

The transition of animal farming in Vietnam : from semi-subsistence to commercial systems

Nathalie Hostiou¹, Khanh Pham Duy², Jean-Daniel Cesaro³, Huyen Le Thi Thanh⁴,
Guillaume Duteurtre³, Dinh Nguyen Tien², Pascal Bonnet³ and Sylvie Cournut⁵

Since Doi Moi economics reform in the late 1980s, Vietnam's agriculture is changing from semi-subsistence to commercial production systems. Growing domestic demand for food stuffs has pushed Vietnamese farmers to increase their level of productions, especially for animal products. Livestock in Vietnam has been particularly affected by those changes. On the production side, livestock industrialization can be characterized by 4 major dimensions:

(a) Increase of animal production, (b) intensification of production systems; (c) up-scaling of farms, and (d) specialization/diversification. The aim of this study is to show and characterize the industrialization ie the evolution of livestock production from subsistence with animals for "animal power/ draught animal" to "production for consumption" for these 4 dimensions, using literature review and national data base.

Since 1994 animal production has increased at national scale. From 1994 to 2011, the number of agricultural and rural households has increased from 12 to 16 millions, but the number of households with animals (one animal and more) has decreased from 10 to 9 millions. Different trends according animal species were observed. The number of animal per farm has also increased by + 100% for pig production and + 10% for dairy production.

Vietnam is now facing the challenge of animal intensification with better animal technical performances and higher productivity (8 to 12,3 piglets per sow for example) due to improved feed, buildings and equipment, and exotic breed. Milk productivity of dairy cattle in Vietnam is still limited in comparison with neighbour countries. However, the milk yield and the total milk output have been considerably improved in few current years. In livestock farms, more and more animal feed is produced by feed industries. For 2013, Vietnam had imported 5.84 million tons of animal feed and ingredients, representing 48% of the raw material (corn, Soya bean and wheat) needed to satisfy the demand. From 2001 to 2015 animal feed produced by companies increases from 21% to 66%.

At present, small-scale production predominates. However in 2008, the Government adopted a new National Livestock Development Strategy to 2020. Priority was given to large-scale farming system and livestock production is expected to scale up. This new orientation was confirmed and expanded in 2014 by the adoption of the "Restructuration plan of the livestock sector towards enhancing added value and sustainable development". This new plan aims at encouraging a rapid scaling-up transition: instead of having 20,000 small-scale dairy farms (of 5 cows on average) that produce 900 tonnes/day, which was the situation in 2010, the country aims at having only 2,000 large-scale farms (of more than 20 cows) which will produce 2,500 tons/day by 2020. The number of cows raised in large-scale farms of more than 1,000 cows, which was insignificant in 2000, is expected to reach 1/4th of the national herd. Since few years, some dairy companies (Vinamil, TH Milk, Duchtlady) have built their own large-scale farms, especially in the north of the country.

Diversification of activities remains important in Vietnamese farms. Revenue of rural household is composed by a diversity of agricultural and non-agricultural activities. Livestock activity represents 13%

1. INRA, France.

2. RUDEC, Vietnam.

3. CIRAD, UMR SELMET, F-34398 Montpellier, France.

4. NIAS, Vietnam.

5. VetAgro Sup, France.

of the revenue in 2013 (and the contribution was quite stable since 1993). Opportunities for non-farm employment and other non-farm income sources will likely compete for household labor available for animal raising – an issue for scaling up

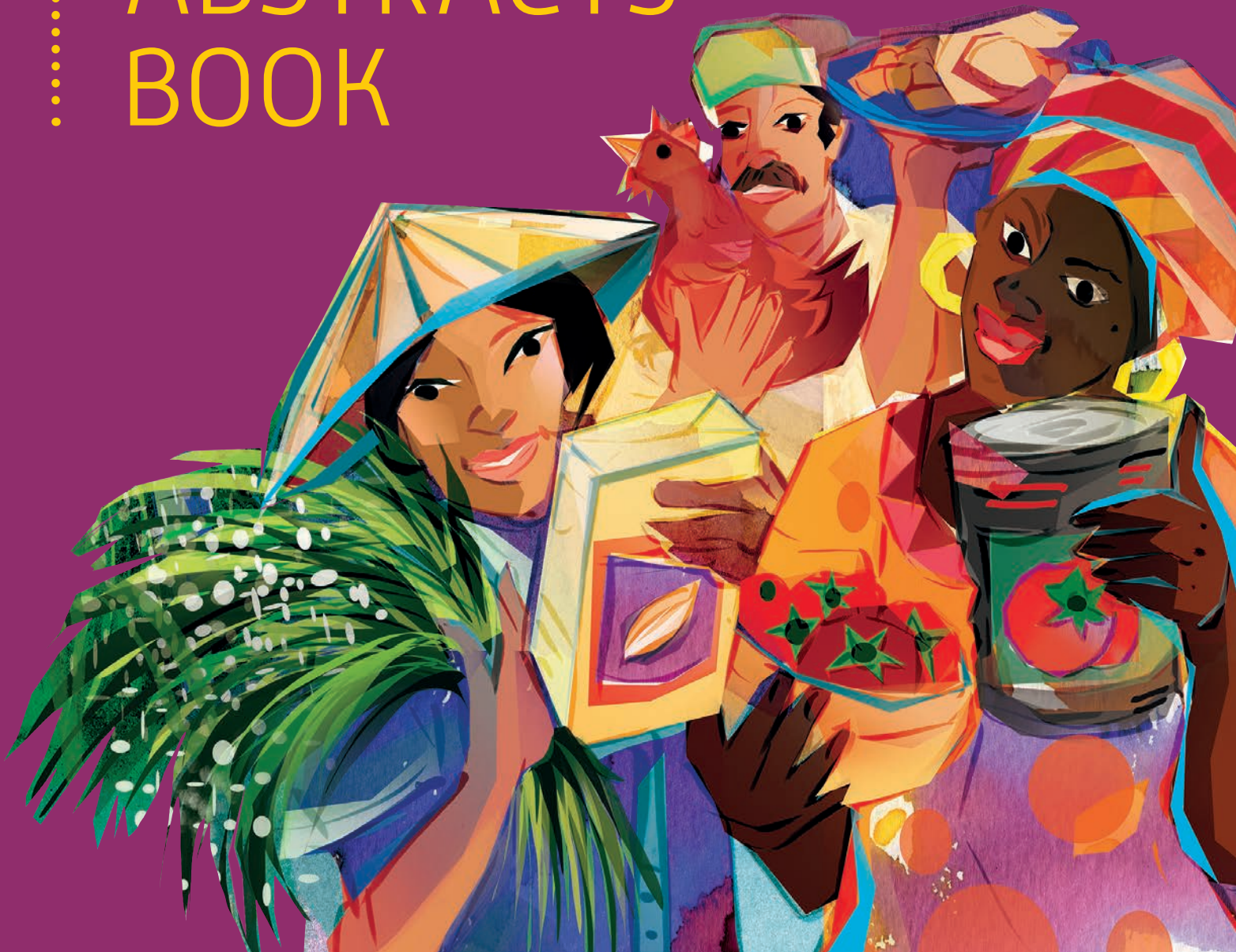
A huge industrialisation trend of livestock sector occurs in Vietnam, but with different features were observed according to regions (North/South; highland/lowlands).

12-14 December 2016,
Le Corum, Montpellier - France

AC&SD 2016

Agri-Chains & Sustainable Development
> *Linking local and global dynamics*

ABSTRACTS BOOK



WELCOME ADDRESS



© Lilian Martorell

Welcome to AC&SD 2016

On behalf of the Scientific and Organizing Committees, it is a great pleasure to welcome you to the International Conference on Agri-chains and Sustainable Development (AC&SD 2016). This conference aspires to widen the debate about the role of agricultural value chains towards sustainable development. Year 2015 was a critical political and diplomatic milestone: the member states of the United Nations signed a new agenda for development, with the 17 Sustainable Development Goals (SDGs) placing sustainability at the core of international efforts. Development and academic actors are since then exploring new avenues for translating the SDGs into reality and implementing global and local frameworks and partnerships. Our conference aims at joining these efforts, with the consideration that agricultural value chains form spaces where local and global challenges to sustainability connect and within which local and global actors experiment and negotiate innovative solutions.

The scientific committee has assembled a very attractive program for AC&SD 2016 that seeks to cover and confront the diversity of realities behind agri-chains, from localized chains, embedded in specific places, to global value chains. In the parallel sessions, transformations of these agri-chains and their connections to sustainable development will be discussed by speakers from the academia, the civil society, the private sector and decision makers. This multi-stakeholder perspective will also be brought about in the plenary sessions. Here, world renowned keynotes and panelists to three high level round tables will discuss about the role and importance of evaluation, public and private institutions and innovations at different scales for transforming agri-chains towards sustainability transitions.

This edition gathers about 250 participants from 39 countries. AC&SD 2016 owes a lot to the scientific and organizing committees for preparing the program, and particularly to Brigitte Cabantous, Chantal Carrasco and Nathalie Curiallet for all the logistics, as well as to our support team of Alpha Visa that we warmly thank for their help.

We wish us all a fascinating, successful, inspiring and enjoyable AC&SD 2016 and we very much look forward to its result and to the strengthening of both a scientific community and a community of practice to implement the outcome!!

Estelle Biénabe, Patrick Caron and Flavia Fabiano,
Cirad Co-chairs AC&SD 2016

COMMITTEES

Scientific committee

- **Estelle Bienabe**, CIRAD, France**
- **Julio Berdegué**, RIMISP, Chile*
- **Thierry Bonaudo**, AgroParisTech, France
- **Larry Busch**, Michigan State University, USA
- **Patrick Caron**, CIRAD, France*
- **François Côte**, CIRAD, France
- **Benoit Daviron**, CIRAD, France
- **Djiby Dia**, ISRA, Senegal
- **Flavia Fabiano**, CIRAD, France**
- **Pierre Fabre**, European Commission EuropeAid, Belgium
- **Bernard Hubert**, Agropolis International, France*
- **Patrice Levang**, IRD, France

- **Florence Palpacuer**, Université de Montpellier, France
- **Felicity Proctor**, RIMISP, UK
- **Ruerd Ruben**, Wageningen UR, The Netherlands
- **Nadia Scialabba**, FAO, Italy
- **Dao The Anh**, CASRAD, Vietnam
- **Alban Thomas**, INRA, France*
- **Jodie Thorpe**, IDS, UK*
- **Sophie Thoyer**, Montpellier SupAgro, France
- **Maximo Torero**, IFPRI, USA

* Member of the international organising committee

** Member of the local organising committee

Organising committees

International organising committee

- **Karen Brooks**, IFPRI, USA
- **Jean-Marc Chataigner**, IRD, France
- **Clement Chenost**, Moringa Fund, France
- **Thierry Doré**, AgroParisTech, France
- **Ronan Le Velly**, Montpellier SupAgro, France
- **Huub Loffler**, Wageningen UR, The Netherlands
- **Philippe Pipraud**, French Ministry of Agriculture, France
- **Lilian Puech**, French Ministry of Foreign Affairs, France

Local organising committee

- **Frédéric Bourg**, CIRAD, France
- **Brigitte Cabantous**, CIRAD, France
- **Chantal Carrasco**, CIRAD, France
- **Nathalie Curiallet**, CIRAD, France
- **Frédérique Causse**, CIRAD, France
- **Delphine Guard-Lavastre**, CIRAD, France
- **Nathalie Villeméjeanne**, Agropolis International, France

Landscape factors influencing sustainable food agri-chain innovation: The role of place in the Toronto experience of Local Food Plus	173
<i>Wayne Roberts [et al.]</i>	
Are food losses and waste overestimated in developing countries?	176
<i>Géraldine Chaboud</i>	
Vulnerability and resilience of the urban food system to extreme weather: a case study of Colombo, Sri Lanka	180
<i>Christina Semasinghe [et al.]</i>	
Resilience of rural-urban food flows in West Africa	182
<i>Pay Drechsel, Hanna Karg, Richard Kofi Appoh and Edmund Akoto-Danso</i>	

Session 10

Innovations in approaches and tools for inclusive and efficient value chain development

Commercial and inclusive value chains: doing good and doing well	184
<i>Malcolm Harper, John Belt and Rajeev Roy</i>	
Factors influencing successful inclusion of small farmers in modern value chains in ACP countries	188
<i>Andrew Shepherd</i>	
Cross-border trade and women in value chain development	192
<i>Florence Tartanac</i>	
Inclusive and efficient value chains	195
<i>Maximo Torero</i>	
Assessing equity in value chains through a participatory guide to business models that link smallholders to markets: insights from LINK application across diverse value chain settings	196
<i>Mark Lundy [et al.]</i>	
Household asset endowments and implications for inclusive value chains	197
<i>Jason Donovan</i>	
Gender equity in value chain and livelihoods development: innovative approaches and tools	198
<i>Dietmar Stoian</i>	
Innovation for inclusive value-chain development, successes and challenges	199
<i>André Devaux</i>	
Measuring and simulating trust in value chain development	200
<i>Christine Plaisier</i>	

Session 11

Linking global value chains and territories: conceptual insights for understanding and ensuring sustainability at different scales

Agri-chains and territories “zero-deforestation”: what role for the payments for environmental services?	202
<i>Alain Karsenty</i>	
Vulnerability and resilience modelling for sustainable food systems	205
<i>Paolo Prospero and Thomas Allen</i>	