Sustainable development impacts of various ways to modernize urban food distribution: the case of vegetables in Vietnam

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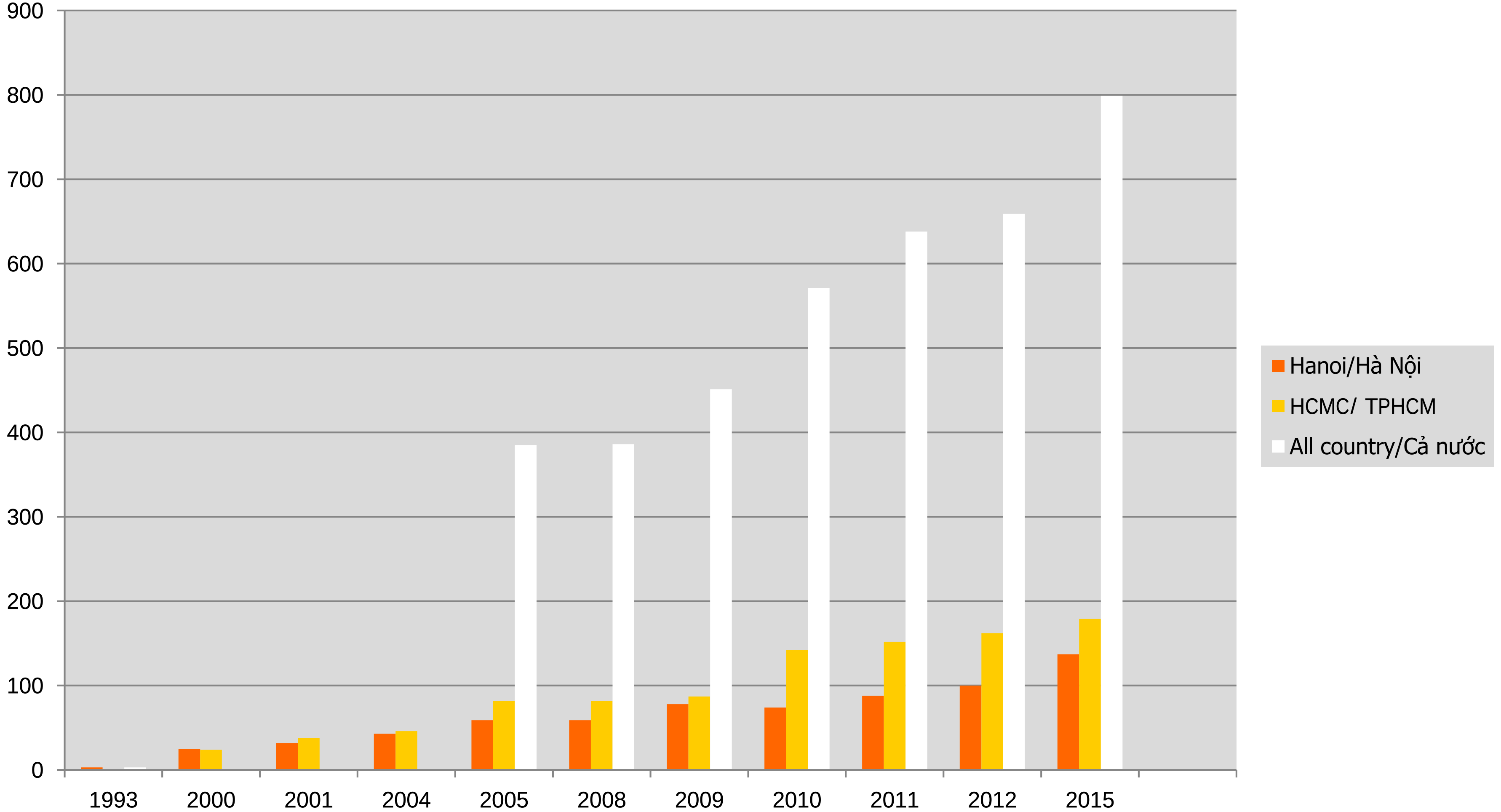
Market and Agricultural linking chains in Asia

Context

- Fast economic growth: 6.7% in 2015 (WB)
- Urban development: Hanoi from 3 M in the 1990s to 8,5 M in 2015.
- Major changes in the food sector:
  - Growing demand for diversity and food safety.
  - Diverse food distribution formats: street vending, informal markets, formal markets, shops, supermarkets.
  - Promotion of supermarkets by urban and national authorities on the grounds of modernization.

Context

Fast development of SM



Source: Department of trade, GSO

Research objective

- What are the impacts of supermarkets on sustainable development of Hanoi food systems, in terms of:
  - social objectives (employment, consumers’ access, management of food safety)
  - Economic objectives (farmers’ and traders’ incomes)
  - Environmental impact (energy used in transport of traders and consumers)

- Relative to other distribution formats

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Conceptual framework

Link between different formats of distribution and sustainable development

- Supermarkets involve capital-intensive and labor saving innovations : innovations in logistics, marketing, supplier selection; plus economies of scale (Moustier et al., 2009; Hagen, 2002)

- Link between centralization and capital intensive processes, vertical integration and:
  - Employment: negative when (little) documented (Artz&Stone, 2006))
  - Value-adding: positive (Hagen, 2002; Reardon et al., 2009)
  - Quality: positive (Henson and Reardon, 2005)
  - Exclusion effects (Reardon&Berdegue, 2002)
  - Power asymetries (Harvey, 2007)

- Supermarkets often associated with longer (geographical) supply chains, but also economies of scale in transport; controversies on environmental impact (Pretty et al., 2005; Schlich&Fleissner, 2005)

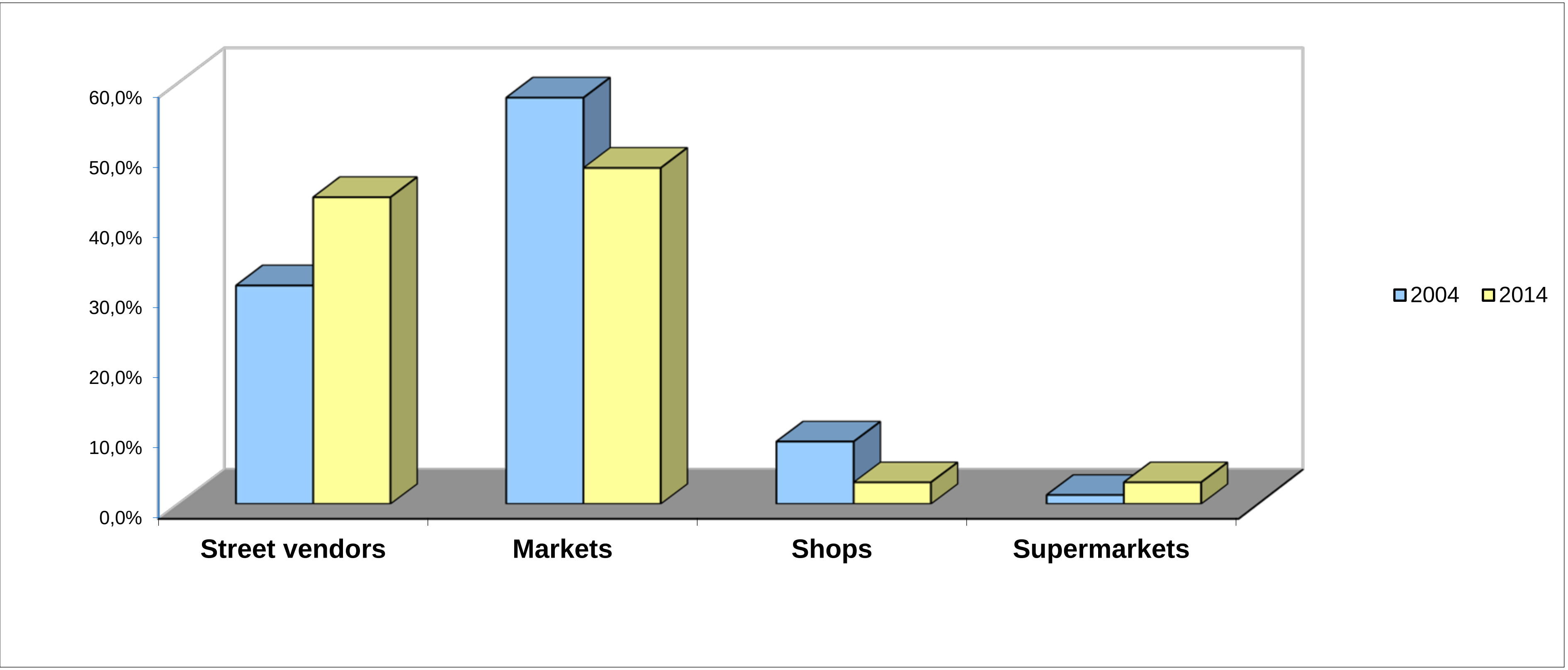
Source of data

Nature of information	Method
Trends in food distribution	Documents/interviews from dept of trade and other administration.
Consumers' access	Surveys of poor hh: 110 Hanoi, 52 HCMC (+65 non-poor) in 2005; survey of 255 households by VNUA/Malica in 2014 (Trung&Chung).
	Price comparison for 10 products in Hanoi and HCMC in 2009 and for apples in Hanoi in 2015.
Suppliers' access	4 Value chain analyses in 2009: vegetables to Hanoi, litchi Bac Giang, rice Hai Hau, vegetables to HCMC In 2014: survey on marketing of 138 peri-urban farmers (Loc&Chung).
Impact on employment (retail)	Nr of persons employed by supermarkets, markets, shops and stree vending: Census in 2 districts and extrapolation; in 2009.
Innovations in marketing	Stakeholder workshops on street vending (2009, 2014); review and case studies on safe vegetable shops; interviews with supermarket managers

Main Results

Social role of markets and street vending: access to food

Share of Hanoi vegetable retail points in quantities



Source: Nguyen&Moustier, 2015

Main results

Limited access to supermarkets by poor consumers

(In 2005)	Hanoi	HCMC
Poverty line	<19 USD/month	<31 USD/month
Food purchase places	1. Informal market (95%) 2. Street vendors (32%)	1. Formal market (61%) 2. Street vendors (40%)– shops (42%)
Purchase in SM	61% never go 0% go everyweek	33% never go 13% go everyweek
Declared SM constraints (given by more than 80% of consumers)	High P (+10 to 40%) Distance	High P (yet not systematic)
Declared SM advantages	Quality and diversity	

Out of 152 low-income shoppers surveyed by Werthem-Heick et al. (2014), only one shops at supermarkets; main reason of not going to SM= daily small purchases + distance

Main Results

Social role of markets and street vending

Nature of traders	Nr of employed persons For the daily sale of 1 ton of vegetables 2005	2015
Street vendors	13	11
Market retailers	10	7-9
Ordinary shops	13	11
Safe vegetable shops	8	8-11
Supermarkets	6	5-7

Limited investment for SV: 25 USD relative to market stalls (75 USD in 2009; 150-500 USD in 2014)

Main Results
Effects on food safety

- Main communication strategy of supermarkets.
- Sourcing from "safe vegetable" cooperatives or companies; introducing QR code (since sept. 2016).
- "Safe" and organic vegetable sales also in shops
- "Organic" shops perform the best in terms of pesticide residues (Moustier&Loc, 2015).
- Supposed problems of hygiene of street vending.
  - Can be handled by adequate training/place regulation (Nguyen and Moustier, 2015).


Viettel
16:59
91%
Thông tin sản phẩm
TRUNG TÂM XTTM NÔNG NGHIỆP HÀ NỘI
Hệ thống minh bạch thông tin,
truy xuất nguồn gốc điện tử
http://xttmnongnghiephanoi.vn
Gửi trọn niềm tin tới cộng đồng
Rau Mộc Châu
Tên: Cà chua Mộc Châu
Thông tin sản phẩm
Cà chua chứa nhiều vitamin A,C có tác dụng cải thiện thị lực, phòng chống ung thư, làm sáng da, giảm lượng đường trong máu, giữ xương chắc khỏe v..v. Sản phẩm được sản xuất tại bản An Thái, xã Mường Sương, huyện Mộc Châu - Sơn La; được chứng nhận đủ điều kiện


Eco - Greenfarm

Main Results
Effects on traffic-transport

- Consumers' access to SM: cars or motorbikes: to SV and markets: foot or motorbikes

- Delivery mostly by
  - peri-urban farmers/collectors by mini-vans or motorbikes;
  - trucks for Dalat and Moc Chau products
  - Same for supermarkets, shops or wholesale markets (except some cooled trucks for SM and shops)

- Not too different in terms of transportation modes (except for street vendors, who are very environment-friendly!)

Economic impact for farmers

Constraints and advantages to sell to SM as declared by farmers

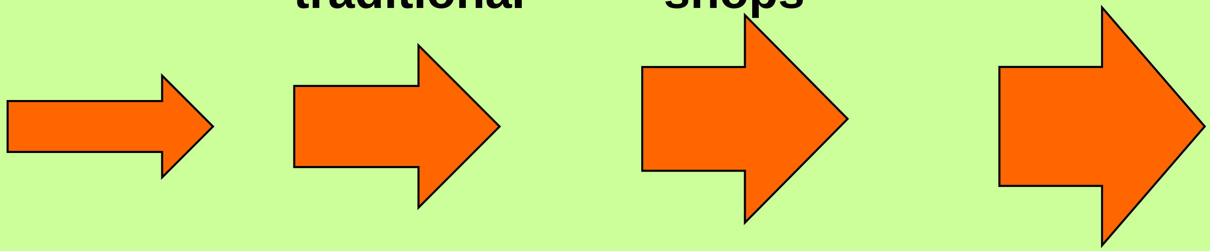
	Traditional chain	SM chain	Direct sales
Farmer incomes		Higher (income+35% in 2008, Wang et al., 2014)	Higher (income +44% in 2008)
Security	Variable demand in quantities and prices	Regular	Regular
Quality requirements	Lax requirements	Physical quality + safety requirements	Physical quality + safety requirements
Transport	On farm collection	Daily delivery to SM	Daily delivery to shop
Diversity	No requirement	>40 varieties	>10 varieties
Payment conditions	1 to 3 days	>30 days; some return unsold products.	Immediate

Labor-intensive innovations in Hanoi food distribution

- Direct sales by farmer cooperatives in shops (« safe vegetables » or at delivery points (organic vegetables) but decreasing bcs of high investment costs and risks.

- Upgraded street vending through training on hygiene/traffic and temporary market place regulation (with daily tax collection); see example in Kim Lien (Nguyen&Moustier, 2015)

Conclusion: link between food distribution and SD objectives

	Traditional	Upgraded traditional	Quality shops	Supermarkets
Centralisation Economies of scale Labor-saving innovations Value-adding				
Employment	+++	+++	++	+
Farmer incomes	+	+	+++ When DS	++
Access by the poor (C, T, F)	+++	+++	-	-
Control of Food Safety	+	++	+++	+++

Recommendations

- Maintaining retailing diversity
  - Tolerating street vendors (except in main streets) and organising credit/training support to street vendors to upgrade their business.
  - Public support to food safety development and control in all types of distribution points.
  - Organisation of farmers' markets.

- Supporting farmers' marketing associations involving small-scale farmers:
  - Disseminating success stories.
  - Access to technical training and credit.
  - Favoring internal/external control and certification