



FEED^{THE}**FUTURE**

The U.S. Government's Global Hunger & Food Security Initiative

Agrifood Value Chains: Concepts, Axes of Transformation, Research Methods

Thomas Reardon

Michigan State University

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MICHIGAN STATE
UNIVERSITY



UNIVERSITEIT VAN PRETORIA
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YUNIBESITHI YA PRETORIA



Overview of Talk

- 1) Concept of the Value Chain (VC), “fish image”
- 2) Axes of VC transformation: structure, conduct/behavior
- 3) VC typology based on structure & conduct
- 4) Context of VC transformation: conditioners/drivers
- 5) Axes of VC transformation: performance
- 6) Linking policy issues & research questions/hypotheses
- 7) Empirical approach to hypothesis testing: survey sampling and questionnaires, analysis

1. VC concept

Picture a fish in your mind.



- a) VC composed of principal “spine” of segments
 - b) Each segment of which supplied by input VCs
 - c) Policy issues linked to both of the above
- ... example from Bangladesh

1. Research Questions: patterns, determinants, effects

a) The study focuses on the “structure-conduct-performance” of the VCs: BY SEGMENT AND OVER SEGMENTS

... in a “snapshot” view of patterns & determinants

... and a dynamic view of transformation

b) What are the patterns & determinants in the structure of the segments of the VCs and the dynamics of restructuring?

... **geography**: what is the “map” of the flows of product between rural production areas and cities and towns?
How has this changed over time and why?

... **structure and structural change:** what are the patterns, determinants, and (over time) processes of consolidation (or de-concentration) and diffusion taking place in each segment

... **socioeconomic distribution:** are the poor and small-scale actors participating in the segments, and how is this changing over time and over clusters

b) Conduct

... Technology patterns and change: What are the patterns and determinants of technology, scale, and variety change? Is there capital intensification? What are the “threshold investments” needed to make the technology changes?

... Marketing patterns and change: Is there and how much of a shift from “marginal/backyard” to “commercial producer”, and among commercial producers, the shift over market channels or choice of trader type? Is “dis-intermediation” observed?

... **Institutional and organizational arrangements conduct:** What are the patterns and determinants in adoption of safety standards, quality assurance regimes, and cooperative/collective input or output marketing arrangements? What coordination and governance mechanisms are used and how do they vary by segment and VC type?

... **Food Safety practice conduct:** What are the patterns and determinants in use of cold chain and chemical additives?

... **Utilization/consumption** patterns of consumers

c) Performance

... **Equity:** What is the participation of the poor and women in the value chain segments? What is the employment impact of the VC transformations observed?

... **Distribution of gains:** How is value added distributed over the actors in the segments of the VC?

... **Efficiency:** What is the allocative and technical efficiency of the different segments and VC types, and how does this vary over products, clusters, and time? How does this impact competitiveness and the product price to consumers?

... **Safety:** What is the impact on food safety and the environment of the practices observed in the value chain

2. LINK between policy “shocks” & VC analysis

- a) All patterns (structure & conduct) in segments and over segments driven by actors' choices
- b) All choices are function of two sets of (proximate) drivers: **incentives and capacity**
- c) Incentives & capacity In turn affected by
 - c.1) Non policy variables
 - c.2.) Policy variables (ex. Road, energy cost, tax)

d) Per segment need sufficient variation over time & over actors to test hypotheses
→ regular sample survey per segment (not small sample key informant)
.... “Stacked surveys” VC approach

3. (Evolution of) VC Analysis perspectives

3.1. Traditional: typology plus mapping cost and value added and costs across segments, space, actors; link to PAM

3.2. VC Management: Porter, commodity/"engineering" SC to VC (product cycle & standards/attributes evolution)

... example (is 3.1. but differentiation by "type" of given product)

3.3. NIE: choice of institutions & organizational forms as coordinating mechanisms; function of TCs

➔ Micro: choice of mechanisms by actors (e.g.)

➔ Meso evolution of A-system (spot), B-System (spot or VI/hierarchy) or C-system (VI/hierarchy or networks)

EXTENSION: Global VC – power relations – Lead Firm + standard/VA (rents) + choice of coordination mechanism (link to NIE) ➔ rent (profits) distribution along VC segments (and intra-segment strata)

3.4. Network/netchain analysis: clustering/de-clustering, networks/functional fragmentation and “flexible specialization”

... study of formation of clusters & inter-actor relations (conditioners)

3.5.a. Per segment (and over scales hence inter-actor differentiation) micro and meso determinants and evolution: analysis of micro

a) technology choice,

b) market channel choice,

c) procurement system choice

3.5.b. Upgrading as Investment functions bundling technology + VA/attribute choices

i) (Micro)Investment function

ii. (Meso) investment function

iii. Links of upgrading in VCs with investment functions (and poverty traps, or kinks in investment functions)

... and links back to micro and meso constraints)

3.5a. And 3.5b (micro)_ aggregate to meso
structure/conduct/performance

... study shocks of policy change, non policy
change via those to test and explain change via
micro foundations inter-actor inter-temporal

4. Structure & Conduct/Behavior based typology of VCs as broad patterns of meso:

4.1.a. Columns as typology of VCs

- a) “A-System” (local/traditional and traditional rural-urban VC)
- b) B-system (transitional rural-urban VC)
- c) C-system (modern rural urban and international VC)
- d) SUB COLUMNS are segments of VC and “overall”

4.1.b. VC typology based on structure (example on board with Bangladesh fish)

- a) **Most traditional** with spatially short,
intermedationally short
- b) **Traditional** with spatially longer,
intermedationally long
- c) **Intermediate/transition** with initial dis-
intermediation

... with initial structural & conduct transformation

- d) **Modern** with re-intermediation & advanced
disintermediation

... with advanced transformation

4.2. row sets for mapping of attributes and findings

4.2.1. Commercial orientation, distribution of VA & leadership

- a) **spatially**: short to long
- b) **Product Cycle/VA**: niche to commodity to differentiated (commercial) product
- c) **Product composition**: types of product linked to product cycle

d) “Lead Firm” (a la Gereffi): upstream or midstream or downstream “led”

e) Distribution of VA over segments and over sub-strata in segment: upstream to downstream, **socioeconomic;**

... also structural: Share of post-farmgate –
small to large

f) Capital ownership: domestic to regional to global; investment dynamics

4.2.2. Structural

- a) **Geographic length:** short to long
- b) **Intermediational length:** monotonic: many hands to few hands/direct sale/direct buy (**or U or J curve**); Tanzania maize vs hortic.
- c) **Share of post farmgate in total VA**
- d) **Per segment consolidation:** fragmented to consolidated
- e) **Netchain/network/clustering:** no cluster, clustered, de-clustered, networked clusters

4.2.3. Conduct: Technological

- a) Scale of firm:** from small to big
- b) Capital/labor ratio of firms:** from low to high
(and vintage & type change: hammer to roller mill)
- c) Asset specificity:** from low to high
- d) Labor skill:** from low to high
- e) Productive capital attributes** (transferred vs indigenous etc.)

4.2.4. Institutional & Organizational

- a) **Market organization:** spot to coordinated to VI
- b) **Vertical integration (or “functional fragmentation”):** fragmented to linked
- c) **Horizontal integration:** individual to horizontal linkage (coops, clusters)
- d) **Procurement system change by buying firms:** distribution centers/centralized, & specialized/dedicated wholesalers/agents

- e) Inter-firm institution/contracts: spot to contracts (verbal to written)**
- f) inter-segment VC finance (tied, not tied)**
- g) Inter-segment institution/standards existence, setter, and type (e.g. public standards; vs Globalgap horticulture product standards)**
- h) Diffusion of brands (plus packaging)**

4.3. Axes of VC transformation: performance (changes)

- a) Value added distribution over segments
(example of quality rice in Bangladesh)
- b) Distribution of participation: Exclusion and
inclusion by asset or zone
- c) Variability/risk of supply and prices
- d) Income and employment impact on
“producers” (upstream and midstream)
- e) Price/access and nutrition impacts on
consumers

Illustrations of descriptive information

5. a) Overview of tables in book

5.b.) overview tables in potato and rice India