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

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

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Objectives and research questions

- **A first attempt to conduce a cross-study statistical analysis among the VCA4D studies relying on the main VCA4D's economic indicators to discuss employment and inclusiveness of agricultural VCs**

- **How do structures of VCs interlink with employment? How do they interact with inclusiveness?**
  - How many jobs are created?
  - For which actors of the VC?
  - In what conditions are these actors engaged in VCs (in terms of working conditions, gender and social capital in particular)?
  - How is value shared in VCs, meaning what is the distribution of wealth created within the VCs? (one of the inclusiveness indicators of VCA4D)

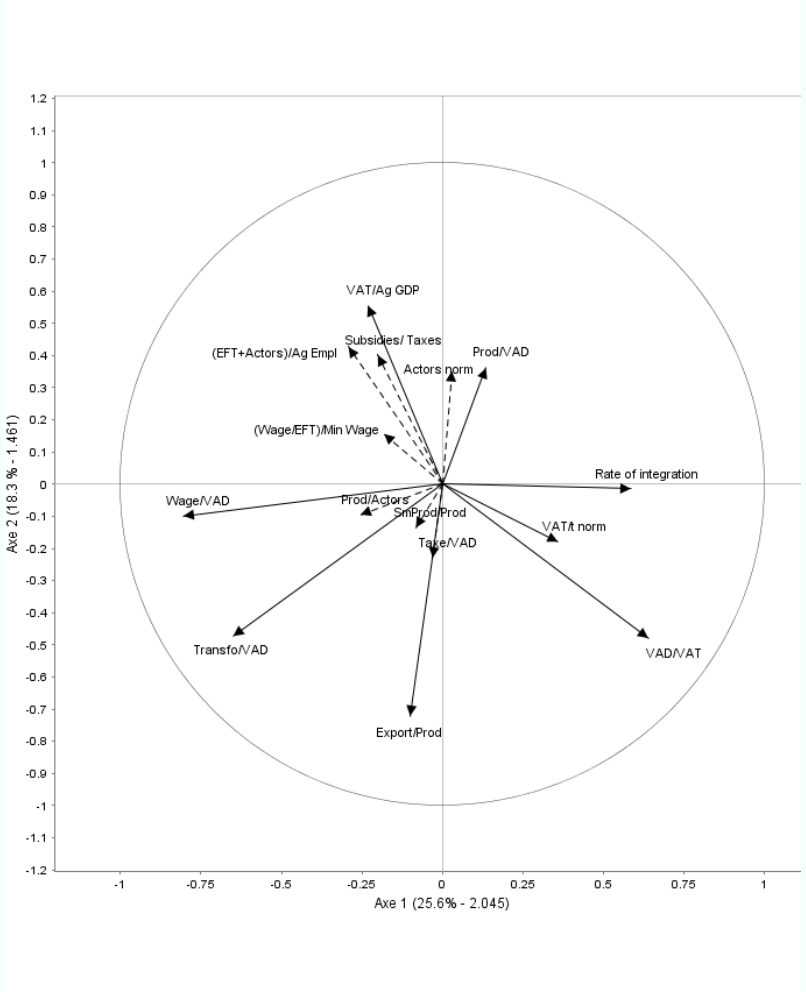
Methodology

- **Design of a typology as a mean to identify structural factors influencing employment and working conditions (and finally, inclusiveness)**
  - 39 VCA4D studies of agricultural VCs available at the moment of the analysis
- **Mixed approach that relies heavily on statistical analysis**
  - Careful selection of indicators
  - Principal Component Factor Analysis (PCA), followed by a Hierarchical Ascendant Classification (HAC)

- **Defining structures of VCs**
  - Setting of structural features of VCs through economic variables
    - Product and market features of VCs (Volume Export/Production)
    - Capacity to create value (Total VA/t)
    - Size (or weight) of VCs in the agricultural sector (Total VA/Ag GDP)
    - Distribution of wealth (VA Production/Direct VA; VA Processing/Direct VA; Wage/Total VA; Direct VA/Total VA, Rate of integration)

A typology grounded on structural indicators

- **Axis 1 : Distribution of value added among the VC** (including agricultural production, processing, wages, and rate of integration to the national economy)
- **Axis 2 : Market orientation** of the VC and **weight** of the VC **in the agricultural sector**
- **Axis 3 : Capacity of the VC to create value**, in particular at the level of agricultural production



Is there a “country effect” or a “product effect” on VCs?

- **Initial question when starting cross-study analysis, as some VCA4D studies refer to the same product in different countries or to various products in the same country**

- **Countries do not characterize the types**
  - VCs from the same country can be in different types

- **Products characterize the types, but the nature of a “product” is highly contextualized**
  - For instance, banana in Burundi (staple food crop) is not the same banana in the Dominican Republic (export raw commodity)

6 types of VCs, with different structures (1/3)

- **Type 1: "Domestic market-oriented staple food, fruit and animal VCs"**
  - Staple foods (cassava, sorghum, maize and groundnut in Western Africa), animal products (milk, eggs, beef, fisheries and aquaculture) and fruits (bananas in Eastern Africa), mostly for the domestic markets, with the lowest capacity to create value (Total VA/t)
  - Reduced contribution to agricultural GDP (9%)
  - **Significant share of the value added (51%) created at the production level** (low share of processing and wages)
  - Significant share (2/3) of smallholders among agricultural producers, but also a **significant number of downstream actors (marketing)**
  - One of the **highest rate of integration** in the national economy (84%)

- **Type 2 : "Small VCs that generate mainly downstream VA"**
  - Fruits (mango) and fisheries, both for the domestic and export markets, with a greater potential to create value
  - Very limited contribution to agricultural GDP (3%)
  - **Lowest share of the value added (20%) created at the production level** → the **value added is created at other levels** (packaging, wholesaling, retailing, etc.)
  - Relatively low share of smallholders among producers (67%), but a **significant number of downstream actors**
  - Low indirect VA: Highest Direct VA/Total VA (96%)
  - **Highest integration rate (nearly 100%)**

6 types of VCs, with different structures (2/3)

- **Type 3 : "Small VCs of export-oriented partly processed products poorly integrated into the national economy"**
  - Export-oriented products, with a certain degree of processing/packaging (coffee in LA, cotton, green beans in eastern Africa, pineapple in Western Africa)
  - Lowest contribution to agricultural GDP (2%)
  - Moderate share of the VA (27%) created at the production level (high share of processing and wages)
  - **High share of agricultural producers (89%), including a great number of smallholders** (limited number of downstream actors)
  - **One of the lowest rate of integration** in the national economy (need for the import of inputs)

- **Type 4 : "Export-oriented raw commodities VCs dominated by smallholders"**
  - Export-oriented products, with a lower degree of processing/packaging (raw or bulk commodities, such as cocoa in LA, cashew nuts in Western Africa)
  - **Significant contribution to agricultural GDP (16%)**
  - **Highest share of the value added** (67%) **created at the production level** (low share of processing and wages)
  - Production dominated by smallholders (92%)
  - **One of the highest rate of integration** in the national economy (86%)

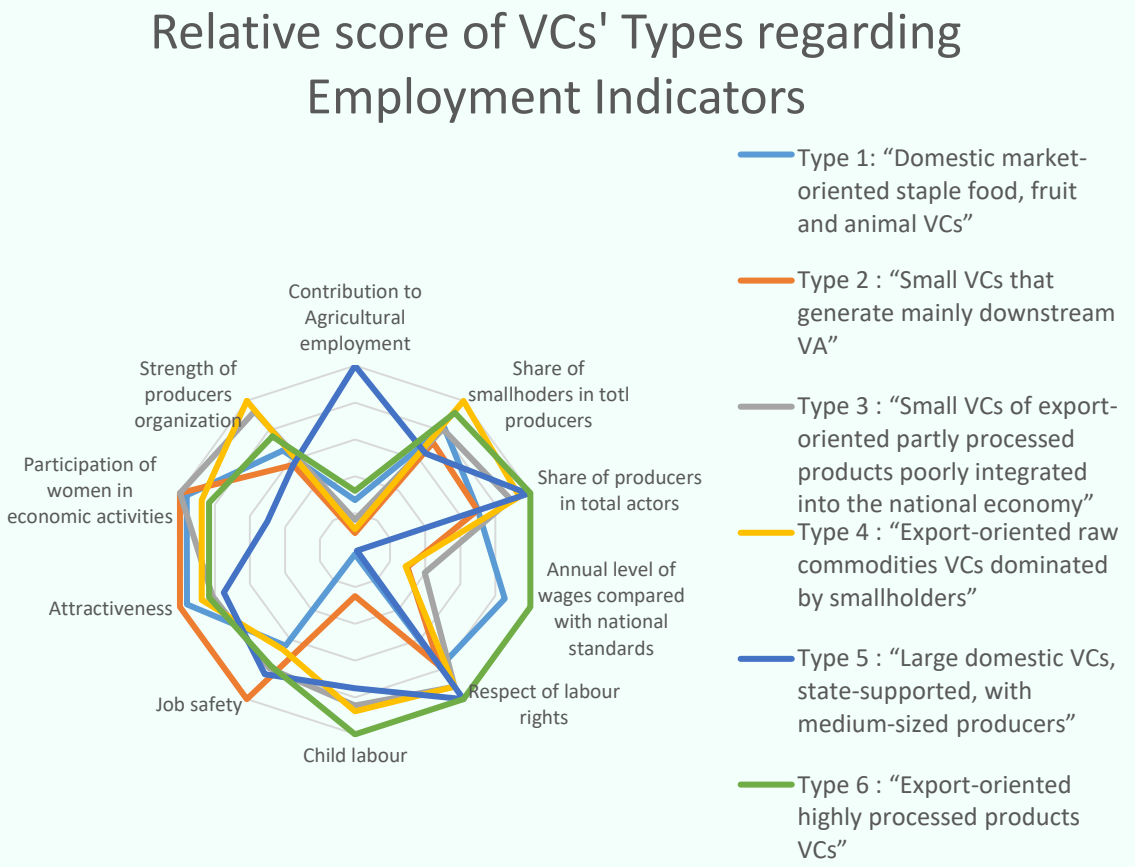
6 types of VCs, with different structures (3/3)

- **Type 5 : "Large domestic VCs, state-supported, with medium-sized producers"**
  - Staple foods and animal products, mostly locally consumed (maize and beef in Eastern Africa)
  - **Highest contribution to the agricultural GDP (33%)**
  - High share of the value added (51%) created at the production level
  - High number of producers among actors, but **less numerous small producers**
  - Lowest rate of integration in the national economy (71%)
  - **Highest level of subsidies/taxes**

- **Type 6 : "Export-oriented highly processed products VCs"**
  - Export-oriented products, with the highest degree of processing (cotton but also cocoa in Sao Tome where the bean is processed in chocolate)
  - Moderate contribution to the agricultural GDP (9%)
  - **Highest share of the value added** (76%) **created at the processing level** (and also higher share of wages)
  - Actors dominated by **agricultural producers (who also process products on farms)**
  - Moderate rate of integration in the national economy (79%)
  - **High level of subsidies/taxes**

Linking to employment

- **Except Type 5, all the studied VCs are marginal in terms of job creation for the agricultural sector**
  - Probably due to the bias of the indicators (non paid family farms workforce may have been under-estimated)
  - The selected VCs for VCA4D studies were chosen relying on other considerations or the corresponding DUE
- **All VC types engage numerous smallholders, but some types also create many jobs at other levels (marketing, packaging, processing), such as Types 1 and 2**
  - Domestic food VCs engage many actors, not only at the production level
- **Wages levels can be significantly high compared to national standards, in particular for Types 1 and 6**
  - In all other types of VCs, wages are lower than national standards, but it doesn't seem to have an effect on their attractiveness
- **Inclusion of women is almost the same in all types : moderate or substantial**
  - Except of type 5 in which it is low
- **Child labor can be an issue for Types 1 and 2**
  - In many countries, children and teenagers are often contributing to agricultural production, which is also "culturally" accepted
  - No links with the respect of labor rights
  - No effect of the market orientation on child labor
- **Strength of producers' organization is the highest for export-oriented VCs**
  - When smallholders dominant at the production level
  - It doesn't seem to have an impact on the level of wages, except for Type 6 (powerful unions of highly processed VCs?)



Discussing inclusiveness through "shared value" of VCs

- **Potential of growth and income distribution (without VC size effect) -> Relative indicators can be easily compared**

Types	VA agricultural production	VA processing	VA for workers (wages)	VA for public finance (taxes)	VA for suppliers (indirect effects)	Creation of VA/unit of product	Integration in the national economy
1 - Domestic market-oriented staple food, fruit and animal VC							
2 - Small value chains that generate mainly downstream (trade) value added							
3 - Small value chains of export-oriented partly processed products poorly integrated into the national economy							
4 - Export market-oriented raw commodities VC dominated by small producers							
5 – Large domestic value chains, state-supported, with medium-sized producers							
6 – Export-oriented highly processed products VC							

High potential | Medium potential | Low potential

- VCs from Type 2, in spite of being well integrated in the national economy, have a low potential to create value and to share it "inclusively"
- VCs from Type 1 are also well integrated in the national economy and have a better potential to share value but with a low potential to create value
- VCs from Type 6 and Type 3 create more value, but could be better integrated in the national economy (meaning generate and share indirect domestic value and jobs instead of importing inputs)
- **The best situations in terms of inclusiveness** could be:
  - VCs from Type 6: create value and inclusive of processors, workers, upstream suppliers
  - VCs from Type 4: well integrated and inclusive of producers (many small)

Discussing data and findings

- **Data and variables available for all VCA4D studies offer a great material to conduce many further analysis**
  - The VCA4D information system is under construction, the attempt of conducing cross-study analysis in this paper will be useful to “point out” data issues, to “adjust” the data and indicators (meaning of variables) and to identify analysis to be done
- **Fine-tuning the way of standardizing employment indicators (including qualitative indicators of the social profile) is necessary**
  - To better consider family non paid workforce (1 farm ≠ 1 actor)
  - To systematically and correctly estimate the share of women engagement in VCs, at all levels and not only for wage laborers
  - To link qualitative indicators of the social profiles to tangible quantitative indicators, that would help to reduce the bias of the expert scoring
    - For instance :
      The scoring of Job safety could be justified with the number of work accidents in agribusiness or at farm level;
      Child labor could be scored considering the ILO approach (which is available at country level)
      Access to land could be scored considering the number of producers owners of their farms
      etc.

Implications for decision making process

- **Characterizing VC structures and linking them with employment provides additional insights to decision-makers to choose the development to promote in support of a particular VC**

- **If employment is a crucial issue for public policies in a specific country, this kind of statistical analysis, thanks to the VCA4D standardized method, might help decision makers to make trade off**
  - For instance, promoting value chains with a high number of producers, even if they do not substantially contribute to agricultural growth *versus* promoting VCs with high potential to generate wealth, even is they are not the ones that include the many

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