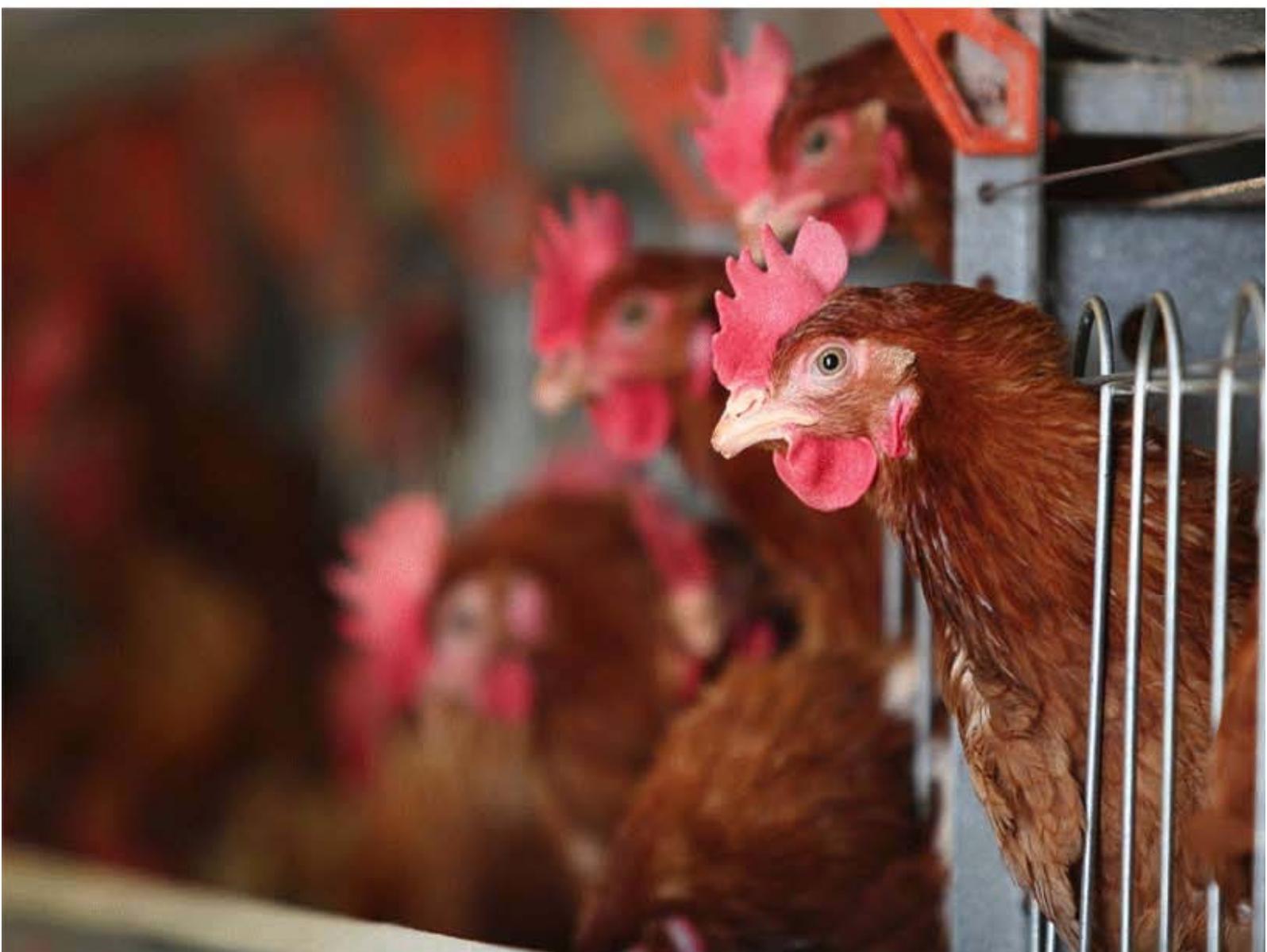


Compensation and Related Financial Support Policy Strategy for Avian Influenza: Emergency Recovery and Rehabilitation of the Poultry Sector in Vietnam

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June 2005

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Acknowledgements to the Government of Japan

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List of Acronyms

AI	Avian Influenza
AIERP	Avian Influenza Emergency Recovery Project
DA	Department of Agriculture
DAH	Department of Animal Health
DARD	Department of Agriculture and Rural Development (Province level) DF Department of Finance
DS	Department of Statistics
FAO	Food and Agriculture Organisation
GoV	Government of Vietnam
GSO	General Statistics Office (Vietnam)
HCMC	Ho Chi Minh City
IDA	International Development Association
JSDF	Japanese Social Development Fund
MARD	Ministry of Agriculture and Rural Development
MoF	Ministry of Finance
PPF	Province Prevention Fund
SDAH	Sub-Department of Animal Health
SOE	State Owned Enterprises
SDAH	Sub department of Animal Health (Province level)
TOR	Terms of Reference

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Summary of Recommendations

Financial support to farmers for prevention and control of Avian Influenza should include the following components:

1. Compensation for birds culled during outbreak stamping out

Government support to farmers is necessary and should continue because:

- Culling is mandatory by the Government, and causes loss of production and related income to farmers;
- Support for animal culling is an incentive for farmers to declare the disease and to cull the poultry rather than selling sick birds illegally;
- Avian Influenza constitutes a public health threat.

The government support policy should be homogeneous across provinces, that is, the same value paid in all provinces for the same type of bird, in order to limit poultry movement between provinces.

There is a need to establish and agree a fair market value in advance of providing compensation. It is suggested that government support level should be raised from the current 10-15% of the market value of the poultry slaughtered to a level of 50% of market value (recommended by the DA) or 75% (as paid in Thailand):

- The support during the 2004 outbreak was only of the 10 to 15 % of the market value¹, giving an incentive to farmers to sell their poultry illegally and increase the risk of disease spread.
- Central government budgetary constraints do not allow paying for the full market value, but can support 50%.

The following poultry categories are proposed to determine the amount of support to be paid. However, these categories need to be finalised by agreement between provinces: Layer; Broiler > 1 kg; Broiler < 1 kg; Eggs; Quails; Pigeons

In order to ensure sustainable and consistent funding of compensation, a specific fund should be set up for 'animal disease prevention, treatment and epidemic control'

- It would need to be centrally held but quickly accessible by those provinces with outbreaks;
- Funds would be contributed by the provincial government, the private sector and the central government;
- Funds should be earmarked;
- Since farmers and provinces will be contributing to the fund, it will encourage them to improve prevention measures.

2. Support for biosecure poultry raising

In order to make disease control easier, reduce the level of risk, reduce the number of outbreaks and hence the need for compensation:

- Funds should be provided at provincial level to create and implement Poultry Production Zones for commercial producers;
- At commune level, for backyard poultry keepers, funds should be provided to promote the creation of farmers groups / poultry production clubs

¹ The market value of a layer is considered to be 100000 VND

1 Introduction

1.1 Background and justification

The Vietnamese Ministry of Agriculture and Rural Development (MARD) is currently designing the implementation plan for the Avian Influenza Emergency Recovery Project (AIERP). In order to perform this task, the Government of Vietnam (GoV) is supported by the International Development Association (IDA) in collaboration with the Food and Agriculture Organisation of the United Nations (FAO) and the Japan Social Development Fund (JSDF).

The AIERP includes three main components, namely: (a) Strengthening disease surveillance, diagnostic capacity and Highly Pathogenic Avian Influenza (AI) virus research, (b) Poultry sector rehabilitation, and (c) Public awareness and information.

As part of the component (b), poultry sector rehabilitation, the Vietnamese Government seeks to improve the compensation policy implemented subsequent to the AI outbreak of 2004. The current policy was elaborated and implemented under the pressures surrounding the AI emergency outbreak situation. This policy needs to be refined and adapted, not only to meet farmers' needs but also to address the economic constraints arising at governmental level.

Subsequent to the Ho Chi Minh City meeting (25-28 February, 2005), several points were raised in relation to AI outbreak in Vietnam and in the South East Asia region. One main area of concern was the resource generation and fund allocation to contain the AI outbreak. Reasons were based not only on the evident public health hazard potential of AI, but also on the impact of the outbreak on the economic growth of the country.

The current report, therefore aimed at providing recommendations for the Vietnamese government on the revision of the financial support policy strategy for AI. The report has therefore been prepared in two phases and needed close collaboration between the national² and international consultants. The first phase of the study was undertaken during the period 1-21 December, 2004. During that period, field trips were undertaken in three provinces as well as interviews at different levels (see detail in the methodology section outlined below). An interim report summarized the first phase and included areas to be addressed in the second phase (10-31 March, 2005). The present report is the final report of the mission and covers the findings of both phases. The report is the responsibility of the author, but acknowledgement is given to the considerable inputs of the national consultants during the study and in reviewing the report.

However, assessing a financial support policy scheme is not limited to disbursement of compensation funds. A financial support policy scheme includes three main aspects that need to be analysed and which are tackled in this report. These are (i) resource generation, (ii) collection and pooling methods and (iii) fund management.

1.2 Organisation of the report

The report is divided into four sections. Section one outlines the background and justification of the study as well as the methodology used during the two-phase consultancy.

Section two presents the compensation strategy that the Vietnamese government has been pursuing to date. This section elaborates on the fiscal impact of two different levels of emergency

² For the first mission the national consultant was Mr Son. For the second mission it was Mr Tuan.

compensation to the poultry farmer population and debates the consequences arising from these different support policy options at national level over time in the context of further outbreaks of AI in Vietnam.

Following this debate, section three presents the medium and long-term options for a more sustainable support strategy for poultry producers. The options presented take into account the expected restructuring of the poultry production sector in Vietnam. Finally, section four brings the main conclusions and section five outlines recommendations for the Vietnamese government regarding short, medium and long-term support strategy for AI.

1.3 Objectives

The objectives of the report may be summarised as following:

- (i) Review current support policies applied in the poultry sector following the AI outbreak in Vietnam,
- (ii) Evaluate the economic impact of AI outbreak in Vietnam,
- (iii) Give recommendations to the Vietnamese government on how to redesign the current financial support strategy in order to contain the AI outbreak.

1.4 Methodology

In order to reach the objectives above stated, the methodology used by the international and national consultants for the rapid appraisal of the support strategy for AI in Vietnam is outlined below. It

- (i) qualitative interviews at three different administrative levels (central, province and district levels) as well as with farmers,
- (ii) quantitative data analysis on financing activities related to the AI support strategy, and
- (iii) assessment of the costs of compensation and lost production based on statistical data obtained from the MoF and General Statistics Office (GSO).

consisted of:

However, due to the time constraints an academic standard research protocol could not be applied. Quantitative and qualitative data must therefore be interpreted carefully.

1.4.1 First phase (1-21 December, 2004)

Three project provinces and one city were selected for the study. Reasons behind the choice of provinces and districts were related to (i) the importance of impact of AI in these locations, (ii) the different ways in which the outbreak support was handled, and (iii) the poultry production patterns. In each province the districts visited were:

Province	District
Ha Tay	Hoai Duc Quoc Oai Co Dong ³
Ho Chi Minh City	-
Tien Giang	Cho Gao district
An Giang	Tinh Bien district

³ Farmers in this district were interviewed during the second phase.

Methods used in each location refer mainly to semi-structured questionnaires. Three templates were designed for (available in annex 1):

- (i) central government authorities (MARD and MoF),
- (ii) province and district authorities, and
- (iii) farmers.

Questionnaires (i) and (ii) were administered following a group meeting pattern including representatives of departments and sub-departments of agriculture, animal health and finance (annex 1).

The semi-structured questionnaire (iii) for farmers (in annex 1) was applied on an individual basis, farmers filling in the questionnaire themselves. Farmers were subsequently divided into 3 subgroups to discuss the answers and expose their concerns regarding the current AI compensation scheme to the research team. The total number of farmers interviewed was 83 (Hoai Duc: n= 18; Quoc Oai: n= 16; Cho Gao: n= 17; Tinh Bien: n= 16; Co Dong: n= 16).

1.4.2 Second phase (10-31 March, 2005)

The activities undertaken during the second phase focused on:

- (i) gathering the necessary data to perform the economic analysis and fiscal impact assessment of two levels of compensation for farmers during the periods 2003-2004 and 2004-2005 at national level;
- (ii) meeting with central and provincial authorities as well as with already existing farmers groups (in Ha Tay province) in order to clearly explain the need to move away from shortterm compensation to medium and long-term support for AI, based on a predominant role of provincial authorities and farmers in funding AI control and prevention activities;
- (iii) meeting with Ha Tay Farmers Group, Poultry State Company in Vinh Phuc, Joint-Stock (poultry) Company in Ha Tay, Poultry Association (Ha Noi) to gather different viewpoints and opinions regarding the improvement of the current government support policy.

A medium term meeting, a final workshop and several interviews with relevant authorities (i.e. MARD, MoF, DA, DAH, DS) and knowledgeable professionals of the livestock sector (i.e. Livestock Working Group, relevant NGOs, Poultry Association, private and public poultry enterprises, etc.) were undertaken during that period.

The province authorities met during the second phase of the support strategy were the following:

- (i) Ha Noi (provincial authorities SDARD, SDAH and SDF)
- (ii) Ha Tay (farmers group and SDAH)
- (iii) Thai Bing (provincial authorities SDARD, SDAH)
- (iv) Vinh Phuc (provincial authorities and farmers)

The purpose of the visits was to clearly expose the need of policy change with regard to the support strategy for AI and how should province authorities proceed and cope with the change.

The economic impact assessment was based on the methodology outlined by Horst *et al.* (1999)⁴ described in section 2.2.

⁴ Horst, H.S., C.J. de Vos, F.H.M. Tomassen and J. Stelwagen (1999), The economic evaluation of control and eradication of epidemic livestock diseases, Revue Scientifique et Technique (OIE), Vol 18 (2), pp. 367-379.

2 The current (emergency) support plan

This section outlines the current (i.e. short term) support strategy applied by the Vietnamese government. It elaborates a general framework to assess the economic impact of a disease outbreak. The outlined analytical framework is then applied to the AI outbreak in Vietnam for the periods 2004 and 2005. A discussion of the results highlights implications of the use of different compensation rates at central government level.

Based on the Government decision No 396/QD-TTg (20/04/2004), the Vietnamese government decided to provide a budget for the control of AI and recovery of the poultry production sector of 245.316 billion VND (15.7 million USD)⁵. This amount was subsequently increased by the Government decision No 906/QD-TTg (16/08/2004) by 22.675 billion VND (1.5 million USD). To date thus, total central government budget allocated for AI amounts to 267.991 billion VND (17.2 million USD), which comes from the budget of the National Prevention/Emergency Fund⁶.

Key points related to the current central government policy guidelines on AI fund allocation and subsidy levels may be grouped into two categories: (i) for poultry producers (i.e. households, farmers, cooperatives etc) and (ii) for State Owned Enterprises (SOE). These two compensation policies are summarised as stated below.

2.1 Poultry producers

Compensation for poultry producers is dependent on the Budget Department at MoF. The total amount allocated to this category is 245 billion VND (15.7 million USD). A disbursement of approximately 30 billion VND to 10 provinces was made previous to the final disbursement which took place in April 2004. Main principles guiding compensation for this group are the following:

- The national government aim is to contribute 50% of the costs for controlling AI. The rest should be provided by the provinces;
- Ha Noi and Ho Chi Minh cities will not receive any contribution from the central government, budget will come from their local contingency budgets;
- In cities and provinces where the contribution towards AI control exceeds 50% of the local contingency budget, the central government will support the difference from the National Budget Contingency fund;
- Central government subsidy levels⁷ towards poultry sector recovery are:
 - Direct subsidy of 5000 VND/head (0.32 USD) of poultry culled⁸. Provinces are able to increase the subsidy level through their local contingency funds;
 - Restocking subsidy of 2000 VND/head (0.13 USD) to recover poultry production. The amount released will be directly related to the number of animals culled;
 - Indirect expenditure at a rate of 3000 VND/head (0.19 USD) culled for the control of AI during and after the outbreak (i.e. equipment, facilities, disinfectants, protective

⁵ Exchange rate at 1USD = 15600 VND

⁶ Which is generated through national taxes and represents the 3-5% of the national income generated in Vietnam.

⁷ Initially, the DA recommended 10,000VND/head which, at the time was perceived as the 50% of the market value. At the time of the first outbreak, the rates used (5000 + 2000VND) were temporary measures which were taken due to the urgency of the situation.

⁸ Poultry categories compensation levels were debated during the AI outbreak (Mr. Son, personal communication). However, due to the urgency in reaction, one single category and compensation level was chosen as the national government policy.

clothing, staff in quarantine stations etc.) should be provided from the central government budget.

Poultry producers' losses were calculated at local level in relation to the number of animals culled as per the rates.

2.2 State Owned Enterprises (SOE)

Compensation for SOE depends on the Department of National Enterprises at the Ministry of Finance (MoF). Currently Vietnam counts with 12 Grand Parent (GP) SOE farms. This category received from the central government a total amount of 23 billion VND (1.5 million USD) of which 10 billion was allocated to restocking and 13 billion VND⁹ (0.84 million USD) for veterinary activities, disinfection, costs of labour, equipment etc. Calculation and disbursement of the compensation funds for SOE was performed at the end of the outbreak. There were not advanced funds from central government as opposed to the previous category (i.e. poultry producers).

⁹ From these 13 billion VND: (i) 10 were given to SDAH for veterinary activities. SDAH then allocated a given budget to each farm in relation to needs, and (ii) 3 billion VND were allocated for disinfection activities.

3 Medium and long term support strategies

To understand the functioning of the Vietnamese recently decentralised system, a series of semi-structured interviews were performed in selected provinces as mentioned in the methodology section (1.3). Although bearing in mind that the provinces selected do not represent a randomly selected sample, the results obtained are still of value to gain in-depth knowledge of the present relationship between districts, provinces and central government.

The results discussed in this section focus exclusively on the support for the category labelled as poultry producers and present the findings obtained from interviews in six provinces (i.e. Ha Tay, An Giang, Tien Giang, Thai Binh, Vinh Phuc and Ha Noi) and Ho Chi Minh City regarding implementation procedures in provinces and districts, as well as the satisfaction levels of farmers.

The analysis here starts from the broader areas of origin and distribution of funds and narrows down towards categories and compensation levels, to finally end up with farmers' expressions of concern.

3.1. Resource generation and allocation: risk sharing and transparency

In order to evaluate a support strategy, it is crucial to understand the processes underlying the flow of funds within the structures and entities involved in the scheme. Thus, to understand fund generation and allocation for AI support in Vietnam, it is essential to know how the central government resources mentioned in the first section were used at province and district level.

It is the process in which funds are allocated to activities and disbursed that influences the behaviour of those involved in and affected by the AI outbreak, especially the end beneficiary: the farmer. This means that farmers' behaviour strongly depends on the way the flow of funds is organised (i.e. incentives or disincentives for culling). In a similar way, the level of risk sharing between central government and province authorities, as well as between the latter and farmers will determine each of the actors' behaviour, and consequently the effectiveness in containing disease spread.

- **Central government and province authorities risk-sharing**

The level of contribution from central government and province authorities is stated in table 1 (below). Interestingly, contrary to the national policy on risk sharing in relation to AI (50% for both central and province), the actual percentage contributed by provincial authorities was far below the suggested levels in Tien Giang and An Giang provinces. It was however stated in the national policy document (GoV - No 396/QD-TTg) that those provinces more heavily affected by the outbreak would receive a higher level of compensation. Nevertheless, contribution share of these two provinces was 11% for Tien Giang and 8% for An Giang, thus far below the 50% risk sharing level. The contribution from their respective Province Prevention Fund (PPF) was 14% and 10%¹⁰. On the contrary, Ha Tay contributed 48% of the total amount spent on AI. Its PPF contribution was of 16%.

Although Tien Giang and An Giang provinces were amongst those most affected by the AI outbreak, the high percentage of government contribution (89% and 92% respectively) may have influenced the provinces' responsiveness to the AI outbreak. This implies that, given that the risk was mainly borne by the central government, province authorities may not have felt the pressure to control the outbreak (i.e. compensate farmers) in a timely and accurate manner.

¹⁰ These are rough estimates given the difficulty in some of the districts that the study team encountered when asking for data regarding the financing of the outbreak, especially An Giang.

	HaTay	Ho Chi Minh	Tien Giang ¹¹	An Giang
Central government contribution	8.784	None	29.813	31.002
Province contribution	7.999	47.958	3.672	2.800
% of province contribution	48%	<i>not applicable</i>	11%	8%
Total losses¹² due to AI	136.350	120.000	303.000	200.000
Direct losses (i.e. animal culling)	85.850	41.520	280.000	97.433
Indirect losses¹³:	60.500	6.800	N/A	N/A
Total income generated	850.000	111.334	9.091	13.190
Income generated from agriculture	3.153	1.742	3.985	4.965
% of Agriculture income related to livestock	39.8%	25.7%	18%	17%
Amount of Province prevention funds	50.000	N/A	28.550	28.000
Amount of Province prevention funds spent on AI	N/A	N/A	3.672	N/A
% of Province prevention funds spent on AI	16% ¹⁴	N/A	14%	10% ¹⁵

Table 1: Resource generation and expenditure on AI at central and province levels: cases of Ha Tay, HCMC, Tien Giang and An Giang (in billion VND, 2003 value)

Source: MARD, DA, MoF, Province DARD and DF

N/A = not available

- Collaboration between agriculture and finance departments at province level

Besides the contribution levels of the province, it is important to point out the need for close collaboration between agriculture and finance departments at province level. Despite the preparation and announcement of the interviews performed in the different provinces, the presence of representatives of the finance department was not always achieved during the interviews.

It has been clearly pointed out in previous contingency and compensation plans in other countries (e.g. UK¹⁶, Australia¹⁷, Canada¹⁸) that there is a need for a close collaboration at all levels between these two departments. It was often mentioned by members of the agriculture department that due to the lack of technical knowledge of the agricultural sector, the finance department tended to cut the annual budget allocated to agriculture at province level.

¹¹ 2003 data.

¹² Estimation of total losses due to outbreak calculated by Provinces. It was not possible to specify the calculation method.

¹³ Indirect losses roughly include the costs due to stop of production, market selling ban, costs due to stopping production. However, as for direct losses, the methods used in the calculation of indirect costs in each of the visited province was not specified, thus comparisons must be carefully done.

¹⁴ Estimation calculated assuming that the province contribution came from Ha Tay province prevention fund (PPF). ¹⁵

Estimation calculated assuming that the province contribution came from An Giang province prevention fund (PPF).

¹⁶ Department of Environment, Food and Rural Affairs - DEFRA (2004), Avian Influenza and New Castle Disease Contingency Plan, Annex A, version 0.1, pp. 121, London. Available at:

<http://www.defra.gov.uk/corporate/consult/avian-newcastle/consultation.pdf>

¹⁷ Animal Health Australia – AHA (1999), Management Practices and Procedures to Reduce Avian Influenza Outbreaks in the Poultry Industry, pp. 81, Canberra. Available at: http://www.asean-disease-surveillance.net/BirdFlu/Guidelines/Bird_Flu.pdf

¹⁸ Government of Canada (16 June 2004), Regulations Amending the Compensation for Destroyed Animals Regulations, Canada Gazette, Vol. 138, No. 12. Available at:

<http://canadagazette.gc.ca/partII/2004/20040616/html/sor151-e.html>

The case of HCMC is interesting when focusing on the management of financial resources during the AI outbreak. As opposed to the other studied provinces, the department of finance of HCMC allocated an amount of funds (16 billion VND¹⁹ - 1 million USD) to the sub-department of animal health (SDAH). Subsequently, it was the SDAH who was in charge of allocating funds to the necessary activities to control and compensate the AI outbreak. This procedure sheds light on a new form of financial management at province level. Although the SDAH members interviewed mentioned that allocating funds to SDAH increased their workload, such financial organisation would allow the department to prioritise and allocate resources to animal health in a more accurate and efficient way, thus increasing responsiveness.

The allocation of funds in the other studied provinces followed a different pattern. Such pattern was characterised by a control of the financial resources by the financial department (DF) at province and district levels. Thus, DF at province level allocated funds to district DF, which in turn disbursed the money to farmers in relation to the previously specified number of animals culled. Hence, SDAH was not involved in the fund allocation process.

- Timeframe for disbursement of funds

Responsiveness to needs during the AI outbreak was also closely related to the timeframe in which funds were disbursed. In Ha Tay, Tien Giang and An Giang provinces, disbursement of central government funds took place during and at the end of the outbreak. Funds allocated for restocking were only received at the end of the outbreak. However, all provinces advanced funds from their respective provincial prevention funds before receiving central government contributions. This allowed them to take the first preventive measures against AI.

3.2 Poultry categories and compensation levels

Findings from the four studied provinces regarding poultry categories and associated compensation levels are presented in table 2 (below). The table clearly points out that implementation of categories and related compensation greatly differs between provinces.

HCMC total animals culled 5 000 000²⁰	
category	support
Broiler > 8 weeks	15000
Layer > 20 weeks	15000
Broiler < 8 weeks	10000
Layer < 20 weeks	10000
All poultry 1-4 weeks	5000
All poultry < 1 week	3000
Quail	1000
Local pigeon	5000
Import pigeon	15000
Eggs (chicken and duck)	300
Tien Giang total animals culled 4 372 000	
category	support
Chicken and duck	5000
Local chicken	2000

¹⁹ Of which 8 billions were allocated for the income of veterinary staff involved in the AI outbreak, 5 billions were used for buying antiseptic, disinfectants and related materials, and 3 billions were allocated for post-outbreak activities.

²⁰ Before the AI outbreak there were 2 million poultry censed in HCMC. After the outbreak figures show that 5 million were culled. Given that HCMC compensation levels per head were higher than in neighbouring provinces, the increase in poultry figure suggests that producers from surrounding provinces went to HCMC to cull the animals (Mr Son, personal communication).

Quail	1	1000
An Giang²¹ total animals culled 4 710 000		
category		support
Chicken, duck, goose > 1 month		10000
Quail, pigeon		2000
Egg (chicken, duck)		200
Egg (quail)		30
Ha Tay total animals culled 2 358 311		
category		support
Poultry > 0.5 Kg		5000
Poultry < 0.5 Kg		1000
Breeding eggs		300
Quails		1000
Long An province		
Categories		support
Chicken, duck >2 month		5000
Chicken, duck (From 1 to 2 month)		2000
Quails, local chicken >1 month		1000
Chicken, duck and quails <1 month		500
Pigeon		1000
Ha Noi Province		
Categories		support
Breeding poultry		5000
Broiler		10000
Bird		2000
Quail		500
Vinh Phuc province		
Categories		support
Poultry >1kg		5000
Poultry <1kg		3000
Quails		500

Table 2: Comparison of poultry categories and compensation levels implemented at province level (in VND, 2004 value). Sources: DARD and DF

All authorities interviewed at province level mentioned they were not satisfied with the central government policy of a homogeneous category for all poultry. It was especially emphasised that the central government standard compensation of 5000 VND/head was far below the market price of certain types of poultry. It was strongly suggested that in order to improve the current policy, poultry categories should be established in relation to species, type of production (i.e. broiler and layer) and by weight or age.

Problems arising from the establishment of different categories and especially different support rates between provinces are illustrated by the case of HCMC. As previously mentioned, farmers in neighbouring provinces where support rates were lower, tried to move poultry to HCMC to cull the animals as the support received was higher.

In order to limit animal movement between provinces, support rates should be fixed at a central government level, should be higher than in 2004 (i.e. at least a 50% of the market value) and should be the same across provinces, not allowing the provinces to top-up or create further

²¹ For An Giang, these categories were implemented from 29/01/04 to 04/02/04. After that, from 05/02/04 to 12/02/04 the compensation rate was changed so as to follow central government's policy. Categories remained the same, but compensation levels changed to: 5000, 1000, 100, 15, respectively.

categories. Differing support rates and categories between provinces would encourage, as seen during the 2004 outbreak, animal movement between provinces enhancing disease spread, hindering rapid disease containment. Given that provinces have expressed dissatisfaction with a very simple standard classification, a new classification will need to be negotiated.

3.3 Eligibility for support and culling confirmation procedure

It is important to highlight that the rationale behind supporting all farmers is to increase compliance with regard to animal culling, thus crucial in the containment of the AI outbreak. If smallholders are not entitled to compensation because of their small number of poultry, there would be an incentive for them to sell potentially infected animals in the marketplace, thus contributing to the spread of the disease.

However, at province level there were differences regarding the policy of farmers' eligibility for compensation. Thus, Ha Tay province decided to compensate all farmers. This was possible because the province had a census of all the animals in the province and could cross-check with the number of animals each farmer said to have culled. Besides, the process was made public so that neighbouring farmers could corroborate these numbers. HCMC on the other hand did not compensate all farmers. Only poultry producers over 100 animals were compensated. In the case of Tien Giang, only farmers over 50 heads per farm were eligible. It was mentioned that those less than 50 animals preferred to sell the animals (illegally) in the market. Finally, in An Giang province where poultry production concentrates mainly on duck production, the procedure applied to ascertain the number of animals culled was not explicitly described. Therefore, there was an important difference between the original suggestions and recommendations made by DA/DARD and the level of compensation and restocking funds actually provided in some of the provinces.

The way in which provinces and districts accounted for the correct figures of animals culled was essential as it determined the amount of funds the province was able to apply for at central government level. Models existed for the procedures that were followed for identifying the number of poultry culled. However, these procedures were not homogeneous between provinces.

It was also highlighted that most of the farmers suffering the AI outbreak at the early stages of the outbreak were not able to receive any compensation as the AI outbreak had not yet been identified, nor the central government guidelines released. This represents a problem as there should be an incentive for early culling so as to contain the outbreak rapidly. It is a disincentive for those farmers who proceed to the rapid culling not to receive support. According to the province reports, voluntary culling without compensation only occurred in a limited number of households.

3.4 Farmers' satisfaction and suggestions from the field level

Although the sample of farmers interviewed was not representative of each district's farmer producer population, it is clear from the results stated in table 3 that the current compensation policy does not satisfy poultry producers (average of 89.25% of unsatisfied).

	Quoc Oai	Hoai Duc	Cho Gao	Tinh Bien
Number	16	18	17	16
% unsatisfied	93.75	100%	88.24	75
Min. farm size	200	250	1000	350
Max. farm size	6000	7000	12000	5000

Table 3: Satisfaction levels for farmers interviewed regarding current central government compensation strategy

(i) Suggestions made by farmers

However, when asked about the recommendations or suggestions they would have regarding improving their current situation, five main ideas were put forward:

- To increase the level of compensation,
- To implement support levels by categories of poultry species,
- To enable farmers to access credit at low interest rate for a long period of time. It was especially stressed the idea of being able to borrow funds without presentation of assets (mainly because they had lost all assets due to the outbreak),
- To allow farmers to borrow money even if they already have a credit,
- To increase preventive animal health activities and early warning systems,
- To facilitate the creation of farmers' networks or groups to concentrate poultry production.

(ii) Suggestions made by provinces and districts

The most emphasised suggestions coming from the province and district authorities interviewed refer to the following ideas:

- "Animal disease prevention, treatment and epidemic control fund"

When focusing on improving responsiveness against animal health threats, members of the DARD in Ha Tay province suggested creating an "animal disease prevention, treatment and epidemic control fund". This risk fund would allow the earmarking of resources for livestock production at province level. It was suggested by Ha Tay DARD members that such fund should be created from taxes imposed on feed companies at province level and taxes or charges on veterinary medicines. However, the latter suggestion is debated in section 5.

The rationale underlying the creation of this type of funds is to enable provinces to improve the livestock sector (thus not only referring to poultry production). This is important in provinces where the livestock income generated as percentage of the province agricultural GDP is high (as it is the case in Ha Tay and HCMC, see table 1).

- Credit scheme for restocking and as an incentive for culling

HCMC presented credit schemes highly appealing for poultry producers as they enabled farmers to quickly restock their farms. There are two credit policies for restocking. The first was released in 2002 and seeks to improve credit schemes for agriculture production (in general). Interest rates are 11% per year, of which the province pays 4% and the farmer 7% (i.e. risksharing). When giving credit to poor farmers, such risk-sharing percentages are inversed (i.e. the province pays 7% and the farmer 4%). The second credit scheme policy in HCMC is mainly focused on poultry production. The province thus allows poultry producers to borrow funds from banks for restocking at a rate of 1000 VND for each breeding chicken that was culled up to a maximum amount of 7 million VND²². It is important to highlight that banks do not require evidence of existing assets/properties for farmers to be able to borrow. This allows quicker restocking. Besides this bank credit scheme targeted towards poultry production, the province may contribute to the poultry sector restocking by supporting a maximum amount of 30000 VND per breeding chicken²³.

This type of credit schemes would encourage farmers to cull animals at an early stage as well as allowing a faster restock of the poultry sector, limiting the opportunity costs due to loss of production at province level.

²² It was not possible to specify the interest rates for this credit policy.

²³ Details need to be specified with regard to the relation between bank and province credit schemes.

§ Production models

(i) Poultry production intensification (restructuring): Although land availability in the Southern provinces remains a problem, concentration and intensification of poultry production in specific zones which are distant from villages and households was pointed out by most of the province authorities interviewed. It was mentioned that insurance schemes to cover this model would be an asset however authorities mentioned that such schemes do not exist yet for poultry production²⁴.

(ii) Smallholder duck production: An Giang province is characterised by its duck production. Difficulty in controlling duck movement in the rice fields has proved to be a hurdle in containing the spread of the AI outbreak. A proposed model by An Giang authorities to enable a certain level of control of smallholder duck production relates to the following: 1-in a hectare of land, the farmer buys 100-200 ducks with the money obtained through crop production, 2ducks are left in the rice fields for 60 days, 3- then they are moved into the household farm and are fed for one month, 4- after the rice harvest duck are released for 15 days in the rice field and finally 5- the animals are sold in the market. Although there will still be movement of duck over rice field as land parcels are not fenced, this model enables a certain level of control in duck movement.

²⁴ Private insurance companies such as GROUPAMA have insurance schemes only for pig production in the South. ²⁵ However, the public health hazard derived from AI still remains.

3.5 Main conclusions from stakeholders suggestions

The review of the compensation methods implemented to date in Vietnam, as well as the findings and observations obtained from the field study areas suggest key issues in the development and implementation of the compensation policy on AI in Vietnam.

IMPACT OF THE GOVERNMENT SUPPORT POLICY

The impact of the central government decision 396 at province level may be summarised in two main points:

- **A level of disease control was attained**, although this level could have been higher had support been reimbursed quicker and more adequately adapted to farmers' animal losses.
- **Support from the central government was given to the provinces** and subsequently to the **farmers** to compensate them for the animals culled, although delays in disbursement were frequently quoted.

These statements follow from the results of the interviews performed at province and district level as well as with farmers. It should be stressed that farmers were willing to collaborate with the authorities in the prompt control of the AI outbreak.

PROBLEMS HIGHLIGHTED AT IMPLEMENTATION LEVEL

However, although the overall impact of the central government support policy decision number 396 was positive, several problems at implementation level were highlighted through the interviews with farmers and province and district authorities. These were:

- **Determining the accurate number of animals slaughtered:** This was pointed out as in certain occasions data provided by farmers did not match the data collected by the authorities. Farmers thus tended to declare a higher number of animals culled than what was effectively culled (there was movement of flock between farms within the villages);
- **Determining the accurate categories of animals slaughtered:** It was mentioned that farmers stated the wrong categories so as to obtain higher levels of support. It is recommended that the organisation of the management board supervising the culling of animals shall include the following member:
 - Head of the village
 - Veterinarian of the village
 - Women's union (and other existing unions)
 - Farmers whose animals have been culled.

The data gathered at village level should be then sent to the district, and consequently to the province authorities;

- **Time frame of disbursement of funds:** It was considered too slow by farmers and province authorities.

It is important to highlight again that the categories established for poultry compensation are just the visible result of a lengthy fund management and risk-sharing process (i.e. poultry categories can be seen as the "tip of the iceberg"). More sustainable strategies to support poultry production are required. Annex 2 includes several examples of fund mechanisms in other developing and developed countries

3.6 The Vietnamese context

Vietnam is not the only country needing to establish financial strategies for disease outbreak containment, but it has specific circumstances that need to be taken into account. If the Vietnamese government wants to move away from public funds the risk burden associated to livestock production in general (but specifically in this case for poultry production), the involvement of provinces and especially farmers in this risk-sharing process needs to be increased (so as to make them more responsible against biosecurity measures for example).

Specific points that to be highlighted for Vietnam are:

- Existence of farmers groups/clubs: During the field appraisal in Ha Tay province, the national and international consultant interviewed a recently created 'farmers group', which has successfully been implemented. The group was established in 2003, started with 5 poultry producing households but has increased to 47 in 2005. Each household has an average of 4000 to 5000 chicken²⁶. The financing of the structure is an interesting example of farmers' awareness of the need to increase biosecurity in poultry production. Thus, the 47 households contribute to the farmers' group fund with a total yearly amount of 6.324 million VND. The fund spends:

6 million VND per household per year to improve poultry production (i.e. infrastructure, animal health activities, feeding...);

24000 VND per household per year for administrative purposes (i.e. organisational costs);

300000 VND per household per year for the development of an 'insurance fund'. Farmers are allowed to borrow money from this fund at low interest rate (1%) should they want to make other infrastructure improvements, other animal health interventions or for other activities.

This initiative in Ha Tay points out that farmers in the poultry sector are increasing their responsiveness to the needs associated to the tendency of intensification in the poultry sector in Vietnam. However, this process is still in the starting phase as opposed to Thailand. In Thailand, as in other countries, poultry production intensification has led to the creation of a national poultry association. It is this body that sets the quality standards of production and gives guidance and extension to farmers on how the sector's goals and objectives should be. Associations might be very powerful both vis-à-vis the government and vis-à-vis farmers. In the previously outlined countries, associations play an important role regarding transparency and enforcement.

- Existence of poultry association: In the outlined cases above, the respective associations (i.e. poultry, pig etc) have had a crucial role in settling and managing the animal disease prevention and control funds. For example, in the case of the Netherlands, Australia, Germany farmers' contributions were collected through the associations and then channelled to the fund. However, in the case of Vietnam, the poultry association has been very recently created (i.e. one month before the AI outbreak started). Thus, it is expected that with the growth of the association, awareness creation of the need of restructuring the poultry sector among the farmer population will increase.
- Intensification of the poultry production industry (accelerated by the AI control recommendations): Such process will logically follow the previously outlined first step of

26 A similar organisational structure is being implemented for pig producers and includes 11 pig producing households.

creation of farmers groups. Once such production systems are intensified, given the economic incentives behind improved production and consumer demands of quality standards, the industry will become more responsible with regards to resource management. Hence, government intervention will tend to be reduced.

- Importance of domestic market and human health: Poultry production in Vietnam is important as it involves 80% of the farmer population. Thus, incentives to quickly contain the disease come not only from the public health threat AI conveys, but also because the impact of AI especially affects the main income generating activity of the poor, which is poultry production.
- Demand for transparency in resource management in case of disease outbreak: The organisation of specific funds for animal disease prevention and control follows the logical demand of farmers taxpayers to be able to know the way in which their contributions are used and allocated. Thus, it is generally the industry and the producers' association, together with the government, setting such structures.

The sort of farmers' initiative outlined for Ha Tay province, coupled with an increase commitment at province level in terms of funds allocated to prevent livestock production risks would settle the grounds for the medium and long term support strategy in Vietnam. However, it must be taken into account that this might be a lengthy process and needs farmers' awareness of the process.

4 Costs of compensation

Based on the data obtained from the Department of Finance, the GSO Report and the data collected through the interviews performed by the national and international consultants to MoF and Department of Statistics (DS), for the periods 2004 (Jan-Dec) and 2005 (Jan-26 Feb), the costs of compensation and income loss to farmers were calculated as follows.

The table below shows:

- the costs associated with culling
- the way that costs are currently split between farmers and the government, with the existing rates per bird and percentage of farmers compensated
- the way the risk would be shared if a higher rate per bird was paid and all registered farmers were compensated.

The rates for compensation and restocking for the current situation are those implemented by the central government policy outlined in section 2.1. Those used for the benchmark are based on 50% of market value of an average bird, plus the 2000 VND restocking rate currently used.

	USD mill		VND bill	USD mill
Direct costs in total	121.6			
		Lost income from 43.9 million birds * 40,000 VND	1756.0	112.6
		Disinfection for 43.9 million birds * 3,000 VND	131.7	8.4
		DAH staff	9.0	0.6
Cost sharing with current compensation and restocking rates				
Costs to farmer	87.4	Lost income if 41.3 million birds (76%) compensated at 5000 + 2000 VND	1363.0	87.4
Costs to DAH	27.6	Compensation + restocking current rates (23%) for 41.3 million birds	289.0	18.5
		Disinfection	132.0	8.4
		DAH staff	9.0	0.6
Cost sharing with benchmark compensation and restocking rates				
Costs to farmer	50.7	Lost income if 43.9 million birds (41.7%) compensated at 20,000 + 2000 VND	790.0	50.7
Costs to DAH	70.9	Compensation + restocking current rates (58.3%)	966.0	61.9
		Disinfection	132.0	8.4
		DAH staff	9.0	0.6

Sources MARD/MoF

Table 4: Direct costs of culling in 2004 with current and benchmark compensation levels

During the 2005 outbreak, where a much smaller number of birds were infected, a total of 17 million birds were registered for culling and compensation (at 5000 VND) and restocking (at 2000) were provided for all of them. The direct cost in this instance is estimated at 5.3 million USD, with 3.6 million USD being borne by farmers and 1.7 million USD by the government. With the benchmark compensation and restocking rates, farmers would have paid only 2 million USD and the government 3.3 million USD.

With the current policy, a large burden of the direct costs of outbreak is borne by poultry producers (nearly 80% of the direct burden). Thus, farmers and poultry producers would have an incentive to illegally move and sell their animals in order to minimise this share of losses, and it was

reported during this mission that such movement had occurred during the 2004 outbreaks. Such animal movement increases risk of disease spread, thus slowing down the disease containment process.

With a support level of 50% of market price, as suggested in the table above, farmers and poultry producers will be bearing only the 40% of the costs of the outbreak (as opposed to the current 76%). Supporting the 50% of the market value would be the minimum level necessary to discourage animal movement. In that case, producers will be more willing to declare the disease at an early stage and cull their animals. Hence, animal movement and illegal selling will be reduced. Following this rationale, what logically flows is that the AI outbreak would be contained at a much earlier stage; hence reducing indirect costs and losses. At present, according to MARD figures, the indirect costs may be as much as 3000 billion VND (192 mill USD). Although the reduction has not been estimated here, interviews with the Department of Epidemiology and the National Institute for Animal Husbandry (NIAH) suggest that the figure would be considerably less.

The figures in table 4 allow estimating the amount of funds that would be needed in the 'animal disease prevention and epidemic control fund'. Thus, the total amount that would be needed with a 50% compensation of the market value of birds would be approximately 70 million USD. The way in which these funds may be gathered is presented in the section 5.

Data gathered from the MoF stated that the government official figures on the expenditure during the 2004 AI outbreak (as mentioned in section 2.1, official data stated 268 billion VND) amounted for a 15% of the National Prevention/Emergency Fund. Although this figure might already seem high, as mentioned in the previous paragraph, it did not encourage farmers to declare the disease. Thus, it is expected that in certain provinces the outbreak control measures and compulsory culling would prevail for an important extent of 2005. Although incidence rate of AI is expected to be lower, government resources would still need to be devoted to culling, disinfection and control during the remaining of 2005.

Such sustained central government contribution to the AI outbreak is not sustainable in the future, should the Vietnamese government wish to contain the outbreak. A 15% of the National Prevention/Emergency Fund cannot be devoted to AI control yearly. It is therefore evident that a national support policy as it is currently established will result, in the long run, in high, unsustainable expenditure for AI disease control, should outbreaks be recurrent. Other strategies need to be sought for the medium and long term. These are called support strategies instead of "compensation". The next section thus discusses, based on the data gathered from the semi-structured interviews, the logical organisation of these medium and long term support strategies in the Vietnamese context. These medium and long term strategies will focus on giving incentives to the poultry production sector in Vietnam to support biosecurity. Consequently, the amount of funds that would have to be devoted to AI prevention and control will diminish with time, as the disease will be controlled through the new poultry production organisation.

5 Conclusions

Several authors (Horst *et al.* 1999a, b²⁷; van Asseldonk 2003²⁸; Riviere-Cinnamond, 2004²⁹) have pointed out the need for longer term strategies to control and maintain animal disease status in a country. Short-term support strategies are needed for the first and immediate action, but monitoring and surveillance need to be put in place to ascertain the disease is not going to reappear. In the case of Vietnam, medium and long term support policies need to be implemented at national and provincial levels in order to better prevent and increase responsiveness in case of any given OIE³⁰ List A disease outbreak, not only for AI.

It is suggested here that the existing support levels are increased. A higher level of support will help in containing the AI outbreak quicker. This will cut down the expenditure on AI from the 'animal disease prevention fund' in the longer term, allowing funds to be used to contain and monitor other diseases.

As mentioned in the introductory section (1.1), in order to assess a financial support policy, three aspects need to be taken into account. These are (i) resource generation, (ii) collection and pooling methods, and (iii) fund management. Following the results obtained in this study, the financial support policy is going to be presented following this pattern. However, biosecurity support in poultry raising needs to be addressed at the same time as the financial support policy is implemented.

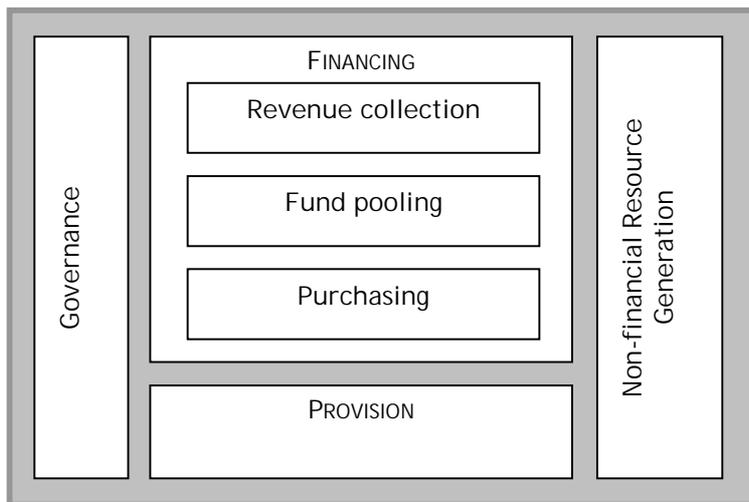


Figure 2: Organisation of “animal disease prevention, treatment and epidemic control funds” (adapted from Riviere-Cinnamond, 2004)

²⁷ Horst, H.S.; M.P.M. Meuwissen; J.A. Smak & Van der Meijs (1999), “The involvement of the agriculture industry and government in animal disease emergencies and the funding of compensation in Western Europe”, *Revue Scientifique et Technique (OIE)*, Vol. 18 (1), pp. 30-37.

²⁸ Van Asseldonk, M.A.P. M., M. P. M. Meuwissen, et al. (2003). “European public and private schemes indemnifying epidemic livestock losses: A review.” *Forthcoming in Livestock insurance products*. ²⁹ Riviere-Cinnamond, A. (2004), Funding Animal Healthcare Systems: Mechanisms and Options, FAO-PPLPI Working Paper 17, pp.45, Rome. Available at: <http://www.fao.org/ag/againfo/projects/en/pplpi/docarc/wp17.pdf> ³⁰ Office International des Epizooties

5.1 Financial support policy structure

Several countries have already implemented “animal disease prevention, treatment and epidemic control funds” (in English the term used is Animal Health Funds (AHF) in order to cope with OIE List A disease outbreaks. The following sections present, succinctly, ways in which these funds may collect resources and from which sources. Additionally, the management of the fund will also be crucial when evaluating effectiveness. The organisation of the “animal disease prevention, treatment and epidemic control funds” (AHFs) at central and provincial level is exposed below.

5.1.1 Resource generation

Several examples of “animal disease prevention, treatment and epidemic control funds” (AHF) exist in the literature. Riviere-Cinnamond (2004) elaborates on the different ways in which AHFs may be organised. Given the current structure of the Vietnamese financial system, it would be advisable to create an AHF at central level with funds earmarked exclusively for animal health/livestock production risks, thus not only for AI.

1- The generation of funds to be collected in that fund could be the following:

- Compulsory contributions from:
 - private livestock producers (poultry, cattle, pig...). These contributions could be channelled through the respective associations to the AHF;
 - feed companies;
 - pharmaceutical companies dealing with veterinary drugs;
 - foreign livestock production related companies.
 - those provinces which generate income at provincial level (as it was mentioned that only 15 of the 64 Vietnamese provinces generate income)
- Earmarking a small percentage of the national treasury to the AHF
- Donor agencies, international organisations, private donations...

2- As mentioned in the previous section, the amount that the fund would be expected to reach is of 70 million USD (this only takes into account one disease: AI).

Other sources and collection mechanisms that may be applied in the future may be based on one or more of the “source-mechanism-collection agent” relations stated in figure 3.

5.1.2 Collection and pooling methods

These funds should be collected and pooled at central government level in the ‘animal disease prevention and epidemic control fund’. These funds will be earmarked especially for animal diseases. Thus, in case of an animal disease outbreak, funds would be readily available to be used and disbursed to provinces.

Given that most Vietnamese provinces do not generate enough income, such type of collection and pooling mechanism will allow the redistribution of funds across the country, targeting the most affected areas.

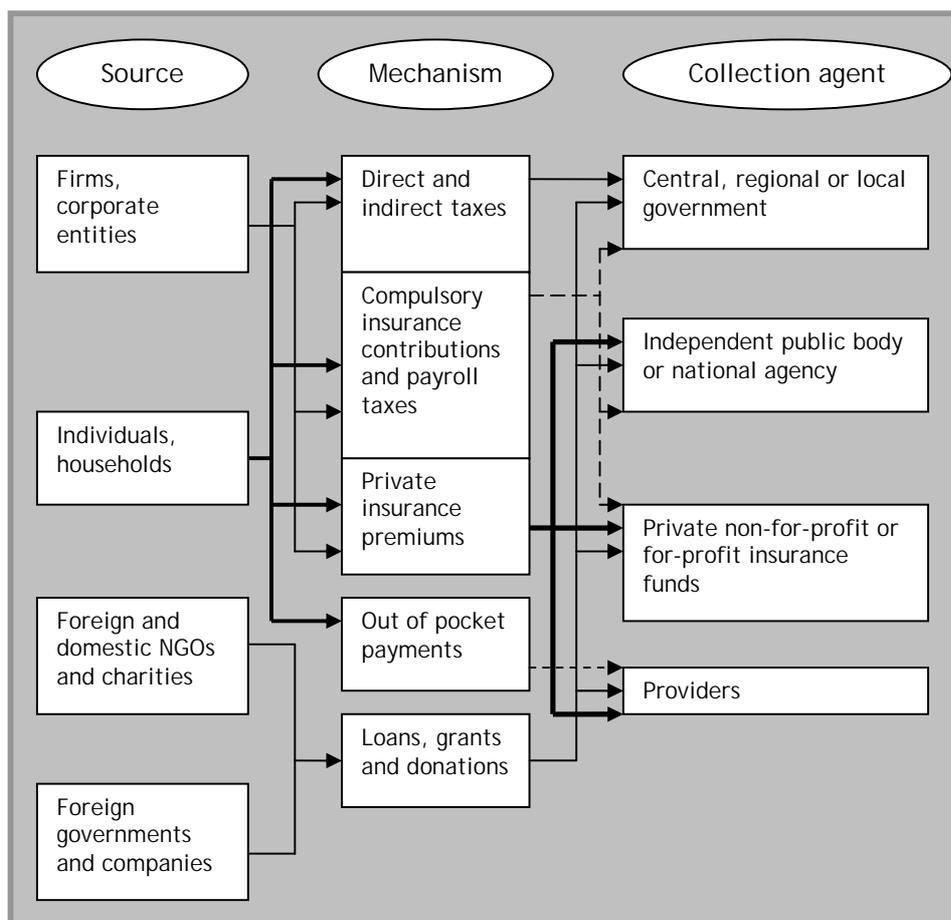


Figure 3: Funding sources, contribution mechanisms and collection agents (adapted from Mossialos *et al.* 2002)

5.1.3 Fund management

The fund should be managed by the Ministry of Agriculture and Rural Development (MARD). MARD would therefore be responsible, with close collaboration of the DAH, of the allocation of resources to the provinces and for what activities the resources are allocated.

Central government should engage in sustaining provinces as AI culling is compulsory due to the externalities deriving from the disease. Regarding the decision on the level of support and types of poultry categories, during the discussions with the national consultants of the first and second phases, disagreements arose with regard to the exact level of central government support. However, it was advised by the national consultants to take Thailand as the example for AI support strategy. 75% market value compensation was judged, though, by the national consultants as too high. Therefore 50% was set as appropriate for the Vietnamese context.

After lengthy discussion with the persons interviewed during the two phases of the study, the national and international consultants concluded that the central government should:

- (i) support the 50% of the market value of the poultry. This level of support is recommended as experience in 2003 suggests that it would give enough incentive to farmers to slaughter the animals at the earliest stage, thus limiting the spread of AI faster. Vietnam's neighbour Thailand, which has managed to contain the disease, would normally compensate at 75% of the market value

- (ii) advise provinces that they would not be allowed to top up the support levels, neither increase or modify the types of categories. The rationale behind having an homogeneous support level for all provinces is to limit animal movement between provinces (as mentioned in the HCMC example). In addition, there is a need for the provinces to agree on the specific procedures to be followed. A way to obtain that would be as described in iii)
- (iii) establish three categories:
 - layer;
 - broiler > 1 kg;
 - broiler < 1 kg
 - eggs
 - quails
 - pigeons

It was stressed that separation of layers by weight was an easy and accurate task to perform and would increase farmers' compliance. However, it was considered unmanageable for the central government to have all the categories that farmers were mentioning in the interviews.

The funds allocated from the central government AHF into the provincial AHF would enable the earmarking of financial resources at province level towards the livestock production sector (which represents from 17 to 40% of the income generated from agriculture in the provinces studied) so as to perform the necessary activities to prevent disease spread (i.e. biosecurity) and increase the quality in the production system. It is crucial to devolve to provinces the decision over the use of their resources since they are more knowledgeable than the central authorities on the field level situation and the existing options to overcome local problems.

AHF resources at province level could also be used to contribute partly towards the farmers groups which are outlined below. AHF funds at province level could be targeted towards smallholders producers animal health activities, biosecurity procedures, hygiene, extension, training activities etc.

5.2 Supporting biosecure poultry production

The field data gathered points out the evolution towards the creation of farmers groups in one province in Vietnam. However farmers' organisations are also being implemented in other provinces (NIAH Director, Mr Vang - personal communication). This tendency shows that the poultry sector awareness of risks associated with poultry production is increasing. The risk burden of this kind of epidemic diseases is slowly moving away from central government resources and be increasingly shared between poultry producers and province authorities.

In order to be able to implement and enforce a new financial support policy strategy, it is essential that provinces are more proactive in their behaviour when exposed to epidemic situations. As previously mentioned, the new compensation strategy seeks to make farmers and provinces more responsive to early reactions and to reduce the risk burden borne by central government.

The medium and long term support strategies should be based on concentrating poultry production in specific zones through the creation of farmers groups. Thus, incentives should be made readily available for poultry producers to create farmers groups. Incentives might be credit (as mentioned in the case of Thailand) and insurance. These are not only incentives for moving away production from villages and intensifying production, but also, and of especial interest for the support strategy, to allow farmers to be compensated (through insurance provided by the farmer group) in case of outbreak, and to restock (through credit). The underlying rationale behind the creation of these groups relates to the following:

- For small and medium commercial farmers: low interest rate credit schemes will encourage producers to move to production zones. Additionally, each producer would contribute, once in the production zone, with a premium or fee paid in relation to the number and category (as above stated) of animals included in the production zone. This will allow the creation of a fund in the production zone (i.e. as the example in Ha Tay). Although support in case of compulsory slaughter should come from the central government, the farmers group fund would serve as an added source of funding for disease prevention, compensation in case of outbreak or compulsory slaughtering for its members. This concentration of production will also enable to obtain a better census of the animals at province level (thus more accurate support for culling). However, the environmental impact of such concentration of production (e.g. waste management, disease spread patterns) should be taken into account at an early stage in the implementation. In addition, it was pointed out at several stages that land availability for these production zones might constitute a problem;
- For small backyard raisers: the rationale is to reduce the number of smallholders producing in their household in the village. However, as their flocks may also be affected in an AI outbreak and are the most prone to spread the disease (by selling to the market even if it is not permitted) and also represents a direct public health risk, support should also be available for them. The abovementioned categories will also apply to this group. Support should come from central government funds, as stated above. Given that these category of farmers is not part of the 'farmers group' in production zones (which have their own 'insurance fund' for activities such as prevention, infrastructure etc), biosecurity measures for this group of farmers should be made available and enforced by province and district authorities. Thus, province authorities' funds will be used to target this category of farmers (bearing in mind that this group of producers should be reduced over time, most likely through diversifying their income generating activities).

- Farmers groups in production zones

The objective is to elaborate a national policy promoting the creation of "production zones" at province level in order to move poultry production away from households. These production zones could be established through the organisation of farmer groups, where farmers have incentives (such as credit and insurance) to move poultry production to these specific zones. It should be stressed that the establishment of production zones is a long term measure and will not be suitable for all provinces. The creation of these production zones in the long term will make it difficult for smallholders to participate in the market.

A national policy promoting the creation of "production zones" would enable to restructure the poultry production sector and the associated compensation strategy. These zones will enable increased biosecurity levels as well as production quality standards and, above all, preventing public health hazards such as the transmission of the AI to the human population. Such production zones could be linked to abattoirs and markets and at a further stage to supermarkets in the more urban areas. At province and district levels these zones would:

- Facilitate the control of poultry diseases through concentrating those animal health/veterinary activities related to poultry disease prevention into these zones,
- Reduce the risk of poultry getting infected through ducks,
- Reduce the public health hazard of transmission of AI to the human population.

In order to facilitate this process, both farmers and province/district authorities would need incentives. The incentives proposed to promote poultry production relocation are insurance (elaborated below) and credit schemes (which would need further analysis). There will be however a problem of land availability in the South. In this case land use policy should be analysed and possibilities of land availability for relocation of poultry production through farmers groups should be provided.

- Insurance within farmers groups

The objective is to facilitate the implementation of compulsory insurance schemes for those farmers willing to move their poultry production to the production zones. Such compulsory insurance scheme has been shown in the Ha Tay farmers' group example and would serve as an added incentive for poultry farmers to move to production zones. Especially interesting would be to associate credit (borrowing money) with the compulsory insurance (i.e. those taking a credit are obliged to sign in the insurance scheme).

The compulsory insurance scheme could be based on two principles:

- Risk pooling and risk-sharing amongst poultry producers. For risk pooling to be equitable among farmers, premium contribution to the farmers group insurance fund should be related to the number and categories of animal breeds included in the production zone;
- Risk-sharing between authorities (province and district levels) and poultry producers. Authorities' intervention is seen as crucial to avoid cream-skimming and adverse selection towards smaller poultry raisers (financial resources will come from the "animal disease prevention, treatment and epidemic control funds" – labelled in the literature as Animal Health Funds – which are detailed below).

Additionally, these insurance funds could also be used to contract out routine animal health activities to be defined (e.g. routine sero-surveillance).

6 Recommendations

The recommendations that follow especially address the re-definition of the national compensation scheme for AI in Vietnam. It is essential to understand that the compensation scheme is highly entangled with the restructuring of the Vietnamese poultry sector as well as with the Emergency Contingency Plan and the Restocking policies. Both are the subject of proposed studies to be funded by FAO under the umbrella of AIERP activities. It will be important for the consultants carrying out these studies to take into account the findings of this report.

It is important to have a plan in place before the next outbreaks appears. Although it is difficult to predict when this will happen, given the epidemiology of the previous outbreaks, probably new outbreaks will take place around December to February. Hence, if farmers need to be registered for compensation purposes, they will need to be aware on the procedures to follow.

Financial support to farmers for prevention and control of Avian Influenza should include the following components:

1. Compensation for birds culled during outbreak stamping out

Government support to farmers is necessary and should continue because:

- Culling is mandatory by the Government, and causes loss of production and related income to farmers;
- Support for animal culling is an incentive for farmers to declare the disease and to cull the poultry rather than selling sick birds illegally;
- Avian Influenza constitutes a public health threat

The government support policy should be homogeneous across provinces, that is, the same value paid in all provinces for the same type of bird, in order to limit poultry movement between provinces;

Government support level should be raised from the current 10-15% of the market value of the poultry slaughtered to a level of 50% of market value (recommended by the DA) or 75% (as paid in Thailand).

- The support during the 2004 outbreak was only of the 10 to 15 % of the market value², giving an incentive to farmers to sell their poultry illegally and increase the risk of disease spread.
- Central government budgetary constraints do not allow paying for the full market value, but can support 50%.

The following poultry categories are proposed to determine the amount of support to be paid. However, these categories need to be finalised by agreement between provinces:

- Layer; Broiler > 1 kg; Broiler < 1 kg; Eggs; Quails; Pigeons

In order to ensure sustainable and consistent funding of compensation, a specific fund should be set up for 'animal disease prevention, treatment and epidemic control'

- It would need to be centrally held but quickly accessible by those provinces with outbreaks;
- Funds would be contributed by the provincial government, the private sector and the central government;

² 32 The market value of a layer is considered to be 100 000 VND.

- Funds should be earmarked;
- • Since farmers and provinces will be contributing to the fund, it will encourage them to improve prevention measures.

2. Support for biosecure poultry raising

In order to make disease control easier, reduce the level of risk, reduce the number of outbreaks and hence the need for compensation.

- Funds should be provided at provincial level to create and implement Poultry Production Zones for commercial producers
- At commune level, for backyard poultry keepers, funds should be provided to promote the creation of farmers groups / poultry production clubs

Annex 1: Questionnaires used during interviews in December 2004

Questionnaire for AI Compensation Payments MARD

1. On which criteria was the contribution of the central government to the provinces calculated?
2. On which criteria where the poultry categories to be compensated decided?
3. How was the compensation rate per poultry category calculated? % of market value (please specify) Others (please specify)
4. Do you intend to change the criteria for poultry categories for future outbreaks? (e.g breeders, layers, broilers ...)
5. Did MARD give any guidance to the provinces regarding the criteria to select the farms to be compensated?

Yes (please specify) No
6. What was the relation/communication between MARD and the Ministry of Finance during the AI outbreak ?
7. How could that be improved in order to increase responsiveness in case of emergency?

Questionnaire for AI Compensation Payments Ministry of Finance

1. When is the new fiscal year starting?
2. From which budget line did the funds for AI compensation come from? 3. Where did these funds come from?
4. How was the amount of funds allocated to the provinces calculated? (please specify)
5. How long did it take to disburse funds for compensation upon request from the provinces?
6. What were the administrative procedures between request of funds from the provinces and the disbursement of funds?
7. What was the relation/communication between Ministry of Finance and MARD during the AI outbreak ?
8. Which lessons have been learnt from the experience with compensation for future outbreaks?
9. Are there any plans to change procedures for future outbreaks? Yes (please specify)
No

Questionnaire for AI Compensation Payments For DARD/SDAH

1. Did you receive funds for compensation from the central government? Yes

No

If yes,

- What was the amount?
- How was the amount of funds was calculated?
- When was the funding from central government received?

2. Where additional funds allocated from provincial budget?

- Yes
- No

If yes, where did the provincial budget come from? Disaster budget

- Contingency budget
- Others (please specify).....

3. When was the compensation funding released by the PPC?

- Who took the decisions to pay compensation to farmers or not ? Provincial People's Committee
- District Peoples' Committee
- DARD
- Others (please specify).....

5. Was there any advance funding by the province which was later on refunded by the central government?

- Yes
- no

6. Was there any advance funding by the district which was later refunded by the province? Yes
no

7. When was the number of poultry/farm to be compensated calculated? At the time of culling
Later (please specify)

8. When was the compensation payment delivered to farmers? At the time of culling
Later (please specify)

9. Who delivered the compensation payment?

Province district

10. How did the province confirm the AI outbreaks? Through the

- Communal PC
- Communal AHW
- District PC
- District Veterinary Station (DVS)
- SDAH

11. Did the province pay compensation according to categories of poultry (layer, breeder, broiler) or an average amount?

12. What are your suggestions of the provinces for the compensation policy of the government?

13. Are there any plans at provincial level to set up a fund for emergency outbreak situation? Where could the funds come from?

Questions for farmers

1. How many animals were culled during the AI outbreak?
2. Which office/authority confirmed the number of culled chicken?
3. On which criteria was the compensation paid to you? Total number of culled of categories of poultry
4. How much did you get for one chicken/duck?
5. When did you receive the money for the compensation?
6. Is the level of compensation in your opinion appropriate?
7. If not, how much would be appropriate?
8. Which problems did you face with the compensation payments?
9. How did you recover from the outbreak? How is your situation now?

Annex 2: Risk-sharing process rationale: Examples from other countries³³

After having outlined the main findings for the field appraisal, the next sections elaborate on the rationale for increasing farmers and province authorities' responsibility over poultry production. Section 3.2.1 provides some examples obtained from the literature on other countries compensation strategies. Especial attention would be given to the examples of the outbreak of AI in Thailand and the Classical Swine Fever (CSF) outbreak in the Netherlands. Section 3.2.2 builds on existing trends observed during the field appraisal in Vietnam's provinces.

Thailand³⁴

Recently Thailand has also had to cope with an outbreak of AI. With regard to compensation levels, Thai law states that compensation can be made at 75% of market value. However, market value can be varied for each region and time. For the recent AI outbreak though, compensation was evaluated and defined for the whole country (and not per animal) which ultimately amounted for about 100% of market value. During the first wave, the compensation value has been estimated at 47.84 million USD and it has been paid to approximately 46.5 million (97%).

During the first AI outbreak in Thailand, poultry producers were compensated according to the market value of the animal by the slaughtering time. There was also extra compensation given to the farmers for the poultry's long term production value loss, especially for laying chicken and ducks. The rates applied (in USD) for the two respective types of compensations were:

- Broiler $0.5 + 0.6 = 1.1$
- Laying Hens $1.0 + 2.5 = 3.5$
- Native chicken $1.0 + 1.2 = 2.2$
- Meat-typed duck $0.5 + 0.6 = 1.1$
- Laying duck $1.0 + 2.5 = 3.5$

In the case of chickens aged less than 21 days, only the market value was compensated. Most importantly for transparency purposes, compensation for the first wave of AI was paid only to those farmers who were registered. These producers were compensated for the number of poultry raised and number of dead poultry. From the start of the second outbreak to date, compensation is given to farmers following Department of Livestock Development's (DLD) regulation on leaving the poultry housing vacant for the period defined by DLD and improvement of biosecurity.

When focusing on accuracy in the number of animal culled, a committee is set up in each province to evaluate the loss of the farmers due to AI (i.e. species, age and number of poultry, type of management, losses). Every single farmer is registered and losses for each farmer are estimated. Information previously mentioned is passed on through the channel (governor, Regional Livestock Office and DLD Head Quarters). DLD HQ proceeds with the finance component. Approval from the Cabinet is needed in order to release the financial resources from a fund for all types of disaster (such as disease, flooding, draught, etc). Then funds are released to each province and payment made to the farmers.

³³ For a detailed explanation of other financing schemes for the livestock sector please refer to Riviere-Cinnamond, A. (2004), Funding Animal Healthcare Systems: Mechanisms and Options, FAO-PPLPI Working Paper 17, pp.45, Rome. Available at: <http://www.fao.org/ag/againfo/projects/en/pplpi/docarc/wp17.pdf> ³⁴ Information and data obtained for the Thai example was provided by FAORAP.

Regarding compensation schemes, no explicit changes are expected in the Thai context given that compensation is already stated in the Thai law of animal disease control. However, additional funding activities, such as credit schemes (i.e. loan at low interest) to those farmers needing to improve biosecurity system in their farms, are being implemented.

Nevertheless, poultry exporting industries have set up a fund to support government in strengthening animal disease control (not only for AI) and problems in poultry management such as surveillance programs for poultry diseases or monitoring of nitrofurans usage. Such funds are complementary to the government existing programs.

The Netherlands

Horst *et al.* (1999b) stated that "During the 18th and 19th Centuries, in most of the countries in Western Europe, legislation was established to control contagious animal diseases, such as rinderpest and bovine pleuropneumonia (CBPP). Financial compensation was often paid to the owners of cattle which had to be slaughtered. This compensation was provided by regional authorities, with reimbursement set at various levels, or by agricultural funds".

With the development of the European Union (EU) and the increase in free trade of goods within the EU, legislation was needed and consequently developed for controlling and eradicating highly contagious animal diseases. Examples of these include not only rinderpest and CBPP, but classical swine fever (CSF), foot and mouth disease (FMD) and New Castle disease (ND). In order to obtain the eradication of such diseases the strategy used was to depopulate (i.e. 'stamping out') while compensating the herd owner.

Given the need driven by the evolution of the EU free trade in goods, legislation was needed in order for the EU to contribute to the eradication of List A OIE diseases. Thus, in case of an emergency, the EU contributes with 50% of the costs of depopulation, disposal of carcasses and related contaminated materials and disinfection of premises. To that end, an annual agricultural levy is imposed to EU member states (Horst *et al.*, 1999b; van Asseldonk *et al.*, 2003). Regarding depopulation compensation in the EU, there are two ways in which it can be established: either by (i) an 'official appraiser' who values the animals to be slaughtered, or by (ii) the weight of the animal.

An interesting example from which similarities can be drawn for the Vietnam AI outbreak relate to the CSF outbreak in the Netherlands in 1997. Following the previous outbreak during 1982-1985 which incurred 30-35 million USD direct costs, the government in collaboration with the livestock industry decided to establish a "national stamping-out fund". The fund's aim was to create a reserve of 50 million USD, where the government and the livestock industry contributed equally (50%). It was managed by the Ministry of Agriculture. If compensation for an outbreak exceeded the amount of the fund, financial resources would come from the national treasury.

This fund was used to cover direct costs due to CSF, FMD, ASF (African Swine Fever), swine vesicular fever and ND. Compensation in case of an outbreak of one of the aforementioned disease was the following: full compensation (100% of the market value) for healthy animals, 50% of the market value for diseased animals and nothing for dead animals. These levels were established to encourage farmers to declare the disease at the earliest stage. Interestingly, individual farmers paid a levy to the fund through the livestock industry. The levy was established as a fixed rate per animal or animal product, with yearly adjustments (Horst *et al.*, 1999).

However, such functioning was revisited due to the CSF outbreak in 1997. Thus in January 1998 an Animal Health Fund (AHF) was created and exclusively applied to the pig industry and "provides funding for a wider range of costs than the former stamping out fund" (Horst *et al.*, 1999b). The

AHF therefore provides resources for (i) compensating farmers for animals destroyed, (ii) compensation for welfare slaughter, (iii) organisational costs and (iv) preventive measure costs.

The fact that the fund collects financial contributions from farmers through the industry's association is important in terms of farmers' behaviour vis-à-vis biosecurity in their production systems. They have to contribute financially to the fund because epidemic diseases of the OIE List A may incur high levels of externalities. It is these spill-over effects due to the nature of such diseases that does not allow farmers to think individually, but as a 'group' (i.e. the presence of disease in one farm can rapidly spread to other initially uninfected farms, therefore causing economic losses to all farmers in the sector). However, at an initial phase, extension is needed for farmers to be aware of the risks associated with such diseases. Increasing awareness of externalities associated with animal diseases encourages farmers to implement biosecurity measures in their production systems so as to reduce/avoid economic losses due to epidemics.

Germany³⁵

In the AH field, Germany passed a national law on contagious livestock diseases enabling the establishment of "Compensation Funds" (TSK) in 1909. These collected funds to support official measures against contagious diseases. TSKs were then established in the German federal states. The philosophy of the TSKs relied on the combination of the livestock owners' will of risk-sharing with the state support for agriculture. It was introduced as a compulsory scheme and the intention was to accumulate funds to compensate farmers for losses incurred from the application of official measures. Those measures were (i) the control and fight of contagious livestock diseases and (ii) the application of prophylactic or preventive measures (prevent the outbreak and spread of diseases), which constituted the biggest bulk of the financing. Nowadays, TSKs exist in all federal states as parastatal self-governing institutions and their mandate is determined in the statutes. It is an independent management body that takes decisions according to best practice.

Financing of (or contributions made to) TSKs come from three different sources. First, membership is compulsory for all livestock holders and the annual fee is related to the number of cattle, horses, pigs, sheep and poultry owned. Second, TSK receives state grants to finance legally ordered activities such as vaccinations and routine tests. And third, another source of income is revenue coming from financial investments and assets held. Compensations received by livestock owners from TSK relate to the following situations:

- (i) Losses due to notifiable diseases,
- (ii) Losses due to compulsory measures for disease prevention and control,
- (iii) TSKs contribute partly to the costs incurred by proper disposal of rendering carcasses in rendering plants, and
- (iv) TSKs compensate mass vaccination and laboratory testing expenses.

TSKs operate under the guidance of the federal MoA or MoH (in relation to each federal state). At the top of its structure is the supervisory board composed of representatives of livestock holders, private veterinarians, public veterinary officers and the supervising ministry. It is the supervisory board which sets the guidelines and relevant decisions applied by the management on day to day operations.

Australia

The newly created Animal Health Australia embodies a similar structure to that outlined above for Germany. Animal Health Australia was founded in February 2000 as a result of a consultation

³⁵ Donhauser, F., and Pauels, F. J. "Scope and limitations for establishing a joint funding scheme to support official control and eradication programmes against contagious livestock diseases in Turkey," GTZ, 1997.

between government and industry groups regarding strategic planning for policy and funding mechanisms for a national livestock system programme. The Australian National Animal Health System (NAHS) is organised as a not-for-profit company which currently includes 24 members spread across four membership categories: (i) the Commonwealth, (ii) State and Territory governments, (iii) key primary industry groups and (iv) other key interested organisations.

Funding is provided via annual subscriptions paid by the members to the Company and "is *applied in pursuit of an integrated national animal health system*"³⁶. Subscriptions to Animal Health Australia are determined on a three year rolling average of the Gross Value of Production (GVP) as established by figures published by the Australian Bureau of Statistics. Each livestock sector or species is represented by an organization that is effectively the "peak body" for livestock producers utilizing that species of animal. The Commonwealth (Federal) government is also a member, as are the seven States and Territories. The Commonwealth pays one-third of the total subscription funding due (based on break even expenditure budgets prepared in advance and approved by members of the Company in general meeting), the States and Territories pay onethird (split between them all on the basis of GVP as noted above), and the "peak bodies" pay onethird, also split between them as per their relative GVP figures.

The structure is supported and enabled by legislation. The Company also has the capability to manage national animal health related programmes for all, or a subset of its members. Programmes that have a collective benefit for members are funded from members' subscriptions. The Company currently has three major subscription-funded programmes addressing:

- (i) Animal health services, "*which aims to improve the national capability, standards and performance of Australia's animal health system*",
- (ii) Animal disease surveillance, "*which provides a nationally integrated, innovative surveillance system to underpin trade*", and
- (iii) Emergency animal disease preparedness, "*which enhances management approaches to deal with animal disease emergencies*".

Animal Health Australia also includes disease specific programmes. Those diseases of interest to a limited number of members are therefore funded directly by the primary beneficiaries. In 2003, the Company managed 'special' programmes and projects such as Tuberculosis Freedom Assurance Programme (TFAP), National Transmissible Spongiform Bovine Encephalopathy Surveillance Programme and the National Arbovirus Monitoring Programme.

These country examples show the evolution of support systems in relation to the development of the production sector (not only for poultry). Therefore, it is expected for Vietnam that once production systems intensify, the industry will contribute in a greater extend to animal disease prevention and control than the government. The rationale behind such tendency is economic benefits from improved production quality.

³⁶ Animal-Health-Australia. "Animal Health Australia," <http://www.aahc.com.au/about/what.htm>, 2003.