Future Prospects for Livestock in Vietnam

How to Balance Livestock Industrialization, Rural Development Strategy and Environmental Changes?

Documentation of the Workshop
Held in Hanoi (Vietnam) on November 29th, 2010
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Resolution No 26-NQ/TW dated on 5th August, 2008 at 7th Plenum of the Central Committee Session X on “Agriculture – Farmer – Rural Areas” gives out strategic orientation for commercialize agriculture, modernize rural area and set up rural infrastructure and service. Accordingly, livestock is one of the big advocate in agriculture-farmer and rural development strategy in the coming time.

Department of Livestock production (DLP) of the Ministry of Agriculture and Rural Development (MARD), cooperate with Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD), CIRAD and INRA (France) to co-organize the workshop entitled:

**Future Prospects for Livestock in Vietnam**
How to balance Livestock Industrialization, Rural Development Strategy, and Environmental changes?

The workshop aims at updating new orientation on livestock development of Vietnam in the light of Resolution No 26, sharing research results, knowledge, identifying development priorities, proposing policy and regime for sustainable livestock development in Vietnam. Particularly, its purpose is to propose methodology for setting up policy on livestock monitoring system in Vietnam.

I would like to thank all participants, and wish you all a very pleasant and fruit-full workshop!

Dr Hoang Kim Giao

Director of the Department of Livestock Production (DLP), MARD
Program

Monday, November 29th, 2010

8:00   Registration

8:30   Welcoming speech
       HOANG Kim Giao, Director of the Department of Livestock Production (DLP), Ministry of Agriculture and Rural Development (MARD)

Session 1: Livestock in the New Political Context

Moderators: HOANG Kim Giao (DLP/MARD) and Benoit DEDIEU (INRA)

8:45   Evaluation of the livestock sector in 2010, and orientation for development in the coming years
       (20’)
       Do Kim Tuyên (DLP/MARD)

9:05   The Resolution on agriculture, farmers and rural areas, and prospects for livestock development
       (20’)
       VU Trong Binh (RUDEC/IPSARD)

9:25   General Discussion

10:10  Coffee/Tea Break

Session 2: Problems and Challenges for Future Livestock Development

Moderators: VU Chi Cuong (DLP/MARD) and Philippe LECOMTE (CIRAD)

10:30  Livestock revolution in the global sphere and its development in Vietnam under the condition of climate change
       (20’)
       LE Việt Ly (Animal Husbandry Association of Vietnam)

10:50  Livestock sector, mitigation and adaptation to climate change: state of knowledge and research issues
       (20’)
       Philippe LECOMTE (CIRAD)

11:10  General Discussion

12:00  Lunch

13:30  Development of animal products markets in Vietnam
       (20’)
       PHAM Thi Ngoc Linh (CAP/IPSARD)

13:50  Consumption of Animal Products and Consumers’ Understanding on Food Safety
       (20’)
       VU Đình Tôn (Hanoi University of Agriculture)

14:10  General Discussion
14:50   The performances of livestock production units in Vietnam: status, factors and evolution (20’)
        DINH Xuan Tung and Le Thi Thanh Huyen (NIAS)

15:10   The transformations of livestock farms from traditional to professionalized producers in
        European and developing countries: prospects for family livestock systems (20’)
        Benoit DEDIEU (INRA)

15:30   General Discussion

16:00   Coffee/Tea break

Session 3 : Prospects for future collaboration

Moderator: Vu Trong Binh (RUDEC/IPSARD) and Vu Ngoc Tien (FAO)

16:20:  Managing social, economic and environmental concerns related the livestock revolution: the
        need for a livestock policy monitoring system (20’)
        Guillaume DUTEURTRE (CIRAD), PHAM Duy Khanh (IPSARD) and Pascal BONNET (CIRAD)

16:40:  General discussion

17:10   Synthesis and Conclusion
        Pr. HOANG Kim Giao
General Context

In Vietnam, rural population accounts for around 70% of the total population, and mainly belongs to farm households. The livestock sub-sector accounts for around 25% of the agriculture output and plays a crucial role in rural livelihoods. Throughout the country, rural livelihoods widely depend on pig production (56% of rural households) and poultry production (69%). Over the last 2 decades, agricultural production has been increasing at 5.8% per annum. Livestock, in particular, has been growing at an average growth rate of 10% in the recent years. Between 1995 and 2008, poultry meat and pig meat production have nearly doubled, and milk production has been multiplied by 5. This extremely high growth rate is raising new challenges for rural populations and for the whole country. In certain areas, livestock farms are getting more and more concentrated. Both intensification and industrialization of livestock subsectors progressively lead to the emergence of new types of livestock farms, processing industries and distribution systems. Still, the local demand remains unsatisfied by local production and the country continues to import huge amounts of meat, milk products and animal feeds. And the transformation of the livestock sector will therefore certainly continue in the same rate in the coming years.

To respond to those new challenges, the Resolution 26 promulgated in August 2008 (known as Resolution “Tam Nông”) has defined a strategic orientations for the development of “agriculture, farmers and rural areas”. This “new rural development strategy” defines 3 national target programs: one on the “construction of new rural areas”, a second on “adaptation to climate change”, and a third on “training of rural human resources”. The national target program on “new rural areas”, defined in the Decision 800 taken by the Government in June 2010, aims at developing the commercial orientation of agriculture as well as its industrialization, and at setting up rural infrastructures and services.

In the livestock sector, the Government of Vietnam has defined in May 2008 its “livestock development strategy to 2020”, which aims at encouraging the rapid increase of animal production in order to respond to the growing demand. This strategy is focused at promoting intensification and industrialization of the livestock sub-sector through the development of large farms. However, the negative impacts of this “livestock revolution” have not been clearly identified yet. In particular, livestock industrialization might leave behind certain provinces or districts, and might have negative impacts on environmental and sanitary indicators. Moreover, livestock is particularly concerned with global economic and environmental changes, such as market liberalization and climate change, which could both affect the outcome of the livestock transformation currently ongoing. Lastly, the national livestock development strategy needs to be updated in the light of the new Tam Nông Resolution.

In that context, the MARD, together with some provincial livestock authorities have asked several research institutes to support the updating of the new vision with the Tam Nông strategy for livestock development policies in Vietnam in the coming years. In particular, there is a need to develop new integrative approaches likely to take into account simultaneously the economic, social, and environmental implications of livestock transformations.

The objective of the workshop is to share recent research results and knowledge, and to identify new research and development priorities to understand institutional and policy options likely to promote a more sustainable development of livestock in Vietnam. In particular, the workshop aims at proposing a methodology for setting up a “livestock policy monitoring system” in Vietnam, in partnership with development authorities and research and institutions.
SESSION 1
Livestock in the New Political Context
Evaluation of the livestock sector in 2010, and orientation for development in the coming years

Dr DÔ Kim Tuyền
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Abstract

In 2010, despite Vietnam had to face with numerous challenges such as natural disasters, epidemics, high price of feed, price fluctuation and slow economic recovery after economic and financial crisis, the national livestock production has still been able to meet its targets.

According to updated data from General Statistics Office¹, the total number of pigs has reached 27.3 millions of heads, with a growth rate of 3.1 per cent. The total number of sows has risen by 2.5 per cent. Pig production has grown by 5.4 per cent, and was equivalent to 1.8 millions of tons. The number of poultry has reached the number of 277.4 millions of head, equivalent to 8.1 percent increase. Poultry meat production was 330,700 tons, and increased by 16.9 per cent. Poultry egg production was 3.4 billion, with a 7.1 per cent increase. Feed production during the 6 first months of 2010 was estimated to 4.9 million tons, with a 8.9 per cent increase in the last year. Data on cattle were not yet available.

In 2009, the total number of buffaloes was 2.8 millions of head; oxen were more than 6.1 millions of head, with more than 10 per cent decrease. However, meat production was superior to 257 million of ton, rising up by 13 per cent. The total flock of dairy cows was 115,000 of heads, with a 2 per cent increase. Dairy production reached 278.000 tons, with a 5 per cent increase. The production of dairy cows received significant investments from milk Companies. The total flocks of goat and sheep was 7.3 per cent down, with a number of head of 1.4 millions. The decrease of sheep and goat was due to high demand on consumption of these products.

The national animal production in 2009 was 3.76 million of ton of meat; 278 thousand of ton of fresh meat and the total production of egg were 5.4 billion. In 2010, the country animal production was estimated up to 5-6 per cent increase over the last year. The annual average consumption of animal products of Vietnamese people is 48.28 kg of meat; 3.2 kg of milk and 62 eggs (3 kg).

Attention is currently paid to livestock production at large and industrial scale applying high technology whereas family livestock is decreasing. The country has totally around 17 thousand of farms of which the North-East represents 36 per cent; around 18 per cent in the Red River Delta; the Mekong Delta with about 13 per cent; Central North: about 10 per cent; Central South: 9 per cent; Centre South Coast: about 8 per cent; for North East and North West regions: farms only represent 4.5 per cent and 3 per cent respectively and cattle is the main animal production in these regions.

Orientation for livestock development until 2011: the value of livestock sector will rise around 7.5-8 per cent compared to 2010; that makes livestock production value up to 30-32 per cent of agriculture value. The total animal production of all kinds will reach 4,283 million of tons, up 6.49 per cent; egg

¹ Data published in April, 2010
production will reach 6.527 billion, with an increase of 9.5 per cent. Milk production will reach 330 thousand of ton, with 10 per cent increase. Bee honey production will reach 19 thousand of tons, with 2.7 per cent of growth. Silkworm production will reach 7.8 thousand of tons, with an increase of 4 per cent. Industrial feed production will reach 12 millions of tons, with an increase of 11.1 per cent compared to 2010. Orientations for livestock development till 2020 are in line with the Decision No 10/2008/QĐ-TTg dated on 10 January 2008 of the Prime Minister.
Resolution on agriculture, farmers and rural areas, and perspectives for livestock development

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Abstract

To define the orientation of the development of agriculture and rural areas in 10 and 20 coming years, the Communist Party of Vietnam has issued the Resolution No26 related to Agriculture, Rural Areas and Farmers. This Resolution reveals deep changes in development viewpoints, linked to policy regulation mechanism improvement, and increased role of public-private partnership in which farmers are considered as key stakeholders. Vietnamese Government has promulgated the Resolution No 24 on Action Program to apply the Resolution N°26, and Decision No 800 to implement the National Program regarding the development of new rural areas.

To apply Resolutions of the Vietnam Communist Party and action programs of the Government, orientations for livestock development in the 10-20 coming years need to be designed in the innovative manner in regards to institutional organization; supportive policies; production models and market organization. Programs and policies on livestock development should be placed in the global program on new rural areas development and in other activities related to the development of agriculture and rural areas.
SESSION 2
Problems and Challenges for Future Livestock Development
Livestock revolution in the global sphere and its development in Vietnam under the condition of climate change

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**Abstract**

Animal production has contributed significantly to agricultural output, although largely for the domestic market. Given the country’s low arable land-to-agricultural population ratio, it is expected that smallholder farming will continue to remain an important feature and contributor to Vietnam’s agriculture.

Under the condition of economic globalization and climate change, the agriculture in general and the animal production have to undergo transformation to efficiently meet both domestic and international demand for Vietnam’s crop and livestock products. In the strategy of development of animal production up to 2020, the livestock sector is planned to be restructured to support development of commercial livestock production to improve productivity, efficiency, quality and safety while at the same time contributing to environmental protection. Medium-scale specialized livestock production will likely be developed to also meet the food quality and safety standards. Appropriate policies, however, need to be designed for smallholder farmers to improve their productivity and efficiency and to effectively get access to markets for their products. There is a need to exploit potentially cost-efficient and sustainable traditional animal feeding technologies for scaling-up to specialized medium-scale livestock systems. Animal production plays a special role in Vietnam’s predominantly smallholder farming systems which raise suitable local breeds with attributes that meet consumer preferences.
Livestock sector, mitigation and adaptation to climate change: state of knowledge and research issues

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Summary

Climate change is a global process, of recent origin in its current form, and largely manmade. In the near future, the dynamic of which it is a part, is set to cause long-lasting changes in global agriculture. At the same time, agriculture is recognized to be one of the main manmade causes of the process. The expected exhaustion of fossil fuel resources, population growth, and the rapid development of emerging countries in which demand for energy and for improved food is high (China, Brazil, India, etc) have triggered behaviour that has only made matters worse. The emergence of bioenergies as a major new agricultural outlet and the land grabbing phenomenon are both signs of and exacerbating factors in the shortages affecting food security and the environment; affecting the very stability of societies and the major global equilibria. Climate change calls for unprecedented efforts on the part of the international scientific community.

Inside the global stakes, the main challenge is ensuring the food security of the world’s poorest people. However, it is important not to restrict the debate to the issues traditionally addressed by research for development, or to be content with merely proposing more efficient production technologies, such as those of the green revolution, or the doubly green one, in order to ensure ecological intensification. Classical technology transfers and economic support from “North” to “South” will be not only inadequate, but largely irrelevant. In effect, the expected changes will be truly global, radical and structural, and will force a fundamental rethinking of the paradigms that guide research for development.

The current challenge in livestock systems is to increase productions while drastically changing the ways actual systems impair global and local future development. This new paradigm result of some strategy errors of animal production sub-sectors related to the globalization of economy, the increasing demand in animal products, the new geopolitics of food, the weak knowledge of ecosystem resilience, the societal awareness for environmental issues. The publication of “Livestock Long Shadow” (FAO, 2006) brought a major step in the long history of animal production. It concluded a 3-4 decades period marked by significant scandals at global scale, such as BSE, growth hormones, dioxin, pollution of groundwater, lakes and rivers related to local livestock pressure, and others. In livestock production as well as in science “business as usual” attitude has no real future anymore. Driven by diversified stakeholders initiatives, policymakers raise new norms and rules in food safety and environmental impacts of animal productions.

Animal production will still have to develop in order to satisfy the growing demand from consumers in the South. On a global scale, mitigating the impact of animal production on resources and the climate is a major challenge for animal scientists. With regard to climate change, according to the FAO (2006), the global animal production sector directly or indirectly accounts for 18% of global greenhouse gas emissions.
Animal production systems worldwide vary significantly, and ensure a range of functions and services (food, capital, cash flow, labour force, fertilization, religion, donations, etc). These represent a major contribution to livelihoods in poor economies. With a view to sustainable development of livestock farming, boosting animal productions will merely mean adapting systems on a territorial scale while preserving or improving the multiple functions animals contribute.

The tendency to intensify and concentrate industrial animal productions in periurban areas has led to surpluses and latent pollution. Conversely, in cropping systems, carbon and soil fertility losses, fragility of the systems and the demand for organic inputs remain still a major problem. Increased fertilizer costs, greenhouse gas emissions for production and transport, and the increasing scarcity of resources such as phosphorus are all arguments stressing the need to look for ways of integrating animal production and agriculture more closely.

As regards climate change, animal production systems are evidently not a direct carbon sink. However, these can indirectly contribute to its sequestration e.g. when the system is based on DMC cultivated areas and grasslands. According to working groups on climate change, C sequestration in soils has the highest potential for reducing emissions (90%) in the agricultural sector. Grasslands and rangelands have a C storage capacity of around 0.9 tonne per hectare, per year, although this varies depending on the farming method, region and climatic conditions.

Livestock is a resource of great importance for the poorest populations. The extent of organizational and social changes to which systems will have to face is considerable. The interactions between climate change and livestock activities in less developed regions raise questions. Little knowledge acquired so far on the links between impacts of climate change and other drivers of change in cattle farming systems in development. In many areas, livestock farming systems are changing rapidly and the potential response of farms face new constraints and opportunities related to climate change will vary widely. The paper presents a review of the literature on the impacts of climate change on cattle farming systems in developing regions and identifies areas and knowledge that are lacking today. The main research questions relating to the adaptability of farmers to climate change will be presented. Reorganization of priorities from R & D in areas vulnerable livestock will be raised.
Development of animal products markets in Vietnam

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Abstract

Over these last years, in parallel with socio-economic development, the consumption of animal products in Vietnam is continuously increasing. However, pork and milk powder are the products for which consumption is increasing the quickest, with above 6 per cent/year per capita on the average during the period 1999-2009. To meet domestic demand, animal production is significantly growing even if its trade balance is still negative.

Regarding consumers’ preference, Vietnamese consumers prefer fresh meat to frozen one. Lean meat is classified as first priority. Fix and temporary markets are main marketing channels supplying up to 95 per cent of domestic demand on meat while supermarkets and big retail stores can just satisfy 5 per cent of the total demand. Due to the complexity of epidemic disease during this last period, Vietnamese consumers, especially urban consumers, have formed a new behavior: they are willing to pay higher price for certified products, or for products with clear instructions on their origin.

In the coming years (as forecasted), domestic demand will continue to increase in parallel with the income growth. However, without innovation in production methods, and adjustment in policies, trade balance will become even more negative due to Vietnam’s integration to international market. National supply need to continue to adapt to market changes, in order to satisfy the demand in quantity and quality.
Abstract

This research aims at studying the dynamics of the consumption of animal products in the Red River Delta, and consumers’ concerns on food safety. Six research sites were selected in three provinces: Hanoi (Gia Lam District and Hanoi City), Hai Duong (Cam Giang District and Hai Duong City), and Thai Binh (Quynh Phu District and Thai Binh City). Primary data were collected through an investigation of 210 consumers selected with a random stratified sampling method, and following a structured questionnaire. The income level per inhabitant in this region was quite low. The most of households had an income from 1 to 2 million per inhabitant per month (occupied up to 43.11%). Average consumption of animal products was 1.46 kg per inhabitant and per week. In there, the aquatic products were the most consumed (0.55 kg per inhabitant and per week), the pork meat was the second (0.47kg) and the poultry meat was third (0.34 kg). Hanoi City had the largest consumption of animal meat per inhabitant (1.61kg per inhabitant and per week). The most of consumers knew and had an interest in the chemical residues in products of animal meat. The hormone was the first type of chemical residues in which consumers were interested (66.67%), and the residues of antibiotic was the second (29.04%). The first criteria used by consumers for choosing their meat was reported to be the color of meat (34.74%), and then the smell (26.84%). Other criteria interested also the consumers such as the seal of veterinary quarantine, the cleanliness of meat store, and acquainted relation with salesman. The consumers preferred mainly buying the fresh meat for pork (93.3%) and the living animal for poultry (56.67%). The consumers were more vigilant with the animal products when the epidemic disease happened. Only 10% of consumers still bought the meat as before.

(abstract written by editors from the author’s powerpoint presentation)
The performances of livestock production units in Vietnam: status, factors and evolution

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Summary

To study the bio-economic performances of livestock production units in Vietnam, a survey was carried out from October 2008 to January 2009. Pig production was investigated in 8 provinces representative for all 7 ecological zones: Northern East, Red River Delta, North Central Cost, South Central Coast, Central Highlands, Southern East, Mekong River Delta. Cattle and buffalo productions were investigated in 6 provinces representative for 4 mountainous areas: Northern Mountains, North Central Coast, South Central Coast and Central Highlands. The farms were randomly selected in villages selected using the Probability Proportionate to Size methods.

Total 1120 pig farms of three prevalent production types were randomly selected, including 1008 small scale pig household farms (farm with 1-99 fattening pigs and/or 1-20 sows); 88 commercial farms (farm with more than 20 sows and more than 100 fattening pigs); and 24 industrial farms (private or state running large scale farms applying industrial techniques). The different production types contained different production systems (specialization in fattening pigs; specialization in sows; and combination of sows and fattening pigs); and different production scales. Total 420 cattle farms of 3 prevalent production types were randomly selected, including grazing with additional feed supply at night; stall-fed; and free grazing. Three different production systems (beef production system, breeding system and the combination of beef and breeding cow) and three production scales (small scale, medium scale and large scale) were included in representative selected farms. Data was collected using structured questionnaires. Live weight of cattle and buffaloes at different age groups was recorded using electronic scale. Secondary data on pig, cattle, and buffalo production were gathered from different resources.

Results of the survey on pig farms show that cross breeds of exotic with local breeds are the most suitable breed for small scale household farms, while the exotic breeds are suitable for the industrial farms. The exotic pig breeds are raised on household farms only in the Red River Delta (RD), Central Highland (CH), Southern East (SH) and the Mekong River Delta (MK). However their performances are not superior, even lower than cross breeds. There is a tendency of increase in pig performance from the North to the South on small scale household and industrial farm types (except in CH). On the commercial farm type shows better performance in fattening production compared to household farm only in some zones (RD, NC, and CH). It can be understood that, all factors of the suitability of breeds, husbandry management as well as climate condition affect performance of pig production. The efficiency of pig production is evaluated through gross income per fattening pig and gross income per farm. Results show that industrial farms have the highest gross income from pig production compared to the two other farm types. One of the reasons for the success of industrial farms is that they are active in the investment to feeds and breeding animals, less dependent on the effect of the market as the other production types.
Cattle are raised mainly in small scale of smallholder farms. Around 94% of total cattle keepers were raising less than 5 cattle for multiple purposes. Only few household raise more than 10 cattle. Densities of cattle rearing vary a lot among eco-regions, depending on the availability of natural grazing areas, the demand for cattle meat and milk, and cultural preferences. Results of the current study show that farmers of 3 provinces in the NM zone applying stall-fed. Stall feeding is the way that farmers are adapted to the decrease in natural pastures through changing their production types and management. In many regions, cattle production types have been changed from free grazing with large herd sizes to tended grazing with additional feed supply or stallfed with cut and carry supply due to the decrease in pasture area.

(abstract compiled by editors from the original text of the authors)
The transformations of livestock farms from traditional to professionalized producers in European and developing countries: prospects for family livestock systems

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Abstract

The transformations of livestock systems are to meet i) changes of socio-economic context (agricultural policies, markets and place of environmental issues) but also ii) to mutations of operational forms (multi-activities, evolution of agricultural labor force, linkage to the family) and finally iii) reaction/adaptation of farmers to uncertainty of the future (price, climate...).

After introducing key analysis concepts on livestock farming systems, based on studies undertaken in France but also in the South countries (Uruguay, Vietnam), we demonstrate the diversity of pathways on the systems evolution as a results of farmers’ decisions and local opportunities. We describe operational logics (technical and labor organization; technical performance and labor productivity) associated with these pathways. We debate processes/ways to improve farmers’ destiny and to meet challenges set by the society and commodity chain.

Résumé (original)

SESSION 3
Prospects for Future Collaboration
Managing social, economic and environmental concerns related the livestock revolution: the need for a livestock monitoring system

Dr Guillaume DUTEURTRE (1), Dr PHAM Duy Khanh (2), Dr Pascal BONNET (3)

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Abstract

The rapid changes affecting livestock in Vietnam concern production techniques, farm structures, and the organization of marketing chains. This livestock “revolution” deeply affects the whole social and economic organization of rural areas, the whole environment through pollution of soils and water, green-house-gaz emissions, land erosion due to feed production, sanitary risks, bio-diversity of local genetic resources, and economic welfare distribution. Those rapid changes are mainly driven by market forces and private firm strategies, but also by public rules affecting access to land, natural resources management, provisioning of services to producers, industrial technological transfers, food safety controls, and marketing practices.

In that context, public authorities responsible for designing livestock policies at both National and Provincial level have to face a high complexity of processes. And the main challenge for them, in order to design sustainable livestock policies, are to know how to better balance livestock industrialization, social transformations and environmental management, in the light of the new resolution for agriculture, farmers and rural areas.

The proposed methodology aims at setting up a livestock monitoring system likely to contribute to these efforts. The proposed system will be managed by an animating body (a team of 2 ou 3 researchers) and will rely on a strong participation of several research organizations, national and international. It will include (i) data collection (original and secondary) ; (ii) analysis and response to questions ; (iii) dissemination and dialogue between stakeholders. The livestock monitoring system will aim at promoting partnerships to handle the complex questions related to sustainable livestock development policies in Vietnam. Problems will be talked at 3 levels: production systems; commodity chains; and local territories. Activities will include data-base management and mapping; field surveys on selected provinces; and dissemination (essentially seminars, bulletin and web site). All products will be published in both Vietnamese and English.

In a first phase (2011), the livestock monitoring system will focus on the dairy sector in Northern Vietnam. This phase will be financed by MARD and CIRAD-INRA. It will be the logic follow up of some recent research conducted by IPSARD in collaboration with CIRAD-INRA. In a second phase (2012-2013), the livestock monitoring system will aim at expanding its activities in selected provinces located all-over the country, and will deal with problems related to the dairy and pork subsectors. Some methodological and thematic linkages will be built with existing epidemio-surveillance systems.