Value Chain Analysis for Development: providing evidence for better policies and operations in agricultural value chains

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Agroecology, responsible value chains and transforming agriculture and food systems

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Question and issues

Context

- Greatly increased interest in agroecology (AE) in global policy circles, including EU, to enhance socio-environmental outcomes for healthy, sustainable, inclusive agric. & food systems (SDGs).
- EU's Farm to Fork Strategy, at heart of European Green Deal, aims to make food systems fair, healthy, and environmentally friendly.
- Strategy foresees EU will focus its international cooperation on food research and innovation, with specific reference to climate change adaptation and mitigation; agroecology; amongst others.
- Study commissioned to better understand the relationships between AE, responsible value chains, markets and agricultural & food system transformations using the VCA4D studies as an evidence base.

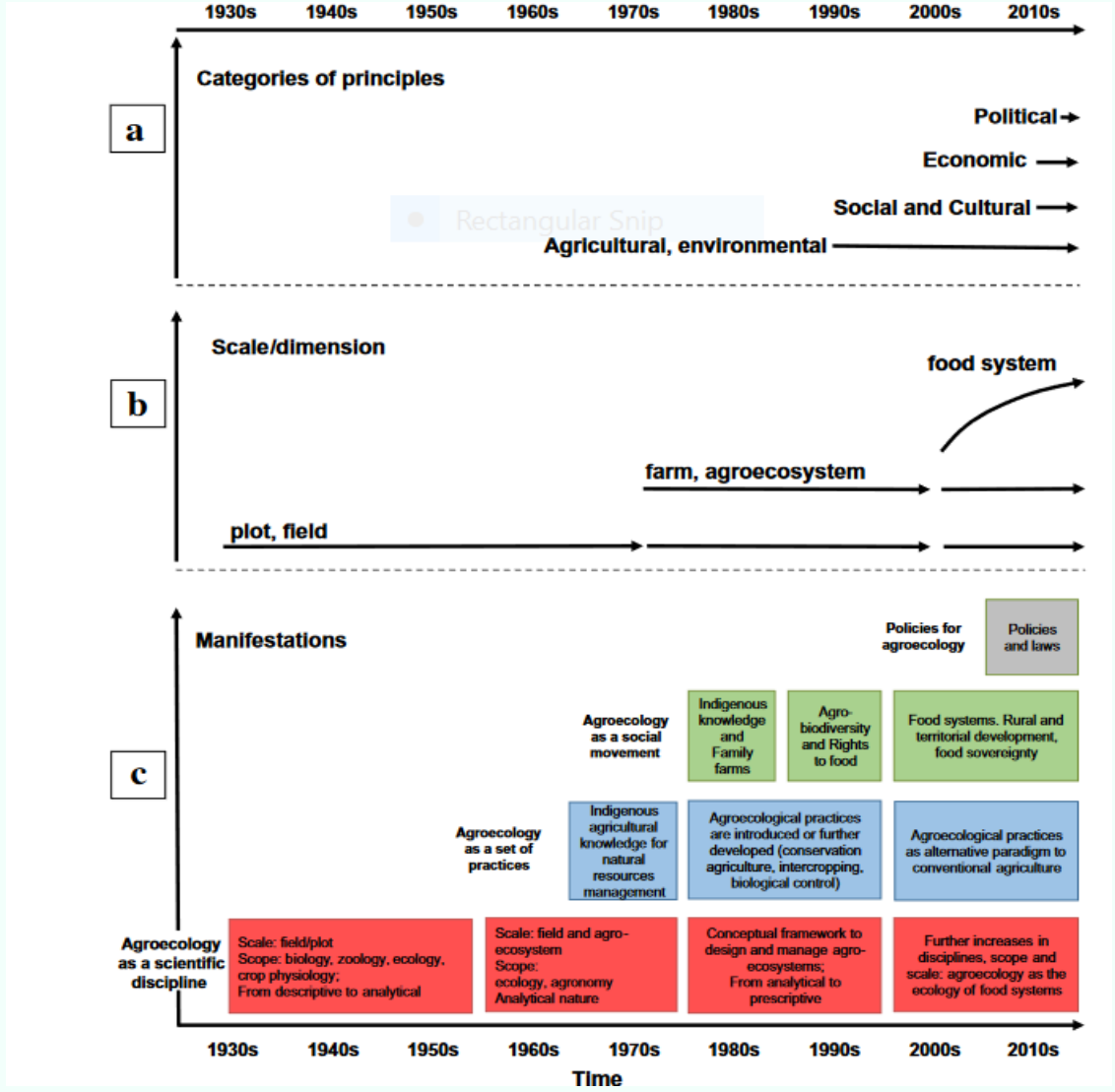
Study Questions

1. What are the main characteristics of the value chain systems in terms of production, processing, markets and wider agroecological setting?
2. What is the extent and nature of alignment of AE principles in the value chains studied?
3. To what extent has production according to AE principles contributed to development of responsible sub-chains?
4. How is market demand expressed and to what extent has market demand contributed to development of the application of AE principles?
5. What are the conditions enabling or constraining AE transitions of farming & food systems & value chains?

Question and issues

Concepts: Agroecology and Transitions Definitions

- Varying interpretations of and contestation over AE definitions and approaches, transitions and transformations (Loconto and Fouilleux, 2019).
- Over time there has been a broadening of interpretations along with the different manifestations of AE as a science, practice, and social movement (Wezel et al. 2009).
- During its evolution, agroecology has expanded from the field, farm, and agroecosystem scale to encompass, since the 2000s, the whole food system (Gliessman 2016 ; Wezel et al, (2020).
- Recent AE academic analysis points to a focus on knowledge, culture, ethics, and politics and to AE being continually re-embedded in democratic social relations (van den Berg et al, 2022).



Historical evolution of agroecology and its principles. *Source*: Wezel et al. (2020).

AE Principles; Responsible VCs

The High Level Panel of Experts on Food Security and Nutrition 13 principles of AE (HLPE , 2019), which are broadly aligned with and complementary to the FAO's elements of AE (FAO, 2018).

1. Recycling
2. Input reduction
3. Soil health
4. Animal health
5. Biodiversity
6. Synergy. (animals, crops, trees, soil and water)
7. Economic diversification
8. Co-creation of knowledge
9. Social values and diets
10. Fairness
11. Connectivity
12. Land and natural resource governance
13. Participation

- We explored various definitions of responsibility in value chains which are contested.
- For practical reasons we decided to be primarily guided by the HLPE principles on equity and social responsibility (principles 8 to 13).

VCA4D materials

Commodity cluster	Market scope	Country and Value Chain
Cocoa	Mainly global	Ecuador Cocoa; Papua New Guinea Cocoa; Cameroon Cocoa; São Tomé and Príncipe Cocoa; Nicaragua Cocoa
Coffee	Mainly global but national/ regional significant (Ecuador, Honduras, Tanzania)	Ecuador Coffee; Honduras Coffee; Angola Coffee; Tanzania Coffee
Cotton	National (Ethiopia) Global (Cameroon & Ethiopia)	Ethiopia Cotton; Cameroon Cotton
Fruit and nut	National, regional Global	Dominican Republic Banana; Burkina Faso Mango; Benin Pineapple; Togo Pineapple; Dominican Republic Processed fruits; Mali Cashew; Sierra Leone Cashew; Guinea-Bissau Mango & lime
Livestock	National, regional eSwatini beef (also global)	eSwatini Beef; Zimbabwe Beef; Zambia Egg
Staple foods	National,or regional	Burundi Banana; Côte d'Ivoire Cassava; Ghana Groundnuts; Zambia Maize; Nigeria Maize; Ghana Sorghum; Mali Rice
Fisheries and Aquaculture	Mainly national Gambia (also global)	The Gambia Fisheries; Cambodia Aquaculture; Zambia Aquaculture; Mali Fisheries
Horticulture	Global National for rejected beans	Kenya Green beans
Spice and Oil	Global (Vanilla) National regional (Palm oil)	Papua New Guinea Vanilla; Sierra Leone Palm Oil (Oil and Soap)

- **Rapid screening of 36 VCA4D studies**
- **Identified 7 illustrative main case studies:**

Internationally traded global commodity value chains:

- Ethiopia cotton
- Ecuador Cocoa
- Honduras Coffee
- Nicaragua Cocoa
- Papua New Guinea Vanilla

National or regional food value chains:

- Côte d'Ivoire Cassava;
- Ghana Groundnuts.
- **Within the above, detailed analysis of 18 sub-chains**
- **Limitations**

Findings

What is the extent & nature of alignment of AE principles in value chains studied?

Country	Sub-Chains	1 Re-cycling	2 Input-reduction	3 Soil-health	4 Animal-health	5 Biodiversity	6 Synergy	7 Economic-diversification	8 Co-creation of-knowledge	9 Social-values-&-diet	10 Fair-ness	11 Connectivity	12 Land-&-NR-governance	13 Participation	P1-7	P8-13	P1-13
Ethiopia	Cotton-conventional-&-commercial	2	2	1	NA	1	1	2	1	1	1.5	1	1	1	1.5	1.1	1.3
	Cotton-organic	3	5	3.5	NA	3	3	4	4	4	4	3	3	3.5	3.5	3.6	3.6
Honduras	Coffee-conventional	3	2	2	NA	2	2	3.5	1.7	2	2	2	1	1	2.4	1.6	2.0
	Coffee-certified	4	5	4	NA	3	4	3.7	2.7	2.5	3.5	2.5	2	3.5	4	2.8	3.4
Nicaragua	Cocoa--Rojo	4	2	3	NA	3	3	3	2	2	1.5	4	2	1.5	3	2.2	2.6
	Cocoa--fine	4	2	3	NA	4	3	2.7	2.7	2.5	3	2.25	3	3.5	3.1	2.8	3
	Cocoa--Gourmet	5	5	5	NA	4	4	3.3	2	2.5	2.5	2.5	2	2.5	4.4	2.3	3.4
	Cocoa--conventional	4	4	3*	NA	3*	4	2-or-NA	1.3	1	3.5-or-NA	1.5	NA	3.5-or-NA	3.3/3.6-*	2.1-/-1.2*	2.7/2.4*
Ecuador	Cocoa--Volume	4	3	4	NA	4	4	3	1	3	1.5	2.1	3	1	3.7	1.9	2.8
	Cocoa--Quality	4	3	4	NA	5	4	3	3	3.5	2.3	2.6	4	1.5	4.3	2.8	3.6
	Cocoa--Semi-Processed	4	3	4	NA	4	4	3	1	3	1.5	1.75	3	1	3.7	1.9	2.8
	Cocoa--premium	4	3	4	NA	4	4	3.7	1.7	1	4-or-NA	2.5	4-or-NA	3.5-or-NA	3.8	2.8-/-1.7	3.3/2.75
	Cocoa--local-markets	4	3	4	NA	4	4	3	1	3	1.5	3.25	3	1	3.7	2.1	2.9
PNG	Vanilla-Organic	4	4	4	NA	3	3	3	2	-3	3	1	3	2	3.5	2.3	2.9
	Vanilla-Conventional	4	4	4	NA	3	3	3	3	-3	3	1	3	2	3.5	2.5	3.0
Côte-d'Ivoire	Cassava	2	2-3	1-3	NA	3	3-4	4	1-2	3-4	1-2	4	1	1-2	2.8	2.2	2.5
Ghana	Groundnuts-Artisanal	3.5	4	3	NA	3	3	3	3	4	2	4	3	2	3.3	3.0	3.1
	Groundnuts-Formal-SME	NE	2	NE	NA	NE	NE	3	2	3	3	3	3	2	2.5	2.7	2.6

Legend	Very-high-(5)	High-(4)	Moderate-(3)	Low-(2)	Very-low-or-none-(1)

Case study value sub-chains' alignment with HLPE agroecological principles

Extent & nature of alignment of AE principles in study value chains

Alignment with production principles

Internationally traded global value chains

- Ranged from very low (large scale commercial cotton, Ethiopia) to high/very high (cocoa gourmet Nicaragua - organic certification or direct trade).
- Within the same commodity value chain, alignment can vary significantly (e.g. Honduras coffee from low-moderate (conventional) to high (organic).

Domestic / regionally traded commodities

- Alignment varied from low (Cote d'Ivoire Cassava) to moderate (Ghana groundnuts artisanal). On specific principles:
  - Recycling: there was generally higher alignment with perennial crops.
  - Input reduction: in sub-chains certified to environmental standards or where crops are 'viable' when grown without external inputs
  - Biodiversity: Can vary significantly within a sub-chain. e.g. PNG vanilla can be a monocrop, intercropped with food crops, part of agroforestry system.

Alignment with equity and social responsibility principles

Internationally traded global commodity VCs

- Wide range of AE alignment even within the same commodity value chains
- Ranged from very low to low (Cotton conventional commercial Ethiopia) to moderate to high (Organic cotton, Ethiopia).
- Sustainability standards tended to raise scores, but certified sub-chains fell short in various areas:
  - co-creation of knowledge (knowledge may be shared but within confines of the standard)
  - social values and diet (depending on the nature of the commodity);
  - fairness (extent to which smallholders are involved and how far VC relations are changed to become more equitable);
  - connectivity (as VCs are international in nature);
  - land and natural resources governance (Sustainability standards rarely proactively changing land rights).

To what extent has production according to AE principles contributed to the development of responsible sub-chains?

- **Internationally traded commodity value chains:** in some instances existing production systems were relatively well aligned with AE production principles making it relatively easy to introduce organic standards
  - In Ethiopia organically certified cotton- support by an NGO and government contributed to the development of some aspects of a more responsible sub-chain, e.g. strengthening of producer organisations.
  - In PNG vanilla, no clear evidence that organic certification had made a significant difference;
  - In Ecuador the shift to low-input, agroforestry cocoa production on ex-plantation lands (environmentally degraded) means that all sub-chains to some extent lend themselves to sustainability certification.
  - Contrasts with Nicaragua, where a considerable amount of cocoa production is taking place in semi-traditional slash-and-burn systems (impacts on biodiversity, soil health, recycling, etc.,).
  - In all 3 beverage cases, sub-chains which appear promising (re environmental impact, best-practice management, high quality control standards following direct trade or corporate sustainability schemes) not included in the AE evaluation due to a lack of smallholders in sub-chains.
- **For the domestic / regionally traded commodity VCs**,
  - Ghana groundnuts artisanal sub-chain part of a food system rooted in the culture and tradition of northern Ghana and high degree of connectivity. No clear evidence that mode of production is particularly conducive to the equity and social responsibility AE principles.

How is market demand expressed and to what extent has this contributed to the development of the application of AE principles?

3 scenarios considered

- Product produced at least partially 'agroecologically' and **differentiated on the market, with international certification** (e.g. Organic, Rainforest Alliance)
- Product produced at least partially 'agroecologically' and **differentiated on the market, without international certification** (e.g. Participatory Guarantee Scheme; direct trade at different scales)
- Product produced at least partially 'agroecologically' but **not differentiated on the marke**

International certification case findings (e.g. Organic cotton, Ethiopia; Organic and/or Fair trade in Honduras coffee; Quality Cocoa Ecuador; Gourmet (organic) Nicaragua cocoa, and Organic vanilla PNG),

- Moderate to high alignment with AE production principles. In some cases, producers already aligned with AE production. In others, compliance should lead to change (e.g. reduced use of agrochemicals).
- Certification has had less influence on aligning sub-chains with the equity & social responsibility principles.

Few examples found of cases without international certification but some way of rewarding AE via markets, e.g. Participatory Guarantee Schemes or direct trade arrangements with explicit reward for sustainability production. Very few examples identified.

- Possible example was conventional Nicaragua cocoa sub-chain which was moderate-highly aligned with the AE production, but it was scored very-low on the AE social and responsibility principles.
- In Ecuador cocoa the Premium sub-chain has mostly direct-trade characteristics for customers in EU and USA, with a small number of selected producers following individual standards, sometimes following AE, but mostly related to product quality.

National or Regionally traded commodity VCs findings, no differentiation on markets which can reward AE.

- Artisanal groundnut Ghana sub-chain was moderately-highly aligned with the AE production principles and moderately aligned with the AE equity and social responsibility principles, but there does not appear to be clear differentiation of products on markets.

What are the conditions enabling or constraining AE transitions of farming & food systems and value chains?

Contextual conditions enabling or constraining AE transitions of farming & food systems and value chains (This study)	**Key drivers of the process of taking agroecology to scale** **(Cacho et al,2018)**	**Domains that are critical in agroecological transformations** **(Anderson et al, (2021)**
1) Prevailing discourse relating to food and agriculture 2) Characteristics of the commodity in production and processing 3) Characteristics of the market 4) Government policies and sector vision & coordination 5) Geographical context 6) Farmer organisation 7) Capacity of service providers & access to services 8) Research & innovation systems	1) Recognition of a crisis that motivates the search for alternatives 2) Social organisation 3) Constructivist learning processes 4) Effective agroecological practices 5) Mobilising discourses 6) External allies 7) Favourable markets 8) Favourable policies However, they suggest that organisation and social fabric are the growth media on which AE advances, with the help of the other drivers.	1) Rights and access to nature 2) Knowledge and culture 3) Systems of economic exchange 4) Networks 5) Equity 6) Discourse. They then analyse the enabling and disabling dynamics within each of these domains.

Implications for decision making process

Differences exist in AE understandings

- HLPE 13 principles attempt to build consensus; ambiguity provides scope for diverse interpretations, but also obscures real differences in values and visions relating to AE, esp. AE interpretations which might challenge market logics.
- How decision makers & other actors understand and frame agriculture & food systems issues will inform their view of AE and its potential role.
- Decision makers should support multistakeholder dialogue & learning around the *situated* potential of AE in specific contexts, making adequate space for plural values.

Characterising the different types of value chain systems

- VCA4D studies illustrate the complexity and diversity of global, regional, national and local value chains, including processes of telecoupling with actors in value chains far beyond the territory, and their highly varied contexts.
- In exploring potential for AE it is important for decision makers to appreciate agricultural & food VCs systems are very diverse, complex & often multi-scale and to consider appropriate balance between global, national & local systems

Alignment with AE principles

- Wide variance both between and within commodity value chains' alignment with the 13 HLPE AE principles. Sub-chains are more aligned with the production principles than with equity and social responsibility principles.
- Aligning with responsibility principles represents a greater challenge involving a) other parts of wider system and other sectors for decision makers, b) more far reaching shifts in economics systems and power relations.

Can AE production encourage more responsible VCs?

- Where agricultural systems are well aligned with the AE production principles it is easier to achieve environmental certification. But link between certification and greater equity and social responsibility in VCs is not straightforward.
- For global VCs, decision makers could explore how to build on environmental standards to strengthen alignment with responsibility principles.
- For local VCs , concepts, actions & potential arrangements around responsibility need further exploration beyond the niche.

Implications for decision making process (cont)

Markets and AE

- Relationship between markets and AE are subject to debate.
- Market-based mechanisms such as Organic certification, can improve returns to producers, but may not meet responsibility criteria.
- Participatory Guarantee Systems may struggle to gain market acceptance beyond local markets.
- Decision makers may support market for AE, but other enabling conditions may need to be addressed.

Enabling conditions for AE

- For markets and technology-oriented approach to AE, enabling conditions that support AE transitions include discourse, market, policies, farmer organisation, research & innovation systems.
- AE social movement approaches have stronger focus on democracy, economic exchange based on reciprocity, socio-cultural values.
- Choice of approaches to support enabling conditions should be informed by context-specific, multi-stakeholder dialogue and learning.

HLPE principles – e.g. Scale of producers

- Smallholders and family farming are at the heart of the HLPE principles, but there is ambiguity.
- Medium and large-scale producers are therefore not within scope. From AE social movement perspective, empowering smallholders is imperative. Hence working with larger owners not zero sum game.
- Choice of approaches for decision makers should be informed by context-specific, multi-stakeholder dialogue and learning.

VCA4D approach

- Scope for improving the VCA4D from an AE perspective. E.g. Explore the dimensions outlined by HLPE principles; more in-depth analysis of historical and future trends; greater integration of gender and intersectionality analysis.

Thank you for your attention!

https://europa.eu/capacity4dev/value-chain-analysis-for-development-vca4d-/events/conference-value-chain-analysis-development-providing-evidence-better-policies-and-operations