



  
[VCA4D]  
VALUE CHAIN ANALYSIS FOR DEVELOPMENT

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

CONFERENCE  
18 and 19 January 2023  
Brussels & Online

  
agrinatura



  
[VCA4D]  
VALUE CHAIN ANALYSIS FOR DEVELOPMENT

  
agrinatura

## CONFERENCE

### VALUE CHAIN ANALYSIS FOR DEVELOPMENT: PROVIDING EVIDENCE FOR BETTER POLICIES AND OPERATIONS IN AGRICULTURAL VALUE CHAINS

18<sup>th</sup> and 19<sup>th</sup> January 2023 in Brussels and online

Value chains are a privileged target and entry point for intervention and policy formulation in order to reduce poverty in rural areas. Beyond the generation of jobs and income opportunities, value chain development also has consequences on social and environmental dimensions.

The Value Chain Analysis for Development (**VCA4D**) project has been launched in 2016 by the EU/DG INTPA **to support European Delegations and governments in partner countries in their decision-making processes** for agricultural development. The project is implemented by [Agrinatura](#), the European Alliance of Research Centers and Universities specialized in agricultural research for development.

VCA4D relies on a comprehensive methodology combining economic, social and environmental indicators to appraise the economic performance, inclusiveness and sustainability of a value chain (<https://europa.eu/capacity4dev/value-chain-analysis-for-development-vca4d/wiki/1-vca4d-methodology>). You can watch here a short descriptive video of the methodology ([link is external](#))!

Since its creation, VCA4D has performed more than 45 studies at the request of EU Delegations across a range of agricultural products and countries in Africa, Latin America and Asia to provide evidence-based and quantitative information to decision-makers.

The VCA4D Conference aims at taking stock of lessons learnt from evidence (research and analysis) produced on value chains and on how to best support the policy dialogue. During the Conference 14 papers, proposed and produced by Agrinatura researchers and partners, will be presented. These papers have been constructed by analysing three or more of the 45 VCA4D studies, providing cross-cutting analyses on thematic issues of interest to policy-makers. The abstract of the papers is attached while the full versions will be circulated after the Conference.

Four panels discussion, including representatives from the EU, research, farmers' organisation, private sector and international organisation, will foster a dialogue between researchers and decision-makers and provide additional insights on promoting sustainable value chains.

The Conference language will be English with simultaneous translation in French and Spanish for online participants.

The Conference and papers were produced through the financial support of the European Union (VCA4D CTR 2017/392-416). The content of the presentations is the sole responsibility of its authors and does not necessarily reflect the views of the European Union nor of the VCA4D project.

# PROGRAM

Wednesday 18th January

## Opening

9H30 10H00 Welcome and opening address, **Koen Doens, Director General INTPA, European Commission**

Agrinatura: linking research and policy making for development, **Elisabeth Claverie De Saint-Martin, CEO, CIRAD**

## Session 1: Having a common method of analysis for better policy formulation?

Moderator: Pierre Fabre (Independent)

10H00 10H10 **VCA4D Methodology Video**

10H10 10H55 **Paper presentations:**

**The role of governance in the performance of the domestic coffee value chains in Honduras, Ecuador, Tanzania, Angola**  
Gustavo Saldarriaga (independent), Paul Sfez (independent), Heval Yildirim (Agrinatura/ VCA4D), Ana-Maria Buriticá (independent), Marie-Hélène Dabat (CIRAD)

**Beef value chains in Eswatini and Zimbabwe: a comparison and synthesis from the perspective of value chain governance**  
John Morton (NRI), Abdrahmane Wane (CIRAD/ILRI), Ben Bennett (NRI)

**Can certified cocoa win on all fronts? A comparative analysis of the trade-offs between reducing deforestation, defeating children labour and increasing producers' income in four countries**  
Zoé Baudouin (CIRAD-Université de Toulouse), Guillaume Lescuyer (CIRAD)

10h55 11h10 Questions and Answers

11H10 11H25 Coffee break

11H25 12H25 **Panel discussion:**

- Gianpietro De Cao, DG INTPA
- Lisa Kirfel-Rühle, BMZ
- Maria del Mar Polo, FAO
- Patrick Okori, Ruforum

12H25 12H40 **VCA4D Information and Knowledge Management System**  
Presentation (Le Basic)

12H40 14H00 Lunch break

## Session 2: The role of the midstream sector in generating income and alleviate poverty: how can policy leverage positive effects?

Moderator: Louis Bockel (Independent)

14H00 15H15 **Paper presentations:**

**The role of the 'hidden middle' for agri-food systems value chain dynamics**  
Ruerd Ruben (WUR), Youri Dijkxhoorn (WEcR)

**Farm stratification and market segmentation in agri-food value chains**  
Rob Kuijpers (KIT), Ruerd Ruben (WUR)

**Investment for inclusive growth in food value chains in Africa: evidence from selected VCA4D Studies**

Gideon Onumah (NRI), Pamela Katic (NRI)

**Enhancing productivity of smallholder staple food crop producers in Africa when input subsidies are not working: What other options are available?**

Gideon Onumah (NRI), Alistair Sutherland (NRI), Antony Chapoto (IAPRI), Muhammad Bello (BUK)

**Contribution of processing to inclusive and sustainable growth in agri-food value chains**

Gideon Onumah (NRI), Gregory Komlaga (FRI Accra), Ivonne Acosta (independent)

15h15 15h30

Questions and Answers

15H30 16H00

Coffee break

16H00 17H00

**Panel discussion:**

- Michael Hauser, ICRISAT
- Régis Méritan, DG INTPA
- Affiong Williams, REELFRUIT LTD.
- Ishmael Sunga, SACAU

**Thursday 19th January**

**Session 3: Actors' empowerment and power relations in value chains: what impact on value chains' sustainability and development?**

Moderator: Ben Bennett, NRI

9H30 10H30

**Paper presentations:**

**The interactions of land tenure and agricultural value chain development in Africa: A synthesis from VCA4D Studies**

John Morton (NRI), Ravinder Kumar (NRI)

**Women's role in agricultural value chains – Lessons learnt from VCA4D – Gender equality analysis**

Margarida Lima de Faria (ISA), Adama Mbaye (ISRA), Heval Yildirim (Agrinatura/VCA4D), Marie-Hélène Dabat (CIRAD)

**How structures of agricultural value chains interlink with employment and inclusiveness? Insights from VCA4D studies**

Sandrine Freguin Gresh (CIRAD), Marie-Hélène Dabat (CIRAD), Heval Yildirim (Agrinatura/ VCA4D)

**Pathways for closing the smallholder living income gap in agricultural value chains**

Ruerd Ruben (WUR), Yuca Waarts (WUR)

10h30 10h45

Questions and Answers

10H45 11H15

Coffee break

11H15 12H30

**Panel discussion:**

- Yvonne Chileshe, OACPS
- Kostas Karantininis, SLU
- Philippe Thomas, DG INTPA
- Merten Sievers, ILO
- Mamadou Cissokho, ROPA

12H30 13H45

Lunch Break

## Session 4: How can value chains be a vehicle for realizing inclusive and sustainable growth?

Moderator: Ioannis Dimitriou, SLU

13h45 14h00 **Value Chain Game: a serious game for using VCA4D results - presentation**

14H00 14H45 **Paper presentations:**

### **Agroecology, responsible value chains and transforming agriculture and food systems**

Richard Lamboll (NRI), Valerie Nelson (NRI), Gian Nicolay (FIBL), Marc Cotter (FIBL)

### **Tensions between social and environmental sustainability: Lessons from VCA4D case studies in Africa and ways forward**

Alistair Sutherland (NRI), Ricardo Villani (Sant'Anna School)

14H30 14h45 Questions and Answers

14H45 15H45 **Panel discussion:**

- Stephen Onakuse, Cork University
- Christophe Larose, INTPA
- Annick Sezibera, CAPAD/Burundi
- Maria del Mar Polo, FAO

15H45 16H00 Coffee break

## Closing remarks

16H00 16H30 ***Mrs Carla Montesi, Director, Directorate Green Deal, Digital Agenda, DG INTPA***  
***Mr Stephen Onakuse, President Agrinatura***

# PAPERS ABSTRACTS

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## Session 1: Having a common method of analysis for better policy formulation?

### The role of governance in the performance of the domestic coffee value chains in Honduras, Ecuador, Tanzania, Angola

**Gustavo Saldarriaga** (Freelance Economic Expert, Bogotá, Colombia)

**Paul Sfez** (Freelance Social Expert, San José, Costa Rica)

**Heval Yildirim** (VCA4D Project, Agrinatura, Brussels, Belgium)

**Ana Maria Buriticá** (Freelance Economic Expert, Bogotá, Colombia)

**Marie-Hélène Dabat** (CIRAD Montpellier, France)

Being part of cash crops, coffee is important for smallholder farmers in many producing countries because of its potential to create revenues. Nevertheless, coffee production can fluctuate in these countries and income inequality can be significant between actors of the value chains (VCs). In order to reach an image of the contribution to growth and inclusiveness of a VC, it is needed to study the organisational and institutional processes in which it is involved. The income and jobs created by the coffee activities and their distribution along the VC depend over the governance mechanisms which are largely shaped by the strategies of the actors inside the VC as well as the country's own context and the international environment. To establish some pathways between the mode of governance and the economic and inclusiveness performances, we propose a cross-cutting analysis across the four countries where the VCA4D coffee studies were performed between 2017 and 2022: Honduras, Ecuador, Tanzania and Angola. Our paper aims at highlighting how differently the actors are involved in the governance of the coffee VCs and how they benefit from the coffee VC activities in these four countries.

The main results show that the countries which have set a mode of governance shared between public and private actors (Honduras, Tanzania), including the participation of producers in the definition and implementation of a national coffee sector development strategy, are performing better than those who struggle to do so (Ecuador) or those who have shifted from a strong intervention of the State to a regulation totally delivered to the market forces (Angola).

# Beef value chains in Eswatini and Zimbabwe: a comparison and synthesis from the perspective of value chain governance

**John Morton** (Natural Resources Institute, University of Greenwich, Chatham, UK)

**Abdrahmane Wane** (CIRAD, Montpellier, France and International Livestock Research Institute, Nairobi, Kenya)

**Ben Bennett** (Natural Resources Institute, University of Greenwich, Chatham, UK)

This paper capitalises on findings from the VCA4D studies on beef value chains in Eswatini and Zimbabwe, countries that share important geographical, cultural and economic features. After a review of EU policy on livestock development and on meat import from Southern Africa, which depends on national capacities to maintain and demonstrate disease-free status, the paper reviews literature on value chain governance and the concepts of vertical and horizontal integration, and introduces the concepts of complexity of transactions, codifiability of transactions and supplier capabilities, which are key determinants of modes of value chain linkages (particularly market-based and hierarchical, and the degrees of explicit coordination and power asymmetries within value chains.

The paper then expands on the issues of land tenure treated in the VCA4D studies: the two countries share histories of settler colonialism. In Zimbabwe a brutal history of land seizures and evictions under colonialism, the War of Liberation largely as a response to that, and the chaotic Fast Track Land Reform, have led to a breakdown of animal disease control, an end to meat exports, a complex mapping of land tenure categories onto production systems and a relative confluence of downstream value chains. In Eswatini more subtle power dynamics resulted in a higher proportion of land reserved for African smallholders, less saliency of land as a political issue, but a higher separation of value chains with smallholders less likely to supply cattle for export. In both countries' cattle retain considerable cultural value and multiple use values such as draft power and manure, which affects smallholder behaviour within value chains. Value chains in the two countries are placed in three categories by their degrees of vertical coordination: reputation-based spot markets in communal areas, a more formal but still reputation-based domestic market (these two value chains are found in both countries), and an export market (found only in Eswatini). Horizontal coordination in all these value chains is limited. A final section discusses the different risks to value chain operations: risks external to the value chains, risks to be managed through vertical integration and government policies, and risks to be managed through better horizontal integration (with government support). Recommendations are made for policy and for future analysis of livestock value chains.



# Can certified cocoa win on all fronts? A comparative analysis of the trade-offs between reducing deforestation, defeating child labour and increasing producers' income in four countries

**Zoé Baudouin** (Toulouse School of Economics, Toulouse, France)

**Guillaume Lescuyer** (CIRAD "Forests and societies", Montpellier, France)

This report makes a synthesis of four cocoa value chain reports (in Nicaragua, Sao Tome and Principe, Cameroon and Papua New Guinea) in the framework of the VCA4D project and showcases three aspects of sustainability, naming producers' revenues, child labour and deforestation. The potential contribution of certification schemes to the sustainability of the cocoa value chain is studied in the four countries, by comparing the situation of certified and non-certified producers with respect to these three sustainability criteria. The states have obviously a role to play in the sustainable development of the cocoa sector, and we also consider the interactions between public policy and private certification programmes. This relation can be either cooperation, competition or indifference.

Overall, in the four sampled countries, small producers of cocoa remain rather poor and cocoa cannot be their only sufficient source of revenues. However, their situation is not helpless since certified producers reach additional revenues that can help them escape poverty. With respect to child labour, there is no acute concern in any of the four countries since it is not structurally part of the production system. Deforestation is so far not a predominant issue in these four cocoa-producing countries, but this issue will probably grow in importance with the coming European regulation on imported deforestation.

The predominant certification programmes offer a premium to cocoa growers, which is considered too low to reach a decent revenue for the producers. The four countries have not either adopted public policy to guarantee a satisfactory level of price to the producers. The struggle against child labour is tackled in all certification programmes. The same goes for deforestation although none of the standards provides sufficient details on deforestation and forest degradation levels.

The most observed interactions between certification schemes and public regulation are indifference and cooperation. What explains indifference is that governments are usually not deeply involved in the development of the cocoa sector due to lack of resources. However, this can also lead to cooperation since government can rely on certification programmes to improve cocoa producers' livelihoods.

## Session 2: The role of the midstream sector in generating income and alleviate poverty: how can policy leverage positive effects?

### The role of the 'hidden middle' for agri-food systems value chain dynamics

**Ruerd Ruben** (Emeritus professor impact analysis of food systems Wageningen University & Research (WUR), Wageningen, The Netherlands)

**Youri Dijkxhoorn** (Researcher value chains and food systems Wageningen Economic Research (WEcR), The Hague, The Netherlands)

This paper analyses the role and importance of midstream actors in the agri-food value chain, drawing on experiences from cash crops, vegetables and fruits, animal-based products and food staples. Main attention is given to the value added (VA) captured and the employment creation by midstream actors. This provides insights into the efficiency aspects (resource use), the equity implications and welfare effects that result from these midstream dynamics.

Differences in structure and performance of agri-food value chain are explained by characteristics of products (i.e. opportunities for investments in scaling and risks of perishability), the conditions for realizing transactions between value chain parties (prices, wages, etc.) and the type of interactions between stakeholders (spot exchange or contractual agreements). Gender implications (opportunities for female entrepreneurship) and the environment (emissions) receive special attention.

The paper contributes to the debate on the role of the 'hidden middle' for upstream parties and may identify critical possibilities for enhancing value chain dynamics through midstream innovation. We use a mixed methods approach to assess drivers of midstream performance and to identify wider development implications.

We find that commercial and modernizing value chains (VCs) for capital-intensive commodities generate higher midstream employment and value added. Demand-side motives are driving the midstream transition: urbanization and a favourable business environment support investment in inclusive and sustainable midstream activities. Higher midstream value added share are accompanied by a gradual increase in profitability. The interaction between both processes enhances overall attractiveness of midstream activities. Midstream capital investments are associated with a strict control of midstream agents over value added operations, even while several midstream processing activities are still fairly labour-intensive and therefore contribute to employment generation.

These findings have both theoretical and policy implications. System approaches are necessary for a full understanding of midstream VC dynamics, identifying both market and governance drivers to enhance inclusiveness. Policy instruments for supporting midstream investments and VC performance of value chains should rely on instruments for risk reduction and lower transaction costs to reduce access constraints and to enable broad participation.

## Farm stratification and market segmentation in agri-food value chains

**Rob Kuijpers** (Royal Tropical Institute (KIT), Amsterdam, The Netherlands)

**Ruerd Ruben** (Emeritus professor impact analysis of food systems Wageningen University & Research (WUR), Wageningen, The Netherlands)

Whereas many smallholder farmers rely on rather diversified production systems, commercial market-oriented agri-food production is increasingly concentrated amongst midsize and larger farmers. We use data from the Value Chain Analysis for Development (VCA4D) project to (a) identify farm size structures in eight agri-food value chains in sub-Saharan Africa, (b) explain variation in farm size structure between commodities, and (c) discuss the implications for agri-food sector transformation dynamics.

Looking at the contribution of different farm size categories to the marketed value added by the farm sector, we identify three types of farm size structures: smallholder-based (sorghum and groundnut in Ghana and cocoa in Cameroon), bi-modal (green beans in Kenya and maize in Nigeria and Zambia), and midsize dominated (cotton in Ethiopia and aquaculture in Zambia). Smallholders produce more for own consumption and are linked to less remunerative sales at rural markets, while midsize and large scale farmers tend to be engaged in more rewarding contracts for deliveries to urban markets, modern retail and export.

Our cross-sectional analysis shows high labour intensity and low value added in the midstream segment of the value chain as factors favouring smallholder-based systems. On the other hand, high capital intensity of the production systems and high-value added in the mid-stream favour midsize and large-scale dominated systems. Changes in the farm-level production structure thus have direct implications for the organization of midstream trade and processing firms and shape the value added distribution between value chain stakeholders. Such farm-firm interactions are also influenced by country-level differences in urbanization, economic growth and market development. Crop-level differences offer particular opportunities for labour intensification in smallholder systems, while bimodal and large-scale systems rely more on input intensification.

The emergence of medium- and large-scale farms seems to be a key feature of agricultural transformation. The transition towards a bi-modal or large-scale dominated farm sector can boost agricultural productivity but, as such, can also be expected to be disruptive for existing smallholder farmers. The extent to which this transition is inclusive and can support structural transformation will depend to a large extent on the employment creation in the farm and mid-stream segments of the value chain that result from this transition.

Appropriate strategies for inclusive and sustainable agricultural and structural transformation thus require balanced access to resources, inputs, knowledge and markets for different agents throughout the value chain. Better access to finance, participatory innovation systems, professional education, and exchange networks for knowledge sharing arrangements are critical for pro-poor transition pathways.

## Investment for inclusive growth in food value chains in Africa: evidence from selected VCA4D studies

**Gideon Onumah** (University of Greenwich, London, United Kingdom)

**Pamela Katic** (University of Greenwich, London, United Kingdom)

The potential for the agriculture sector to motor sustained economic growth and poverty reduction in developing countries has been acknowledged, including on the basis of empirical evidence. This is one of the main reasons why African governments prioritised agriculture-led economic growth strategy, affirming this in the Malabo Declaration on Accelerated Agricultural Growth and Transformation (otherwise termed the Malabo Declaration). To achieve this, African Heads of State and Governments set targets to mobilise public and private investment, including foreign direct investment, into agriculture. Recent reviews show, however, though public, donor and private investment in the sector is rising on the continent, most countries are not on track to meet targets set for 2025. Policymakers need reliable information which will enable private sector players to take informed investment decisions and also as a basis for enabling public interventions. Evidence generated through some of studies undertaken as part of the Value Chain Analysis for Development (VCA4D) Project can help fill this gap.

This paper reviews evidence from three selected agricultural value chains (VCs), which were studied under the VCA4D, to assess whether private investments can contribute to sustainable and inclusive growth; and the forms of investments and financing models which makes it possible to achieve this. The cases included investments at different levels in the value chains: downstream (egg production), midstream (maize aggregation and distribution) and upstream (sorghum processing). The results show that in all three cases, the investments reviewed boosted sustained output growth and value added in the VCs, resulting in increase in contributions to public finances and foreign exchange generation or saving (the latter through import substitution). Though the investments increased market share of the key enterprises, there is evidence of enhanced social inclusiveness including, for example, the case of the egg VC in Zambia, rise in market power of the key enterprise contributed to driving down egg prices and boosting consumption and directly improving nutrition security in poor urban households. It also led to the emergence of an inclusive egg distribution system centred around micro/small-scale enterprises in the relatively poor urban communities.

Similar benefits were observed in the maize and sorghum VCs, especially where smallholder farmers leveraged linkages with formal aggregators to secure better access to inputs which resulted in obtaining higher yields, rise in household income (above national poverty lines) and increase in food which is available for household consumption. The boost in smallholders' productivity has positive implications as far as the environment is concerned. This is because of more efficient use of land and other resources per unit of output produced. In addition, expansion of the formal segments of the VCs helped reduce some of the adverse effects of VC activities on the environment because of the better technology and more effective enforcement of environmental as well as health and safety protocols and regulations, including better waste management.

The lead investors in all three cases are relatively better-capitalised large-scale enterprises but benefited from some form of innovative blended finance, involving donor support and/or enabling government actions. This helped to ensure that beneficial social and environmental actions were incorporated in the design, implementation and financing of such investments. It will be worthwhile to also explore how such financing can be specifically targeted at SMEs in processing (e.g. pito brewers in Ghana and maize millers in Nigeria). This could drive inclusive and also help in mitigating some of the human health risks and adverse physical environmental effects of their operations.

## **Enhancing productivity of smallholder staple food crop producers in Africa when inputs subsidies are not working: what other options are available?**

**Gideon E. Onumah** (Natural Resources Institute, University of Greenwich, Chatham, Kent, United Kingdom)

**Alistair Sutherland** (Natural Resources Institute, University of Greenwich, Chatham, Kent, United Kingdom)

**Antony Chapoto** (Indaba Agricultural Policy Research Institute (IAPRI), Lusaka, Zambia)

**Muhammad Bello** (Bayero University Kano (BUK), Kano, Nigeria)

Many African governments have been implementing inputs subsidy programmes (ISP) in order to turn around the low-input low-yield agricultural systems dominated by resource-constrained smallholder farmers (SHFs). In this paper we have reviewed generic from across the continent and cases from Nigeria and Zambia. The evidence shows that despite high levels of subsidies (sometimes ranging from 50% to over 80% of the market costs of inputs), the ISPs have neither triggered significant growth in average yields and output nor had much impact on reducing rural poverty. Response to the sub-optimal outcomes of ISPs has been to initiate reforms in inputs delivery systems whilst presuming that affordability is the main binding constraints facing smallholders when it comes to accessing inputs. However, ineffective complementary systems contribute to this outcome. For example, extension advisory systems which offer generic (blanket) advice delinked from area-specific agroclimatic conditions does not enable the farmers to obtain optimum yields. Furthermore, there are several unaddressed pre and postharvest issues, including household liquidity constraints which limit smallholders' capacity to take up the available inputs, thereby encouraging the development of parallel inputs markets which end up transferring subsidies to better-off farmers. Lack of efficient postharvest handling facilities leads to losses which combine output marketing constraints to significantly reduce the profitability of inputs use but these issues tend to be marginalised in the design and implementation of ISPs.

Business-to-farmers (B2F) models reviewed in this paper have shown the potential of a more sustainable and inclusive way to boost the productivity and output of smallholders by enabling them take up available inputs through access to credit; increasing access to extension advice using field agents who also monitor farmers' performance under the business linkages; and assuring access to remunerative markets. Participating smallholders obtained significant boost in yield and

output, reduction in postharvest losses and rise in household incomes, sometimes taking the households out of poverty. The potential can be optimised if issues such as the weak bargaining power of smallholders, limitations of extension messaging, limited supply of finance and other constraints which impact negatively on the profitability of inputs use are addressed. Further research is therefore needed to refine these models in order to ensure win-win for smallholders, agribusinesses and governments.

## **Contribution of processing to inclusive and sustainable growth in agri-food value chains**

**Gideon Onumah** (Natural Resources Institute, University of Greenwich, Chatham, United Kingdom)

**Gregory Komlaga** (Food Research Institute, Accra, Ghana)

**Ivonne Acosta Alba** (Freelance Environmental Expert, France)

Food processing is important in agri-food value chains because, among others, it lengthen the shelf-life of some perishable produce and transforms others, especially non-perishables, into preferred products for consumers. In terms of economic and other contributions, processors add to value added in agricultural value chains (VCs), create jobs, contribute to public finance and, may even generate foreign exchange. These contributions may be direct from the processing actors but they also trigger additional contributions by opening up space for activities by supply chain actors such as aggregators, transporters and product retailers. On the other hand, transformation of agri-foods may contribute in a major way to air, soil and water pollution as well as greenhouse emissions.

This paper analyses the role as well as economic and social contribution of processing industries in selected staple crops VCs (maize in Nigeria and Zambia and Ghana sorghum) and export crops VCs, focusing on mango (in Burkina Faso and the Dominican Republic), pineapple (in Togo and the Dominican Republic) and cashew (in Sierra Leone). The evidence shows that both domestic processing and exports generate significant incremental value added in the selected VCs, directly from the activities of key actors as well as the service providers linked to them. However, the bulk of exports is in the form of unprocessed produce due to a number of reasons including competition and regulatory restrictions in the destination markets. Processing export produce for domestic and subregional markets also tends to be constrained by limited supply of raw materials, especially as the produce exported is usually of premium quality and too expensive for processors who are also often barred from relatively lower quality raw materials from subregional markets – a case in point being mango processing in the Dominican Republic.

Domestic agro-processing is dichotomised into formal and informal segments which tend to be totally de-linked. The formal large-scale segment is usually predominant (e.g. in maize VCs in Nigeria and Zambia) but may also be much smaller relative to the informal segment as is the case in Ghana sorghum. Though relatively less inclusive, formal domestic agro-processing makes significant contribution to total value added as well as to public finance, helping to reduce fiscal deficits associated with subsidising inputs to primary producers. Also notable is evidence that the

adverse impact of formal processing in staple crops VCs on the environment is much lower than is the case in the informal. Workers' rights are also protected by laws which are effectively enforced as are regulatory standards and best practices which help to reduce food safety risks to consumers. Their role in the emergence of formal supply chains has also been leveraged by large-scale aggregators to secure financing which enables to acquire inputs, include those delivered under subsidy programmes. The positive impacts of these include boosting farm productivity for participating smallholder farmers, making it possible to sell more whilst having access to more food grains in the households. Their overall farm household income also rises above national poverty levels.

The informal processing sub-chain is certainly more inclusive, especially in terms of the involvement of women and youth but face challenges including reliance on old, energy-inefficient equipment or traditional technologies which are harmful to the environment as well as the health and safety of workers. Food safety is also a major issue. Technology and knowledge on interventions to address the identified environmental challenges already exist but uptake is limited due to resource constraints, including limited access to finance. A way forward in unlocking the potential in this processing segment requires deploying public research capacity along with public (government and donor) technical and financial support. It is an option policymakers and development practitioners need to explore.

## Session 3: Actors' empowerment and power relations in value chains: what impact on value chains' sustainability and development?

### The interactions of land tenure and agricultural value chain development in Africa: a synthesis from VCA4D studies

**John Morton** (Natural Resources Institute, University of Greenwich, Chatham, UK)

**Ravinder Kumar** (Natural Resources Institute, University of Greenwich, Chatham, UK)

This synthesis study analyses the relation between value chain development and land tenure in Africa, primarily through the discussion of eight studies from the VCA4D project. These studies were purposively selected to represent export-oriented and domestic value chains in the sub-regions of Africa. After an overview of EU cooperation policy in the field of land tenure and land governance, we present an overview analysis of the pro-forma social profiles of 37 VCA4D studies, and then brief summaries of the land components of the eight country studies against a standardised list of questions.

In almost all the countries studied, the majority of agricultural land is modified customary tenure. This does not necessarily act as a barrier to the development of sustainable value chains, either domestic or export-oriented. However, customary tenure can limit smallholders' negotiating power with commercial investors, and can be associated with various forms of inequity. Gender inequality is reported in nearly all the studies, both in the modified customary tenure and in newer titling initiatives, which are proceeding in many of the countries studied, but generally at a slow pace and unevenly. Rental markets are developing in some of the value chains, but may have negative impacts on agricultural sustainability. In the selected studies there is little evidence of large-scale land acquisition by external actors, but countries are not well equipped to manage potential large-scale land acquisitions, for example the VGGT principles are either unknown or widely flouted. In one case (cassava in Côte d'Ivoire) land acquisition for export crops is negatively affecting and geographically displacing production of a domestic staple.

The studies represent a range of pathways by which value chain development is or is not driving changes in land tenure: no apparent impact in three cases, an apparent shift from customary allocation towards informal sales in one case (maize in Zambia), geographical displacement and development of a form of short-term land rental for cassava in Côte d'Ivoire. The highly organised cotton value chain in Cameroon has very limited ability to address problems of land tenure. In Burundi the development of the milk value chain may affect land tenure, but only in association with other drivers. In Sierra Leone, commercial investment in oil palm has largely circumvented requirements for consultation, but there is some evidence that companies are now engaging more usefully with farmers and other stakeholders.

Key messages for policy-makers on both land policy and value chain development are presented based on these findings.



## Women's role in agricultural value chains – lessons learnt from VCA4D – gender equality analysis

**Margarida Lima de Faria** (Instituto Superior de Agronomia - Universidade de Lisboa, Lisbon, Portugal)

**Adama Mbaye** (Institut Sénégalais de Recherches Agricoles, Dakar, Senegal)

**Heval Yildirim** (VCA4D Project-Agrinatura, Brussels, Belgium)

**Marie-Hélène Dabat** (CIRAD, Montpellier, France)

This synthesis provides a comparative analysis of the situation of a large number of value chains studied by the VCA4D project, between 2016 and 2022, from a gender equality perspective.

It is conducted by Agrinatura researchers that are not gender experts which positions them in a non-compromised situation. This allows them to look at the reports without a-priori-idea. The synthesis here presented, is a contribution to a discussion on gender as rooted in in-country tangible evidences, as described by the social experts of VCA4D, which add value to more theoretical and conceptual discussions. Yet, they have the limitation of being confined in value-chain orientated and context-specific approaches, carried out over short periods of time, which do not reflect broader insights.

A stepwise analysis made it possible to structure the synthesis into three steps: firstly, a review of the trends in gender equality indicators in the different studies based on the scores given by the VCA4D researchers per gender items; secondly, an extensive comparative analysis of the value chain results, taking just the most representative, organised by common product type and per country. In the second step, the findings of step one, were combined with the VCA4D experts' descriptions when replying to a set of key-questions; finally, a discussion of the different results in the form of lessons learnt. For this last discussion, all the 36 studies were considered and the analysis stemmed from a more holistic look, highlighting aspects that were not foreseen but became apparent from the reading of all the reports' description and its relevance was confirmed by recent literature consultation.

From the statistical analysis it was clear that the worse scores (women at higher risk) concern inequality of workloads, including domestic work and childcare, inequality of land rights, the hardship of women's work in the production activities, and the women's access to resources and services such as credit. Women participation in decision-making in the value chain was generally higher than expected, though women collective cooperation was generally low. Using this analysis, it was, however, not possible to identify neither a "country effect" nor a 'value chain effect', mainly due to the few number of cases that resulted from this disaggregation and the variety of items at stake showing contradictory results within the same VC, some good scores being combined with bad scores, yet there are some interesting trends that should be taken into account. As for the type of value-chain, although it was possible to identify the worse and the best cases, this general assessment stems from different reasons, so there is not a causal link between the type product of the VC and the scores. It is, nevertheless, interesting to note that it was detected a gender bias

in the scoring process since. The worse situations were identified by female experts, and the best by male experts.

From the extensive analysis, the country effect became more important, which reinforces the importance of the national context for gender equality.

From the in-depth analysis of the 36 reports' descriptions, some commonalities were identified and confirmed by the literature reviewed, which made it possible to highlight the lessons learnt about gender equality, referring to some situations that were not foreseen by the VCA4D approach, but emerged from the finer analysis of the different contexts.

## **How structures of agricultural value chains interlink with employment and inclusiveness? Insights from VCA4D studies**

**Sandrine Freguin Gresh** (CIRAD, Montpellier, France)

**Marie-Hélène Dabat** (CIRAD, Montpellier, France)

**Heval Yildirim** (VCA4D Project-Agrinatura, Brussels, Belgium)

This paper aims at exploring the interlinks between structural components of agricultural value chains (VC), employment, and inclusiveness. By using data from the agricultural VC analyzed in the framework of the Value Chain Analysis for Development (VCA4D) project, which includes domestic VC studies in Africa, Asia, Latin America and the Caribbean, this paper proposes a typology of VC, based on indicators related to product and market features as many examples in the literature but also on indicators repositioning the VC in their macroeconomic environment. The results show differentiation between VC depending on the product and market features, but also according to the contribution of the VC value added to agricultural GDP, the rate of integration of the VC in the national economy and the weight of VC actors (agricultural producers, traders, processors, suppliers) in the wealth generated by the VC, as these elements may have strong relations with employment. Confronting the results with indicators on employment (in quantity and quality), the paper allows a broader tentative to discuss on how VC structures influence diverse dimensions of inclusiveness. This reflection also demonstrates the need to build an information system so that robust data can be easily accessed for such analysis.

# Pathways for reducing the smallholder living income gap in agricultural value chains

**Ruerd Ruben** (Emeritus professor impact analysis of food systems Wageningen University & Research (WUR), Wageningen, The Netherlands)

**Yuca Waarts** (Wageningen Economic Research (WEcR), Wageningen, The Netherlands)

Poverty reduction through rural development can be supported by the engagement of smallholders in commercial value chains that are based on rewarding market prices for the creation of inclusive rural livelihoods. It is increasingly acknowledged that engagement in cash crop activities by smallholder farmers (and rural workers) meets several structural constraints for guaranteeing farmer welfare and food and nutrition security.

In this paper we assess the net incomes of smallholder farmers in eight specific agricultural VCs in seven Sub-Saharan countries and their contributions for guaranteeing living income conditions as well as other household welfare goals. We look at potential strategies focusing on (technological) yield improvements, area expansion, better output prices (increasing margins) and/or engagement in off-farm employment as strategic pathways for supporting further rural poverty reduction.

Our study relies on an analytical framework for deriving the living income gap for family farms engaged in specific commercial commodity chains, using a stylized income analysis framework that combines information on cropping area, yield and production with data on prices, wages, profits and production costs, making assumptions for the share of land and labour required for their production. This framework is used to assess how the current income gaps could be reduced. We identify four specific pathways for land-constrained, yield-constrained, price-constrained and labour-constrained smallholders.

We find that almost all smallholder farmers face binding land constraints. Strategies for reducing the existing yield gaps and increasing the output price have considerable potential for reducing the living income gap. Value chains that are strongly market-oriented have more options available for overcoming income constraints. In addition, in some cases outside options for engagement in off-farm work provide viable additional income opportunities

We outline some major consequences of living income gaps for household nutrition, for gender disparities and for the constraints to adoption of innovation. Finally, we discuss implication for selection appropriate policy instruments for reducing the living income gap by enhancing access to resources and information or through market- or institutional reforms.

## Session 4: How can value chains be a vehicle for realizing inclusive and sustainable growth?

### Tensions between social and environmental sustainability: lessons from VCA4D case studies in Africa and ways forward

**Alistair Sutherland** (Natural Resources Institute, University of Greenwich, Chatham, UK)

**Ricardo Villani** (Sant'Anna School of Advanced Studies, Pisa, Italy)

The aim of this synthesis paper was to describe some of the commonly occurring trade-offs between social and environmental impacts in the VCA4D case studies, and to identify promising situations (« win-win options ») where synergies between environmental and social sustainability can be achieved.

The paper has focused on smallholder crop VCs based on extensive rainfed cropping systems in five African situations (maize in Zambia, maize in Nigeria, sorghum in Ghana, groundnuts in Ghana, cotton in Ethiopia). The extensive nature of the production stage of these VCs raise similar concerns with regard to negative environmental impact, which often conflict with social pressures relating to the security and risks relating to food, income, health and in some cases access to land. The expansion of cultivation into forest areas, virgin land and natural pastures for both food and cash crops, and a reduction in traditional fallowing periods, results in environmental degradation, while also enabling households to improve their food, income (especially in the short/medium term) and land security.

This trade-off between the environmental and social impacts does require to be addressed by appropriate policy measures if these value chains are to be more sustainable in the medium and longer term. In most cases environmental protection policies which require strong enforcement will not work well because of the limited capacity to enforce and in some cases political will to do so. Policies for environmental protection should instead focus on providing incentives backed up with strong educational elements. Policies relating to agricultural services should be well thought out and informed by longer term considerations, both environmental and socio-economic. This implies a commitment by national governments to longer term investments in and support to the relevant institutions and infrastructure required to achieve more sustainable smallholder crop value chains. Behavioural change will be involved at various levels, hence the importance of having clear policies and investment in training and education of the main actors, so they can make informed choices which are informed by a good understanding of both environmental and social impact.

The policies to support these value chains will also need to be well informed by international trends, given that local economies are increasingly integrated into, and subject to international shocks and trends. A case in point is the current increase in energy prices, with major knock on effects for fertilizer costs, as well as costs relating to transportation and industrial processing of the crops produced in these value chains.

The post-harvest and processing stages of some of the value chains also provide good opportunities for achieving win-win outcomes. For example, reducing post-harvest losses has a positive impact on the environment, particularly for the food grain crops, while also improving incomes and food security for smallholders. Improving the quality control of grain, particularly groundnut aflatoxins, promises to significantly improve prices paid for groundnuts while at the same time improve health outcomes, both for the households consuming these for their food, and for urban consumers. Local processing of the grain crops often requires large quantities of firewood and involves women working in sub-optimal conditions with a risk to their health from fumes. Improved methods and technologies for local processing could not only reduce the environmental impact by reducing the amount of firewood needed, but also reduce the health risks for the women involved.

## **Agroecology, responsible value chains and transforming agriculture and food systems**

**Richard Lamboll** (Natural Resources Institute, University of Greenwich, Chatham, UK)

**Valerie Nelson** (Natural Resources Institute, University of Greenwich, Chatham, UK)

**Gian Nicolay** (The Research Institute of Organic Agriculture (FiBL))

**Marc Cotter** (The Research Institute of Organic Agriculture (FiBL))

Multiple demands on agriculture and food systems have greatly increased interest in the application of agroecological approaches in global policy circles, including within the European Union. This desk review study was commissioned to better understand the relationships between agroecology (AE), responsible value chains and agricultural and food system transformations using the Value Chain Analysis for Development (VCA4D) studies as an evidence base.

The objectives were the following : (1) Characterise the different types of agroecological systems identified in the VCA4D studies, (2) Analyse to what extent applying principles of agroecology have contributed to the development of responsible sub-chains ; (3) Analyse the way in which the markets downstream have contributed to the application of agroecological principles in these cases/ countries ; (4) Identify the conditions to support the agroecological transition of farming systems and value chains.

To garner a better understanding of the relationships between AE, responsibility in value chains and agricultural and food system transformations, it was important to recognize that there are differences in interpretation of AE. At one end of a spectrum, there are actors who place a strong emphasis on markets, technologies, and practices. At the other end of the spectrum are interpretations and social movements which prioritise more autonomous processes of development, a diversity of forms of knowledge, and prioritise equity and environmentally regenerative approaches.

The VCA4D studies provided rich evidence from a multi-disciplinary, sustainable value chains, market-oriented perspective on a diversity of value chains and that have been analysed to assess the extent to which they are aligned with AE principles, as defined by HLPE. This gives insights into

some instances in which existing AE production systems lend themselves to more responsibility, such as where there are existing low input agroforestry (vanilla, cocoa) and semi-wild collection systems in cocoa which can support AE production/collection, or where staple food crops play an important role in rural household livelihoods, and are grown and traded locally (although the latter may be threatened by growing land, environment and climate pressures and profitability is low). The studies and AE analysis also indicate that market-based mechanisms such as Organic and Fairtrade certification, can improve returns to producers in some instances, but this may or may not meet equity and social responsibility criteria, as defined by HLPE (e.g. connectivity, fairness, participation).

The HLPE principles have various areas of ambiguity. This is important because it allows for greater international consensus and adaptation to context, but also provides scope for widely varying interpretations and co-optations depending upon perspective. For example, smallholders and family farming are at the heart of the principles; medium and large-scale producers, especially lands owned or *de facto* controlled by companies are therefore not within scope. From a sustainability science perspective, this is a wasted opportunity. From some AE social movement perspectives, it is necessary to challenge this access and control of land and natural resources, and empowering smallholders is imperative, hence working with larger scale landowners/controllers is not a zero sum game.

There is scope for improving the VCA4D from an AE perspective. Noting the differing definitions of AE, however, it is also clear that the options vary. Based on a technology and markets approach (which fits to some extent with the EC's current markets and innovation interpretation of AE), the VCA4D methodology, which itself embeds a market logic, could be modified to explore the dimensions outlined by the HLPE principles, with more in-depth analysis of, for example, context, including historical and future trends, and greater integration of gender and intersectionality analysis.