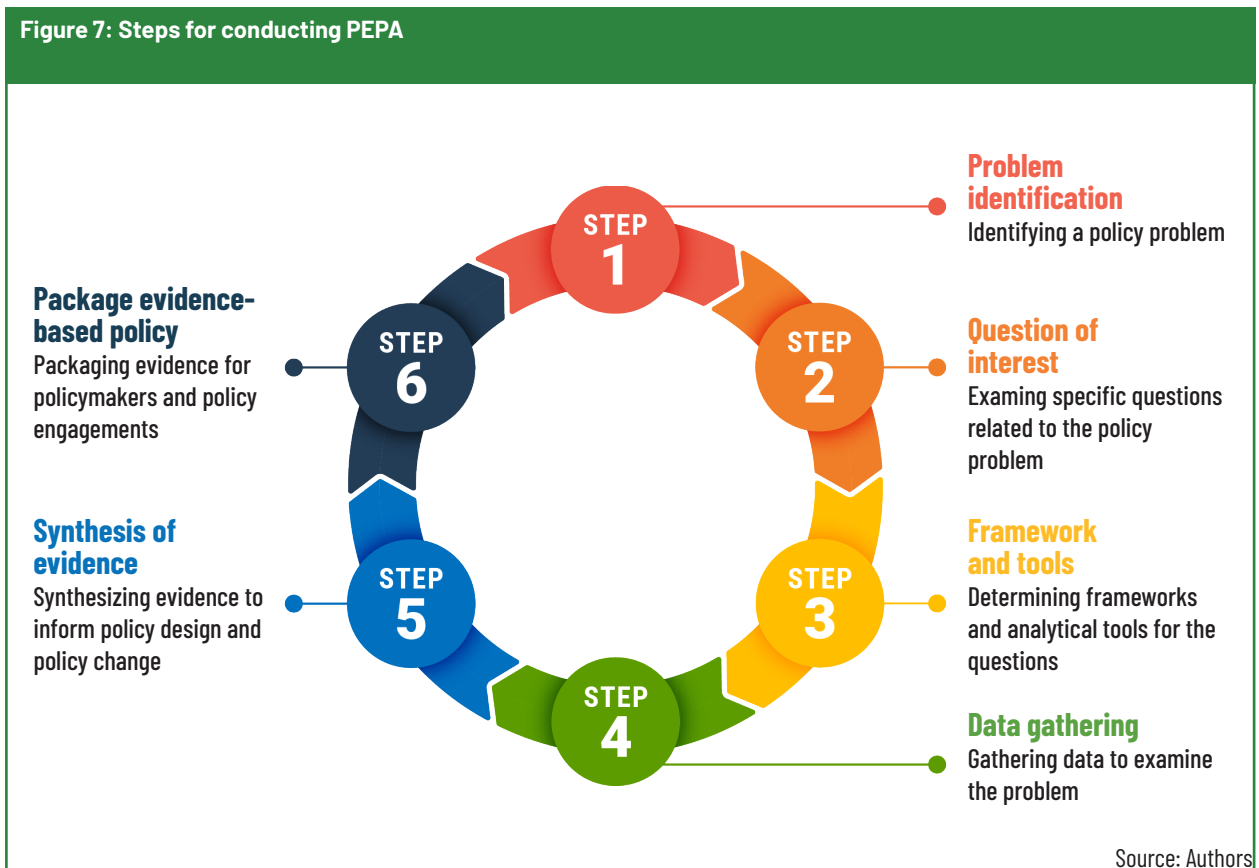
Adapted from Kingdon (2014); Hernandez and Bolwig (2021)

5

Steps for conducting Political Economy and Policy Analysis (PEPA)

The PEPA Sourcebook provides an easily accessible compendium of political economy and policy analysis frameworks, analytical tools, and related case studies relevant to examining agri-food systems. As illustrated by Figure 7, PEPA follows an incremental and iterative approach to: (1) identify the main problem and the specific policy domain, (2) examine the scope of the problem and what specific questions it raises, (3) determine the frameworks and analytical tools needed to develop a structured method to analyze the problem, (4) gather data to examine why the problem persists, (5) synthesize the evidence to inform policymaking and policy processes, with the goal of attaining policy change, and (6) package evidence to engage stakeholder and policymakers. This, in turn, may lead to renewed problem identification and repetition of the process for improved policymaking.

Figure 7: Steps for conducting PEPA



Step 1: Identify the main problem and the specific policy domain

In the context of food systems, the main policy domains include food and nutrition, land and water, and climate and ecology. Considering the complexity of policy-making and development interventions, any analysis

requires identifying relevant policy domains and determining the specific problem(s) of interest in that domain. For example, a policy problem can examine the concerns of increasing consumer access to affordable ultra-processed foods and the health-related implications in a country. This macro-level, national analysis topic is within the food and nutrition policy domain (Figure 3 and 4).

Step 2: Examine the underlying specific questions for the problem

Relevant problem-specific questions and related stakeholders are identified after establishing the policy domain and scope. In the case of the ultra-processed food environments policy domain, examples of the specific question include: (1) Why is finding solutions to combat the increasing access to affordable ultra-processed foods so controversial and what strategies are necessary for policy change? (2) Are taxes or regulations a better policy approach for reducing the overconsumption of ultra-processed foods? (3) Is the policy environment enabling or hindering access to affordable ultra-processed foods? To answer these questions, a critical assessment using PEPA can reveal conflicts, power dynamics, coalitions, beliefs, and policy processes necessary for development interventions to catalyze desired changes in the food and nutrition policy domain (see Mockshell & Ritter, 2023).

Step 3: Determining frameworks and analytical tools

The conceptual framework provides the basic elements for examining specific questions, while the analytical tool is a mechanism or instrument for examining the questions and elements of the conceptual framework. Based on the key questions of interest, this step identifies the frameworks and analytical tools relevant to answering the questions of interest identified in Step 2. For example, researchers, development practitioners, and policymakers are interested in identifying coalitions and policy views in the ultra-processed food environment. As already highlighted in Figure 3, this area of interest takes shape within the food and nutrition policy domain at the national level of analysis. Thus, policy frameworks require macro-level analysis and a related analytical tool. The Advocacy Coalition Framework (ACF) with the discourse analysis approach matches the topic of examining coalitions and policy views in the ultra-processed food environment at the macro-level (Figure 4 and Table 2). Next, if the interests are in examining the power dynamics, informal power, and power interactions in the ultra-processed food environment, then the Power Cube Framework (PCF) can be combined with a Process Net-Map for analysis. In the case of examining question-related taxes or regulations as the preferred policy approach for reducing the overconsumption of ultra-processed foods, the Kaleidoscope Framework for Policy Change approach provides a basis for analysis. This approach develops a set of indicators for identifying the drivers of policy change, the conditions under which policies emerge, and the effectiveness of policy implementation (Figure 4 and Table 2).

Step 4: Gathering data to examine why the problem persists

Relevant data is the foundation for answering and examining the policy problem and specific questions of interest. This step focuses on gathering data to answer the questions of interest. The ultra-processed food environment case study considered several frameworks, such as the ACF. These frameworks should consider stakeholder landscapes, networks, discourse, beliefs, ideas, narratives, and influence levels. These considerations provide the basis for determining the analytical methods, such as quantitative, qualitative, or mixed methods. They also help determine data types and sources, such as primary, secondary, or mixed data from different providers. The data-gathering step also informs the selection of survey tools, such as process and network mapping, semi-structured interviews, key informant interviews, and others. Determining narratives of ultra-processed food environments will require conducting in-depth interviews with stakeholders involved in this policy domain. In the case of examining the policy-enabling environment for ultra-processed foods, the

indicators from the Kaleidoscope Framework for Policy Change can provide information for developing survey tools (e.g., using multiple choice or Likert scale responses) to elicit information from participants on the key indicators.

Step 5: Synthesizing evidence to inform policy design and policy change

This step structures the raw data to generate relevant insights for stakeholders. The ultra-processed foods case study has two central and underlying questions. Why are finding solutions to combat the increasing access to affordable ultra-processed foods so controversial? What strategies are necessary for policy change? The insights will cover areas such as: (1) the stakeholder landscape in the ultra-processed food environment, (2) potential coalitions in favor of ultra-processed foods, those in a neutral position on the topic, and stakeholders opposed to ultra-processed food, and (3) contested discourses and divergent ideas on potential policy solutions. Policy analysts should seek additional insights on the influential actors, type of influence, opposition to change, and entry points for influencing policy. The insights should provide a way to understand the drivers and conditions for policy change and to move toward policy implementation. The potential risks, winners, and losers of the policy change can also be uncovered. Without identifying and addressing the interests and ideas of the actors during the policy development cycle, policy reforms may be limited in scope or fail to reach their intended impact. Such risks need to be incorporated into a recommendation for policy change coupled with evidence on how to overcome potential policy risks.

Step 6: Packaging evidence for policymakers and policy engagements

This last step involves synthesizing the relevant insights into formats for communication, dialogue, and engagement with key stakeholders and decision-makers to contribute to policy change. The evidence package may include reports, policy briefs, opinion articles, presentations, peer-reviewed articles, info-graphics, and other mediums. This final step is critical. The informal and formal communication mediums should be adapted to policymakers according to their policy domains and context.

6

Outlook of PEPA for food, land, and water systems transformation

The PEPA Sourcebook provides a step-by-step approach for conducting political economy and policy analysis across food, land, and water systems. This sourcebook contributes to PEPA by (1) identifying and organizing a collection of frameworks, analytical tools, and case studies using a systematic literature review approach (Annex A and B, Tables 1-6, and case study boxes), (2) mapping frameworks and tools to food and nutrition, land and water, climate and ecology domains, (Figures 3-6), and (3) disaggregating frameworks and tools by the level of analysis (macro -, meso -, micro -, and multi-levels)(Figures 3-6). These contributions fill an existing knowledge gap and make this PEPA Sourcebook unique for agri-food systems analysis. The PEPA Sourcebook by no means covers all frameworks, tools, and case studies, but it does provide a timely starting point, relevant to development practitioners, the donor community, researchers, and policymakers working in agri-food systems.

Politics are a crucial component of agri-food system policymaking and strategy formulation. Research and development interventions must be aligned with societal and political objectives to succeed, minimize conflicts, and maximize potential trade-offs across multiple sectors. Political economy approaches to agricultural development can be traced back to the first green revolution in the 1960s and 1970s (Birner & Resnick, 2010; de Schutter, 2019; McMichael, 2021). As Béné (2022) emphasizes in his call for food system transformation, changes in the agri-food industry require a thorough understanding of the contexts of local and international politics, economics, power dynamics, and stakeholder views. Coherent policies must be tailored to meet national and cultural needs. To gain this understanding, policymakers and development practitioners need innovative and workable tools and frameworks that can identify optimal ways to address agri-food system challenges. Evidence in the literature, however, reveals that there are limited explanatory frameworks that can adequately diagnose the challenges associated with agri-food systems (de Schutter, 2019). Frameworks and analytical tools from the political science, management, public policy, and political economy fields remain highly fragmented. Consequently, critiques proliferate regarding the lack of external validity, inability to replicate studies, lack of consistent indicators and vague measurements (Resnick et al., 2018; Fanzo et al., 2021). The PEPA Sourcebook provides frameworks and tools to enable practitioners and researchers to analyze multiple sectors of the agri-food system.

The PEPA approach centers on power relations, thus requiring consideration of politics and economics. The political economy approach to agri-food systems takes a step beyond classical economic approaches by placing power, ideas, coalitions, and politics at the center of policy analysis (de Schutter, 2019). In general, most power resides with politicians and private sector actors, who often provide accountability and balance in the political influence discourse. Positive change across food, land, climate, and water systems requires a clear understanding of politics and economics and the dynamics between them.

PEPA is useful for analyzing progress toward and barriers to achieving the SDGs. PEPA tools and frameworks can be used to study progress and narratives towards the SDGs related to agri-food systems, specifically the goals related to zero hunger (SDG 2), climate action (SDG 13), water (SDG 14), and land (SDG 15). This sourcebook

also aligns with the new roadmap for impact outlined by the CGIAR's five impact areas: (1) nutrition, health, and food security; (2) poverty reduction, livelihoods, and jobs; (3) environmental health and biodiversity; (4) gender equity, youth, and social inclusion; and (5) climate adaptation and mitigation (CGIAR n.d.).

PEPA can be valuable in analyzing gendered power dynamics, yet more work remains in incorporating gender analysis into PEPA tools. The gender dimension of agri-food systems can be key to understanding the drivers and outcomes of policy changes in PEPA contexts. The dynamics of power relations in food, water, and land systems affect women, youth, and men differently. Park & Julia (2014) argue that men's and women's equal access to land and participation in agricultural groups, organizations, and cooperatives is crucial for ensuring food security. Evidence from the literature indicates that PEPA lacks consideration of gender issues, particularly in the policy domains related to food, nutrition, and the environment. However, PEPA's focus on power relations means that it can be useful as a tool for analyzing gender and power, both at the policy level and in formal and informal institutions (Haines & O'Neil, 2018). For example, the PEPA of Malawi's mining sector revealed the lack of policies enhancing and supporting the role of women in mining. The government's broader mining policies ignored gender (Browne, 2014). Further work is needed to more fully include gender and youth considerations in PEPA. Such work should consider the interaction between gender and policy processes from the national to household decision-making levels.

Several tools in the PEPA Sourcebook can be used for gender analysis, including Influence and Power Mapping and Kingdon's Window of Opportunity and Legal Assessment Tool. Gender mapping tools, stakeholder analysis frameworks, and the frameworks and tools outlined in this Sourcebook can be used in gender analysis. For example, multi-level stakeholder influence mapping and power mapping can help map the influence of women or women's associations on the agri-food system. At the same time, Kingdon's window of opportunity could be useful in achieving a gender-supportive policy change related to gender equity and interests. Gender mapping can also help illuminate various value chain structures, providing analyses of gender relations and roles across the value chain. Me-Nsope & Larkins (2016) mentioned that these tools allow for a clear classification of gender issues along the value chain, especially those issues related to gender inequalities in agriculture. A classification of inequalities can facilitate the development of innovative solutions to gender-based issues. PEPA tools can assist practitioners in understanding human behavior and decision-making, which is useful in exploring the gender dimension of various topics. For example, these tools can reveal how land is managed in terms of relationships or dynamics around women's decision-making power. In the context of gender-equitable land tenure policies, the legal assessment tool can help visualize the legal intricacies surrounding land access, identify gender inequalities, and target areas that require legal reforms.

PEPA can also assist in evaluating the risks associated with policy reforms in various domains. Power struggles between the central government and various interest groups can limit the impact of policy reforms on food, land, and water systems. PEPA can highlight power dynamics, influential actors, and the winners and losers of policy reforms. The insights gained can be used to improve policy design and planning. Discursive power is useful for framing problems, providing solutions, lobbying policymakers, securing research evidence, and developing alternatives (McNeill, 2019).

The PEPA Sourcebook contributes to the study of sustainable agri-food systems by providing a framework for integrating relevant national policies and strategies. The Sourcebook provides new insights for researchers, practitioners, and government agencies engaged in collaborative efforts to transform dominant foodscapes. Through a holistic agri-food systems approach, PEPA considers subsector elements, activities, and outcomes. There is a need for national policies and strategies to be oriented toward practical and clearly defined regulations and guidelines for governing the agri-food sector.

PEPA approaches to trade-offs between the system domains discussed in this sourcebook – food and nutrition, land and water, and climate and ecology – are limited and need to be explored further. Further PEPA research can provide development practitioners, the donor community, and policy analysts with an accurate understanding of political will at the start of a project. These insights enable them to focus on areas where change is possible and to schedule interventions at appropriate times in the program development cycle. This often-ignored context-specific knowledge is necessary for understanding the drivers of change, or lack of change, as well as risks to development programs. The goal is for development practitioners and researchers to apply the frameworks to answer political economy and policy-related questions.

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8. Annexes

8.1 Annex A: Overview of reviewed articles

Table 7 presents an overview of the articles reviewed during the study.

Table 7: Overview of reviewed articles. Notes: C&E – Climate and ecology domain; F&N – Food and nutrition domain; L&W – Land and water domain

No.	Article title	Tool/ framework	Methodology	Location	Scope	Policy Regime	Keywords	Journal	Source(s)
1	Collective action as a tool for agri-environmental policy implementation. The case of diffuse pollution control in European rural areas	Social-Ecological System Framework	Qualitative: Case study approach	Netherlands; France	Multi	C&E	Diffuse pollution; agriculture; collective action; hybrid policy instruments; transaction costs; social-ecological system (SES) framework.	Journal of Environmental Management	Amblard (2021)
2	Mainstreaming across political sectors: Assessing biodiversity policy integration in Peru	Biodiversity Policy Integration	Qualitative: Policy analysis and interviews	Peru	Meso	C&E	Biological diversity; conservation; effectiveness; environmental policy; integration; national biodiversity strategies; action Plans (NBSAP); policy coherence; SDGs.	Environmental and policy governance	Zinngrebe (2018)
3	Policy windows for the environment: Tips for improving the uptake of scientific knowledge	Kingdon's Window of Opportunity	Qualitative: Literature review and framework tool analysis	Not specific	Multi	C&E	Evidence-based conservation; evidence-based policy; evidence-informed policy; horizon scanning; policy windows; science-policy interface.	Environmental Science and Policy	Rose et al. (2020)
4	Stepping up versus stepping out: On the outcomes and drivers of two alternative climate change adaptation strategies of smallholders.	Driver-Strategy-Outcome Framework	Quantitative: Index-based data aggregation and structural equation modeling	Bangladesh	Micro	C&E	Climate change; adaptation; stepping out; farm exit; smallholder farmer; Bangladesh.	World Development	Islam et al. (2021)

No.	Article title	Tool/ framework	Methodology	Location	Scope	Policy Regime	Keywords	Journal	Source(s)
5	Tackling the implementation gap of climate adaptation strategies: understanding policy translation in Brazil and Colombia	Policy Translation	Qualitative: Case study analysis	Brazil; Colombia	Macro	C&E	Adaptation to climate change; policy translation; policy diffusion; Brazil; Colombia.	Climate Policy	Milhorance et al. (2022)
6	The governance of Indigenous natural products in Namibia: A policy network analysis	Policy Network Analysis	Qualitative: Case study analysis	Namibia	Macro	C&E	Indigenous natural products; policy network; non-timber forest product; Actor relations; governance structure; sustainable commercialization.	Environmental Management	Ndeinoma et al. (2018)
7	Understanding climate policy integration in the global South through the multiple streams framework	Multiple streams framework	Qualitative: Document analysis	Global South	Macro	C&E	Climate policy integration; climate mainstreaming; policy windows; multiple streams framework; developing countries	Climate and Development	Hernandez and Bolwig (2021)
8	A diagnostic framework for food system governance arrangements: The case of South Africa	A diagnostic framework for food systems governance arrangements	Qualitative: Case study analysis	South Africa	Macro	F&N	Food system governance; governance arrangement; food security; South Africa; diagnostics.	NJAS - Wageningen Journal of Life Sciences	Termeer et al. (2018)
9	A framework for recognizing diversity beyond capitalism in agri-food systems.	Framework for recognizing diversity beyond capitalism	Qualitative: Analysis and critiques	Not specific	Micro	F&N	Capitalism; post-capitalism; ontology; alternative food networks; community-supported agriculture.	Journal of Rural Studies	Koretskaya and Feola (2020)
10	A multi-perspective analysis of agricultural policies in West Africa: policy strategies for rethinking sustainable agricultural development* ⁵	EFFECTIVE assessment criteria	Qualitative: Debate and results	West Africa	Macro	F&N	Agricultural policies; multi-perspective analysis; policy strategies; sustainable; agricultural development; West Africa.	Journal of Rural Studies	Bamoi and Yilmaz (2021)
11	Donors and domestic policymakers: Two worlds in agricultural policymaking?	Advocacy Coalition Framework Discourse Analysis tool	Mixed: In-depth interviews and factor/ cluster analysis	Ghana; Uganda	Macro	F&N	Agricultural input subsidies; smallholder agriculture; policy beliefs; discourse analysis; agricultural policies; Africa.	Food Policy	Mockshell and Birner (2015)

⁵ The manuscripts marked with asterisks were not included in the review since the frameworks and tools in these case studies were not specific to PEA in agri-food systems.

No.	Article title	Tool/ framework	Methodology	Location	Scope	Policy Regime	Keywords	Journal	Source(s)
12	Framing multifunctionality: Agricultural policy paradigm - Change in South Korea and Japan?	Policy Framing analysis	Qualitative: Review of the policy document	South Korea; Japan	Macro	F&N	Agricultural policy; policy debate; analytical framework; policy frame analysis	The International Journal of Sociology of Agriculture and Food	Sakamoto et al. (2007)
13	Simulation of policy tools' effects on farmers' adoption of conservation. Tillage technology: An empirical analysis in China	Agent Belief-Desire-Intention model (tool)	Quantitative: simulation modeling	China	Micro	F&N	Conservation tillage technology; farmers' technology adoption behavior; policy tools; agent model; BDI structure.	Land, MDPI	Liu et al. (2021)
14	Stakeholder perceptions of policy tools in support of sustainable food consumption in Europe: Policy implications	Policy tools typology	Qualitative: Interviews	France, Iceland, Italy; UK	Micro	F&N	Sustainable food consumption; agri-food systems; transition; stakeholders; semi-structured interviews; policy tools.	Sustainability, MDPI	Saviolidis et al. (2020)
15	Sustainability experiments in the agri-food system: Uncovering the factors of new governance and collaboration success*	Sustainability experiment systems approach	Qualitative: Reflective evaluation and cross-case analysis	Belgium	Meso	F&N	Sustainability experiments; systems approach; collaboration success; sustainable; transformation; governance networks.	Sustainability, MDPI	Hubeau et al. (2017)
16	The Kaleidoscope Model of policy change: Applications to food security policy in Zambia	Kaleidoscope Model of Policy change	Qualitative: Theoretical and practical case study	Zambia	Multi	F&N	Agricultural input subsidies; food security; micronutrients; policy process; political economy; Zambia.	World Development	Resnick et al. (2018)
17	The role of food gardening in addressing urban sustainability – A new framework for analyzing policy approaches	Framework for analyzing policy approaches	Qualitative: Case study analysis	Switzerland	Meso	F&N	Urban agriculture; urban gardening; sustainable urban development; governance mechanisms; public policy analysis; Switzerland.	Land Use Policy	Jahrl et al. (2021)
18	Who has the better story? On the narrative foundations of agricultural development dichotomies	Advocacy Coalition Framework Narrative Policy Analysis	Mixed: Content analysis and 2-step cluster analysis	Senegal	Macro	F&N	Agricultural policies; narrative policy analysis; development dichotomies; advocacy coalitions; Africa; Senegal.	World Development	Mockshell and Birner (2020)

No.	Article title	Tool/ framework	Methodology	Location	Scope	Policy Regime	Keywords	Journal	Source(s)
19	Participatory power mapping: A collective identification of development actors in a small cattle village of Chiapas, Mexico	Power Mapping	Qualitative: Ethnographic methods	Mexico	Micro	F&N	Power mapping; participatory approaches; ethnography; actors; local; development, Mexico.	International Journal of Technology and Development Studies	Guevara-Hernández et al. (2010)
20	Political Settlements and productive sector policies: Understanding sector differences in Uganda	Political settlement	Qualitative: semi-structured interviews	Uganda	Meso	F&N	Political settlement; productive sectors; Uganda; policy initiatives; pockets of efficiency.	World Development	Kjær (2015)
21	The political economy of the maize value chain in Nigeria	Political settlements	Qualitative: document analysis and key informant interviews	Nigeria	Macro	F&N	Maize value chain; agricultural commercialization; political settlements; political regime	Agricultural Policy Research in Africa	Amaza et al. (2021)
22	The political economy of the groundnut value chain in Malawi: Its re-emergence amidst policy chaos, strategic neglect, and opportunism	Political settlement	Qualitative: Literature review and interviews	Malawi	Macro	F&N	Value chain; political settlement; rents; national export strategy	Agricultural Policy Research in Africa	Chinsinga and Matita (2021)
23	Power and influence mapping in Ghana's agricultural adaptation policy regime	Multi-level Stakeholder Influence Mapping	Qualitative: Influence score and visual mapping	Ghana	Multi	F&N	Power; influence; climate change; agriculture; adaptation; policy; Ghana.	Climate and Development	Sova et al. (2017)
24	The provision of veterinary services: Who are the influential actors, and what are the governance challenges? A case study of Uganda	Process Net-Map	Qualitative: Participatory social network analysis	Uganda	Macro	F&N	Governance challenges; participatory mapping; social relations; fiscal challenges	Experimental Agriculture	Ilukor et al. (2015)
25	Study design: policy landscape analysis for sugar-sweetened beverage taxation in seven sub-Saharan African countries.	Multiple Streams Approach (Kingdon's Theory of Agenda Setting)	Qualitative: Policy analysis	Kenya; Tanzania; Botswana; Rwanda; Namibia; Zambia; Uganda	Macro	F&N	Noncommunicable disease; tax; sugar-sweetened beverage; political economy; policy	Global Health Action	Thow et al. (2021)

No.	Article title	Tool/ framework	Methodology	Location	Scope	Policy Regime	Keywords	Journal	Source(s)
26	Drawing on strategic management approaches to inform nutrition policy design: applied policy analysis for salt reduction in packaged foods.	1) Political-legal, economic, social, technological, and external drivers of the food system. 2) Porter's Five Forces for the competitive drivers of the food system	Qualitative: Applied policy analysis	Australia	Macro	F&N	Salt reduction; food system drivers; Australia; nutrition policy.	International Journal of Health Policy and Management	Trevena et al. (2021)
27	Evidence-Based Policymaking in the Food-Health Nexus	Public and Political Awareness Framework	Qualitative: Policy analysis	Mexico	Macro	F&N	Evidence-based policy; issue framing; food and nutrition policy; sugar-sweetened beverages; taxation; Mexico.	Institute of Development Studies, UK	Rocha and Harris (2019)
28	Food Politics and Development*	Food Systems for Diets and Nutrition	Qualitative: Review	Not specific	Macro	F&N	Food; politics; power; equity; sustainability.	World Development	Leach et al. (2020)
29	Power in the Zambian nutrition policy process.	Power Cube Framework	Qualitative: Power analysis	Zambia	Macro	F&N	Nutrition; policy, power; Zambia.	Institute of Development Studies UK	Harris (2019)
30	The development and application of a sustainable diet framework for policy analysis: A case study of Nepal	Sustainable Diets Framework	Qualitative: Health policy analysis	Nepal	Macro	F&N	Sustainable diets; policy analysis; climate change; sustainable development.	Food Policy	Downs et al. (2017)
31	Disentangling Sources of future uncertainties for water management in sub-Saharan river basins*	Evolutionary Multi-Objective Direct Policy Search Optimization Approach	Quantitative: 1) Generalized likelihood uncertainty estimation 2) PAWN ⁶ uncertainty and sensitivity analysis	Mozambique	Meso	L&W	Water management; multi-stakeholder dynamics; operating policies; policymakers; optimization.	Hydrology and Earth System Sciences	Amaranto et al. (2022)

⁶ PAWN: Partial-Dependence-Adjusted Weights

No.	Article title	Tool/ framework	Methodology	Location	Scope	Policy Regime	Keywords	Journal	Source(s)
32	Putting power and politics central in Nepal's water governance	Power Mapping	Qualitative: In-depth case study	Nepal	Macro	L&W	Federalism; Nepal; politician-bureaucrat relations; sectoral egoism; water resources management.	Development Policy Review	Suhardiman et al. (2021)
33	Modeling the impacts of water-land allocation alternatives on food security and agricultural livelihoods in Egypt: Welfare analysis approach*	Hydro-Economic Framework	Quantitative analysis and case study approach	Egypt	Macro	L&W	Food security; farm livelihoods; hydro-economic; welfare analysis; optimization; Egypt.	Environmental Development	Gohar et al. (2021)
34	Effects of community perceptions and institutional capacity on smallholder farmers' responses to water scarcity: Evidence from arid northwestern China	Institutional Analysis and Development	Quantitative: alternating multiple regression and multivariate regression models	China	Meso	L&W	Community perception; community responsiveness; institutional capacity; smallholder farmer; water scarcity; northwestern China.	Sustainability, MDPI	Fan et al. (2019)
35	The political economy of land and natural resource investments in Africa: an analytical framework	Triangular relations model	Qualitative: Analysis of investments	Tanzania; Mozambique; Uganda	Macro	L&W	Ruling elites; local population; investors; natural resource; triangular relations	Danish Institute for International Studies (DIIS)	Buur et al. (2017)
36	Developing gender-equitable legal frameworks for land tenure: A legal assessment tool	Legal Assessment Tool	Qualitative: Document analysis	Sierra Leone; Madagascar; Morocco	Macro	L&W	Gender equity; land tenure; poverty reduction; food security; governance	Food and Agriculture Organization	Kenney & Campos (201)
37	Institutional Limits to Land Governance Reform: Federal-State Dynamics in Nigeria	Kaleidoscope Model of Policy Change	Qualitative: Semi-structured interviews	Nigeria	Macro	L&W	Land governance; land reforms; policy reform; land titling; Nigeria	International Food Policy Research Institute	Resnick & Okumo (2016)

8.2 Annex B: Summary of the search strategy

i) CABI

(ab:(("political economy" or "political economy analysis" or "Political Economy Framework" or "Politics" or "Policies" or "Political Economy Analysis Tools") AND ab:("food" or "food system" or "agriculture" or "food security" or "food availability" or "food accessibility" or "food affordability" or "food utilization") AND ("land" or "land systems" or "land use" or "land development" or "land access" or "land grabbing" or "land governance" or "land acquisition") AND ("water" or "water systems" or "water governance" or "water development" or "irrigation") AND yr:[2002 TO 2022]) AND ((item-type:(("Annual report" OR "Annual report section" OR "Book" OR "Book Chapter" OR "Bulletin" OR "Bulletin article" OR "Conference paper" OR "Conference proceedings" OR "Correspondence" OR "Editorial" OR "Journal article" OR "Journal issue" OR "Standard" OR "Thesis"))(sc:(("XO" OR "ZD" OR "FT" OR "FR" OR "FA" OR "GF" OR "GC" OR "GD" OR "GE" OR "GG" OR "GH")))(language:(("English")))))

ii) SCOPUS

(TITLE-ABS-KEY ("political economy" OR "political economy analysis" OR "Political Economy Framework" OR "Political Economy Analysis Tools" OR "policy landscape" OR "Policy making" OR "policy process*" OR "policy design" OR "agricultural policy making" OR "policy change" OR "agrarian political economy") AND TITLE-ABS-KEY ("agricult*" OR "agri-food system*" OR "food system" OR "agricultural system*") AND TITLE-ABS-KEY ("food*" OR "water" OR "land" OR "food system" OR "agricult*" OR "food security" OR "food availability" OR "availability of food" OR "food accessibility" OR "accessibility of food" OR "food affordability" OR "affordability of food" OR "food utilization" OR "utilization of food") AND TITLE-ABS-KEY ("analysis tool*" OR "policy tool*" OR "policy analysis tool*" OR "analytical framework*" OR "policy analysis framework*")) AND PUBYEAR > 2001 AND PUBYEAR < 2023 AND PUBYEAR > 2001 AND PUBYEAR < 2023

iii) Google Scholar

(Political economy OR political economy analysis OR Political Economy Framework OR Political Economy Analysis Tools OR policy landscape OR Policymaking OR policy process OR policy design OR agricultural policymaking) AND (agri-food system OR agri-food system OR food system OR agricultural system)

iv) BASE

"query": Entire document:('politics' or 'policies' or 'economy' or 'political economy' or 'political economy analysis' or 'political economy framework' or 'politics' or 'policies') AND Entire document: ('analysis' or 'framework'), AND Entire document:('agri-food system' or 'food systems' or 'food' or 'agriculture' or 'water' or 'land') "filter": Publication Date: (01/01/2002 TO 12/31/2022), Language: English

v) AgEcon

subject: [political economy] or [political economy analysis] or [Political Economy Framework] or [Political Economy Analysis Tools] AND

subject: [agri-food system] or [food system] or [agriculture] AND

subject: [policy analysis tool] or [analytical framework] or [policy analysis framework]

vi) SSRN

Search terms: political economy or political economy analysis or Political Economy Framework or Politics or Policies or Political Economy Analysis Tools (Title, Abstract, and Keywords). Filter: Publication date: 2002–2022.

8.3 Annex C: Data collection methods for PEPA frameworks and analytical tools

This section summarizes the research methodology for PEPA in agri-food systems. The Sourcebook includes research outputs and case studies based on qualitative, quantitative, and mixed research methods captured in different dimensions or types. The different research methodologies used in political economy studies are designed to fit in the context of political economy, policies, policymaking assessment, and impact evaluation.

PEPA uses qualitative, quantitative, and mixed-method research. In PEPA studies, qualitative research is useful due to its exploratory nature and ability to capture non-numerical data. Qualitative research can provide far-reaching information that other methods cannot capture. Conversely, quantitative research is invaluable when establishing the causal effects of covariates in a large population requiring a high level of confidence. They are useful for refuting or affirming a given hypothesis or proposition based on statistical evidence (World Bank, 2007). Mixed-method research approaches capture aspects of both qualitative and quantitative methods. Table 8 summarizes the different methods used in the PEPA Sourcebook and the various dimensions.

Table 8: PEPA data collection methods

Method	Type (dimensions)
Qualitative	Interviews; key informant interviews; case study analysis; analyses and critiques; debates and results analysis; review of policy documents; policy analysis; applied policy analysis; reflective evaluation and cross-case analysis; theoretical and practical case study analysis; ethnographic methods; analysis and critiques, influence score and visual mapping; framework analytical tool analysis; power analysis; social network analysis, net mapping.
Quantitative	Simulation modeling, index-based data aggregation, and structural equation modeling; survey and redundancy analysis; generalized likelihood uncertainty estimation; Partial-Dependence-Adjusted Weights (PAWN) ⁷ uncertainty and sensitivity analysis.
Mixed approaches	In-depth interviews, cluster analysis, principal component analysis, and content analysis.

⁷ Partial-Dependence-Adjusted Weights

9. Glossary

Term	Definition
Advocacy coalitions	Alliance of political actors who functionally coordinate among themselves to influence the decision-making processes and raise specific issues before the government.
Agenda-setting	Setting up concrete topics as part of the policy cycle.
Agricultural policies	A set of laws and regulations relating to domestic agriculture and imports of foreign agricultural products implemented to achieve a specific outcome in the domestic agricultural product markets.
Agri-food system	Agri-food systems encompass the primary production of food and non-food agricultural products, as well as food storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal, and consumption.
Analytical framework	These are conceptual structures and visual models that help guide and facilitate how a certain type of analysis will be done based on a given theory or concept.
Analytical tool	A resource that enables a researcher to assess and make sense of the data collected for better results and interpretation.
Beliefs	A belief is a subjective attitude that something or a proposition is true.
Climate	A long-term weather pattern in a particular area.
Climate change	Climate change refers to long-term shifts in temperatures and weather patterns which may be due to natural variations or driven by human activities.
Coalition	A coalition is formed when two or more people or groups temporarily work together to achieve a common goal.
Development practitioners	Professionals who help individuals or communities improve livelihoods, society and quality of life.
Ecology	Ecology is the study of the environment and how organisms live with each other in unique physical surroundings.
Evidence-based policy	An approach to policy that helps people make well-informed decisions about policies, programs, and projects by putting the best available evidence from research at the heart of policy and implementation.
Food security	Food security is defined as when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.
Food system	A web of activities involving food production, processing, transport, consumption, food wastage, governance, sustainability, and their effects on livelihoods, the natural environment, and human health.
Gender role	A social role encompassing a range of behaviors and attitudes that are generally considered acceptable, appropriate, or desirable for a person based on that person's sex.
Governance arrangement	Formal and informal processes that are in place to ensure responsibility and accountability are well managed.
Ideas	Opinions, beliefs, thoughts, or suggestions towards a possible course of action.
Incentives	A payment or concession to stimulate someone to make greater output or investment.
Institutional analysis	Process of understanding how institutional structures and mechanisms behave and function according to both empirical rules and theoretical rules.
Land system	Complex social-ecological systems composed of interacting social and biological actors and terrestrial environments, generating feedback among these components and shaping the dynamics of Earth's land surface across scales, from local landscapes to global commodity chains.
Macro level	Examination of society, looking at the broad systems, institutions, hierarchies, and patterns that shape a society.

Meso level	A network analysis approach that examines the patterns of social ties among people in a group and how those patterns affect the overall group
Micro level	A detailed examination of one-to-one interactions between individuals, including studying people's behavior during negotiations, confrontations, and everyday conversations.
Multilevel	Analysis that examines governance across multiple geographic scales and among organizations and institutions with interests in policy decisions and outcomes.
National policies	Broad course of actions or statements of guidance adopted by governments at the national level in pursuit of national objectives.
National strategies	Transformational economic and information approaches employed by governments to foster vibrant, productive, and efficient sectors.
Policy	A high-level statement of intent embraced by governments or organizations to implement specific goals or operations.
Policy analysis	Process of examining and evaluating policy formulation, adoption, and implementation principles aimed at producing novel solutions.
Policy change	Changes that occur in policy, analyses, and studies on what generates these changes, and subsequently, what these changes are.
Policy domain	A component of the political system that is organized around substantive issues.
Policy engagement	A term used to describe the many ways that researchers and policymakers connect and explore common interests at various stages in their respective research and policymaking processes.
Policy environment	All aspects surrounding the policy-making process including the broader socio-economic aspects as analyzed in organizational strategies.
Policy frame	A logical structure that sets out procedures and goals which can be used to decide or negotiate policies by governments or organizations.
Policy impact	The effect of a policy or a set of policies on stakeholders, communities, or organizations as assessed by social, economic, environmental, and political outcomes.
Policy landscape	The context in which policies are developed, implemented, and evaluated, including interests of multiple stakeholders and factors that influence the effectiveness of policies.
Policy network	A closely knit, stable association of organizations that focus on a limited or narrow policy issue, made up of people with common training or expertise, allowing them to address relevant policy concerns.
Policy processes	A conceptualization of the sequential parts or stages of policymaking.
Policy regime	Governing arrangements employed in addressing policy problems, comprised of ideas, institutional arrangements, and interests.
Policy translation	A framework which helps researchers understand how policy and innovations are transformed across countries, and how this process can be managed in a better way.
Policy window	The policy development environment based on constraints around what is politically acceptable or possible.
Policy winners and losers	Any entity, group of people, or organization that either benefit (gains) from a policy intervention or do not benefit (receive anything) from a given policy intervention.
Political economy	A branch of social science that studies the relationships between individuals and society and between markets and the state using a diverse set of tools and methods drawn largely from economics, political science, and sociology.
Political economy analysis	A body of theory and practice which aims at positioning development interventions within an understanding of the prevailing political and economic processes in society – precisely, the incentives, relationships, and power dynamics between different groups and individuals.
Political resources	Resources used in political decision-making or for all areas of social life that make claims toward a legislative/decision-making body.

Political settlement	A tacit agreement among powerful groups about the rules of the political and economic game. Political settlements keep the peace by providing opportunities for groups to secure a distribution of benefits (such as resources, rights, and status) they find acceptable.
Political will	The commitment of actors to undertake actions to achieve a set of objectives and to sustain the costs of those actions over time.
Power structure	A power structure focuses on the way power and authority are related between people within a group, such as a government, nation, institution, organization, or society.
Public-private partnerships	A long-term effort between a government and private sector institutions to execute projects over time.
Water system	This is a complex water supply system that incorporates water collection, drainage, usage, and conservation in a broader agricultural and agri-food system.

Stakeholders working in food system policy research and development often ask, “What works where, why, and how?” These fundamental questions fuel other important debates – what are the “windows of opportunity” for reform and policy change? Are biotech crops part of the solution to solving climate, food, and nutrition security challenges in developing economies? What institutional innovations are “best fit” for managing shared natural resources to avoid conflict?

- This Political Economy and Policy Analysis (PEPA) sourcebook offers a unique combination of frameworks, analytical tools, and case studies to answer key questions relevant to agrifood system transformation.
- Readers will discover the connection between contested questions, policy domains, frameworks, and analytical tools to generate evidence-based insights.
- For actors conducting policy research, implementing development interventions, and engaging in development agenda setting and policy processes, this sourcebook is a one-stop guide.

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