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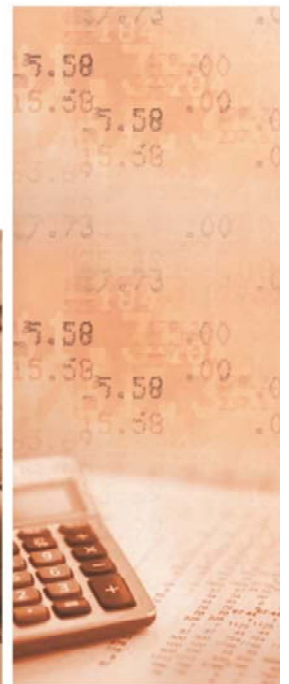
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# PVS Gap Analysis Report

## Vietnam



June

2010

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# **OIE PVS Gap Analysis report**

## **Vietnam**

**21<sup>st</sup> – 29<sup>th</sup> June 2010**

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### List of acronyms, abbreviations and/or special terms

ASEAN	Association of South East Asian Nations
CC	Critical Competency
CCC	Critical Competency Card
CVL	Central Veterinary Laboratory
CVO	Chief Veterinary Officer
CSF	Classical Swine Fever
DAH	Department of Animal Health
DGVS	Director General of Veterinary Services – Chief Veterinary Officer (CVO)
FC	Fundamental Component
FMD	Foot and Mouth Disease
FVP	Field Veterinary Post
HPAI	Highly Pathogenic Avian influenza
HS	Haemorrhagic Septicaemia
MARD	Ministry of Agriculture and Rural Development
MOU	Memorandum of Understanding
MoF	Ministry of Fisheries
MoH	Ministry of Health
NCD	Newcastle Disease
OIE	World Organisation for Animal Health
OIE-PVS	OIE Performance of Veterinary Services Evaluation Tool
PRRS	Porcine Reproductive and Respiratory Syndrome
PSVS	OIE/AusAID Programme for Strengthening Veterinary Services in SE Asia
RAHO	Regional Animal Health Office
SubDAH	Sub-Department of Animal Health (provincial animal health offices)
USD	United States of America Dollar
VLSP	(OIE) Veterinary Legislation Support Programme
VLU	Veterinary Livestock Unit
VND	Vietnamese Dong
VS	Veterinary Service(s)
VPH	Veterinary Public Health
VSB	Veterinary Statutory Body (see OIE Code definition)





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## Acknowledgements

The conduct of this OIE-PVS Gap Analysis by Dr. Eric Fermet-Quinet (Team Leader), Dr Terry Hunt (Technical Expert) and Dr. John STRATTON (Observer), hereinafter called the OIE-PVS Gap Analysis Team, has been formally authorised by the OIE.

The OIE-PVS Evaluation Team wishes to express its gratitude to the staff of the Vietnamese Department of Animal Health, as well as those from related agencies and other relevant individuals who freely gave of their time and experience to assist this mission.



## EXECUTIVE SUMMARY

The aim of the OIE PVS Gap Analysis is to assist countries to identify, detail and cost priority activities to strengthen their VS system, in line with international standards, and using the completed OIE PVS Evaluation as a framework and baseline.

While the OIE PVS Evaluation is by its nature external, independent and objective, the PVS Gap Analysis is fully participatory with the expert team and the VS working together to identify, detail and cost the agreed targeted levels of advancement.

This Gap Analysis report can either be used directly, or can be a key input into a national Strategic Plan for VS, for use in advocacy and targeting of investments and implementation by government and/or external donors/agencies in the strengthening of VS. In Vietnam, OIE is also assisting in the formal use of this Gap Analysis report as an input into the development of a national VS Strategic Plan or “Roadmap”.

The PVS Gap Analysis can be divided into four major components – identification of broad **national priorities** for VS, identification of **critical competency targets**, identification of **tasks** to complete in pursuit of these targets and determination of preliminary **cost estimations** under each critical competency, collated into a global 5 year budget for the VS.

The VS of Vietnam, working with the PVS Gap Analysis team, firstly identified key broad national priorities relevant to VS activity that they would pursue over the next five years, in four major categories.

In **terrestrial livestock development and trade**, the focus is on improving animal production through ongoing intensification (including veterinary inputs) and market chain improvements as well as the development and establishment of specific or niche export markets for animals and animal products.

In **animal health** (livestock disease management) the focus would be on progressive control and eradication of HPAI in coordination with the ASEAN Roadmap for HPAI Eradication that is being developed, progressive control and eradication of FMD in coordination with the OIE SEACFMD programme, and in strengthening programmes for rabies, PRRS and CSF as the additional priority transboundary animal diseases for control.

In **veterinary public health** the priorities are: major improvements in meat hygiene and inspection standards in priority national slaughterhouses, improved residue testing and better control over the quality and distribution of veterinary drugs.

In **veterinary organisational structure and management**, a fundamental and cross cutting priority is to progressively strengthen the chain of command from DAH to the field level in priority aspects of disease control, border security and veterinary public health. In addition, regulation of the veterinary profession through a Veterinary Statutory Body and better communications and consultation internally and externally were also identified as national priorities.

To achieve these broad priorities, the VS, again with guidance from the PVS expert team, focused on the 46 critical competencies (CCs) of the PVS tool, using the recent PVS follow up evaluation levels (1<sup>st</sup>-14<sup>th</sup> March 2010) as the starting benchmark. Target levels to be achieved for each CC over the next 5 years were agreed upon, as were tasks required under each CC target. Finally, resource implications (cost estimations) that would permit reaching the CC targets were calculated.

The priority aspects of the VS to focus on over the next five years can be grouped into three priority cross cutting issues relevant to all VS activity and three priority technical activities for

improvement. Another four lower priority technical activities are also being targeted for action and improvement.

The three major cross cutting VS issues of priority are:

1. Strengthening Internal Coordination (chain of command)
2. Improving Veterinary and Veterinary Para-professional Competency - incorporating Education (initial and continuing), Regulation of the Profession and Technical Independence
3. Improving Stakeholder Consultation (of lower priority compared to the previous two)

Other cross cutting VS issues such as communications, physical and financial resources, legislation, staffing levels and external coordination may be less than ideal but they are not regarded as current priorities given current status and/or planned activity. For example, improving legislation is vitally important but there are dedicated teams and activity already underway and ongoing including external support provided from agencies such as the OIE. Therefore these are not priorities for the planning of new or additional activity identified by this PVS Gap Analysis. Despite not being identified as priorities, planning and costing for the maintenance and improvement of these aspects is still included in the body of the report.

The three priority technical VS activities to improve are:

1. Livestock disease management on farms via the field animal health network (incorporating activities such as official surveillance, vaccination and farmer communications)
2. Animal production food safety (in particular slaughterhouses)
3. Border security and quarantine

Four lesser priority technical VS activities (though still for targeted action) relate to; *traceability and animal identification* (CCII.13A) where pilot livestock identification and data management targeting certain species sub-groups will be conducted, *internal livestock movement* (CCII.13A) where DAH will take over control of selected priority internal livestock movement checkpoints, *veterinary drug control* (CCII.9) where distribution and use require regulatory action and *compartmentalisation* (CCIV.8) where a private company has aspirations in relation to facilitation of poultry exports. Further details of tasks and resources required for these secondary priority activities are included in the body of the report under their relevant sections.

Other specific technical activities such as laboratory diagnosis, risk analysis, export certification and animal welfare may be less than ideal but are not current priorities for the strengthening of the Vietnamese VS given currently existing planning and/or activity. Despite not being identified as priorities, planning and costing relating to these aspects is still included in the body of the report, as the Gap Analysis provides comprehensive planning for all aspects of VS.

The remainder of this executive summary will go into detail only on the three major priority cross cutting issues plus the three major priority technical VS activities. This represents a summary of priority goals and related tasks and resources that are initially required to strengthen VS in Vietnam and that should be the priority targets of dedicated activity over the next five years.

Against each of the six priority headings are referenced the relevant critical competencies which can be found in the body and appendices of this report and provide further details relating to priority goals and tasks (critical competency cards) and costing (cost estimation cards) for strengthened veterinary services.

## Major Cross Cutting Issues for Improvement

### 1. Internal Coordination and Chain of Command (*CC 1.6A – Internal Coordination – chain of command*)

The number one cross cutting priority issue for the Vietnamese VS is the strengthening of internal coordination particularly relating to the veterinary chain of command. Currently there is no effective link both down to and up from the field, due to breaks in the chain of command, most obviously between DAH/RAHOs and Sub-DAH offices, but also between the lower levels of the VS (Sub-DAH, districts and communes). Evidence for this can be found in the recent OIE PVS follow up evaluation report and will not be reiterated here.

The OIE PVS Gap Analysis provides five suggestions as to how the Vietnamese VS can improve internal coordination. These options are:

- a. DAH legislating to gain authority over VS activity
- b. DAH assuming control of VS finances
- c. DAH centralising data management (and the oversight of field activity that this permits)
- d. DAH engaging in direct official delegation of private veterinary services to field level
- e. DAH engaging in stronger formal communications and consultation mechanisms with the lower tiers of the Vietnamese VS (coordination by “consensus” rather than “command”).

The first two methods (legislative and financial authority) are the most ideal and comprehensive but perhaps the most difficult to achieve given the current decentralised political system of Vietnam. New legislation is currently being developed and although the chain of command issue is mentioned, specific legislative changes to comprehensively strengthen DAH authority have not been attempted based on political realities. Financial authority generally follows political or legislative authority and so is also difficult to envisage in the five year timeframe.

Within decentralised systems, VS can advocate for the unique application of a legislative or financial chain of command for VS using arguments around the rapid and absolute decision making requirements of VS functions as supported by the OIE. Examples of government functions where a stronger chain of command has been implemented as an exception in the decentralised country, such as for military, police or natural disaster response can be cited, and comparisons can be drawn with VS. For example, such existing functions with a stronger chain of command can be equated with the need for rapid decision making and implementation in VS functions such as outbreak emergency response, animal production food safety, quarantine and inspection and export facilitation and assurance.

Where it is not possible to legislatively or financially achieve a more direct chain of command for many VS activities, certain activities may still be suitable for pursuing improved chain of command via these methods. Two examples would be animal health emergencies and international border post inspection. It is paramount to realize that consistency and immediacy of response can only be gained through a strong national chain of command.

In situations where advocacy to politicians for changing legislative or financial authority to strengthen VS chain of command systems are unsuccessful or only partially successful, there is no choice but to explore alternative forms of internal VS coordination. In such cases, very close formal communications and consultation with other levels of VS are essential to harmonise and share ownership of policies and their implementation (note this also applies to external stakeholders). This is with the aim of fostering compliance with implementation through lower level VS and down to the field. Getting inputs, consensus and harmonisation is operationally intense and often involves compromise. It takes substantial time and effort, as well as political maturity, and is not ideal for many critical VS activities requiring rapid decision making and action. Nevertheless, this PVS Gap Analysis identifies that Vietnamese

VS need to improve and formalise communications and consultation mechanisms between all the levels of their VS with a focus on technical issues.

Control over data (reports on disease surveillance, veterinary programmes, human resources and finances) permits some degree of control over related activities and thus can also contribute to a strengthened chain of command. For example, some countries produce a national annual report compiled by the Central VS relating to animal health and all VS activities undertaken in the country. Even in the absence of legislative or financial authority data must be provided by lower tier VS for the production of the report (and may be automatically provided through linked database systems). In this way a level of scrutiny or oversight is provided over activities. The fact the report is available publicly (on a website) and is sent to relevant politicians and major stakeholders further strengthens the oversight role data collection in this form may have. The analysis of such data also provides an excellent basis for future planning and coordination of policies and activities at the national level. In Vietnam, very poor levels of data are collected on field VS activities by DAH and no or very few linked veterinary databases exist between the different VS tiers. Data management for disease surveillance and control programmes, slaughterhouse inspection, border and internal checkpoint activities and laboratory results are recommended by this PVS Gap Analysis, and more details are contained under the Specific VS Activities section.

Official delegation of veterinary field activity directly by DAH, in liaison with the lower VS levels (with their roles clarified), achieves a direct chain of command to the field relatively easily and perhaps is the quickest and most direct way for DAH to gain official control over field activities such as on farm disease surveillance and control or slaughterhouse inspection. Such an approach should be taken progressively. For example, to avoid major disruptions it would be preferable to gradually roll this out through new national programmes initially, rather than any wholesale takeover of activity currently under the responsibility of the lower VS levels (such as the commune animal health workers). In support of such an approach is the stated Vietnamese national policy for gradual handover of VS activities to the private sector. A stronger chain of command to field level could be a corollary to the pursuit of this already agreed upon policy objective. A second justification can be made through the pursuit of a uniform standard setting approach for veterinary and veterinary paraprofessional services, such as by regulation of the professions through a VSB. This option will be explored more thoroughly in the next section. This PVS Gap Analysis recommends official delegation particularly for strengthening chain of command relating to the field animal health network, but also for slaughterhouse and slaughterslab hygiene and inspection.

The seven RAHOs over which DAH already has direct control could act as a useful stepping stone for better control and coordination with sub-DAH or with private animal health service providers and subsequently field activity. RAHOs could be strengthened beyond their current mainly technical role (laboratory and epidemiological) to have more policy and programme influence over the particular Sub-DAH offices within their geographical remit, either through legislative or financial authority. It might also assist with any data management and communications/consultation approaches that may be attempted. Given there are 63 Sub-DAH offices the interim tier provided by the RAHOs would make management and influence over Sub-DAH activity easier for DAH to handle than if this were attempted directly. Alternatively, they might also be involved in direct official delegation to private veterinarians or veterinary para-professionals.

## **2. Veterinary and veterinary para-professionals** (*CC1.2 – Veterinary and veterinary para-professional competency, CC1.3. - Continuing education, CC1.4. Technical independence, CCIII.5 Veterinary Statutory Body*)

This cross cutting issue basically relates to improving the technical competency of VS staff. Under this theme several aspects relating to veterinary and veterinary para-professional competency are incorporated including: initial and continuing education, regulation of the

profession through the establishment of a Veterinary Statutory Body and promoting technical independence through appropriate staff remuneration.

Veterinary and veterinary para-professional education, of both the initial and continuing variety, needs close attention from the VS. This includes both undergraduate (veterinary degree and para-professional diploma), and post graduate (or other) continuing education and specialised training.

The PVS Gap Analysis advocates an upgrading of veterinary undergraduate teaching staff through overseas staff exchanges and/or post graduate training and the ongoing revision and standardisation of veterinary curricula across the country for long term improvement of the veterinary and veterinary para-professional skills and knowledge base.

Continuing education and specialised training should be carefully planned and sustainable, and should especially target the field VS network, animal production food safety and border inspection roles to upgrade competencies in these important areas in the short to medium term. The heavy dependence on external sources of training should be mitigated with national planning and local delivery.

Improved educational standards are closely linked to regulation of veterinarians and veterinary para-professionals through the urgent establishment of a Veterinary Statutory Body in Vietnam. This Body (often called a Veterinary Council) would have roles in determining educational or other standards required to be registered as a veterinarian or veterinary para-professional, defining “scopes of practice” of veterinary science (those practices that can only be undertaken by registered veterinarians or veterinary para-professionals), having a code of conduct and ethical standards, and providing a disciplinary function related to veterinary professional or para-professional negligence. Based on OIE standards, the VSB should require that any veterinary para-professionals engaging in official animal health programmes or activity must be adequately supervised by registered public or private veterinarians. By setting standards, defining acts of and disciplining veterinarians and veterinary para-professionals a VSB plays an important role in raising the profile and the reputation of the veterinarians and veterinary para-professionals in any country. A process to develop a VSB might involve a detailed investigatory study by a Vietnamese expert (such as a retired DGVS) involving overseas travel to sample different forms and country wide travel to meet with stakeholders and assess needs in the development of a VSB and its legislative backing.

For professional competence, remuneration for veterinary and para-professional staff must be at a reasonable level to maintain dedication and technical independence. This PVS Gap Analysis recommends increased base salaries for staff, which can continue to be supplemented by cost recovered activity such as for veterinary drug certification, diagnostic testing or quarantine services. Increasing salaries make a surprisingly small proportional difference to overall global budgets when compared to funding levels required for initial and maintenance costs of buildings and equipment, costs of transport, vaccines and reagents. The strong influence salary levels have on dedication and technical independence of staff means they can be seen as a worthy investment to strengthen VS.

### **3. Stakeholder Consultation** (*CCIII.1 – Communications, CCIII.2 - Consultation with stakeholders*)

Of lower priority than internal coordination and professional competence, but still of great importance, is the cross cutting issue of stakeholder consultation. This is currently not really existent in Vietnam. Currently representation of farmers or trader into groups with effective leadership does not exist. A Veterinary Association has been formed but does not seem to be very active or in close consultation with government. DAH could start by inviting a select group of stakeholders to a meeting to discuss VS issues and consider the initiation of improved stakeholder organisation. The opportunity for beneficiaries or clients of the VS to input into the development and ongoing monitoring of VS policies and programmes ensures

they have field relevance, increases the likelihood of stakeholder compliance and improves confidence and trust between the people and its government.

## Major Technical VS Activities for Improvement

### 1. **Animal Health Field Network - Disease surveillance, control and extension** (CCII.7- Disease prevention, control and eradication)

The current animal health field network consists of an undetermined number of private veterinarians (with veterinary degrees) likely serving medium to large intensive livestock systems, commune veterinary para-professionals (generally with 2 years training) partially funded by sub-DAH, fully private veterinary para-professionals. Several tens of thousands of personnel would be involved, with highly variable, though generally poor skills and almost all working only on a (very) part time basis. The major recommendation of this PVS Gap Analysis report relating to the field animal health network is that resources, training and engagement by the government VS should be concentrated on a much smaller number of more highly skilled and dedicated field personnel, who are fully and sustainably integrated into the animal health system. This PVS Gap Analysis provides an approximation of the number of field staff required of 3000, based on factors such as official activity, geographical distribution based on livestock numbers and travel times, and even sources of income.

This more uniformly competent and dedicated animal health field network needs to come under some level of national control. Field VS activity in Vietnam holds close relevance to both major cross cutting issues identified of professional competency and chain of command. Standardisation and registration of veterinarians and veterinary para-professionals will raise skills and knowledge levels, achieving greater consistency with services provided, as well as assisting to rationalise numbers in relation to field coverage. It can be achieved through the establishment, along with relevant legislation, of a VSB as discussed. To improve the quality of services, a comprehensive initial and continuing education push relevant to field VS must be conducted. It may be possible that this could be linked with the VSB who could officially recognise and standardise improving skills and knowledge. Veterinary para-professionals engaging in official animal health programmes or activity as part of the field network must be appropriately supervised by a government or private veterinarian. A VSB would also define the level of supervision required under varying conditions.

This PVS Gap Analysis has also identified that an opportunity may exist with the closer linking of veterinary retail drug (or feed) sales, clinical veterinary practice, and official delegation relevant to the animal health network. Drug shops and clinical service providers might be ideal as targets for public-private partnerships and official delegation to aid in the delivery of national programmes such as relating to animal health surveillance, vaccination and communications. The establishment and maintenance of veterinary drug shops, which must be owned by a veterinarian, is market driven. Therefore these shops are already neatly geographically distributed around Vietnam based on prevalence and density of livestock and livestock disease (i.e. if there are too many drug shops for the amount of livestock and disease in a particular area, one or more will go out of business). Moreover, veterinary drug and/or feed shops have regular and reliable contact with other animal health providers (other veterinarians/veterinary para-professionals), as well as many farmers if they purchase feed and drugs directly. This might allow them to be carefully engaged as a very useful hub for the official delegation of activities, particularly relevant to surveillance, vaccination and communications. Those in the field involved with all significant animal disease events or activities come into contact with a veterinary drug shop, either directly or indirectly, in relation to outbreak/disease treatment or response. For all these reasons, veterinary drug (or feed) shops could become an important and sustainable link between the VS and field activity, both up from the field (i.e. surveillance) and down to the field (i.e. official vaccination/extension).

Given that field staff are currently authorised and funded by sub-DAH, there is no direct chain of command over animal health field activities by DAH. For the same reason there is also no



direct technical reporting pathway from the field for activities such as disease surveillance, vaccination or extension work. This PVS Gap Analysis recommends that DAH seeks to gain control over selected field veterinary activities through a progressive direct official delegation of registered private veterinarians or veterinary para-professionals for the conduct of national animal health programmes. The Vietnamese government policy of privatising veterinary services supports this approach as does the need to improve standards and quality of services. As discussed, a carefully developed private-public partnership through veterinary drug shops could be useful through their creation as delegated hubs for the animal health network.

## **2. Animal Production Food Safety** (*Critical Competency II.8.A - Ante and post mortem inspection*)

Relating to animal production food safety, the focus needs to be on improving standards and practices of meat hygiene and inspection in Vietnamese slaughterhouses and slaughter slabs, which, other than for the limited number of export slaughterhouses managed by DAH, are currently at a very low standard.

Again, both cross cutting issues, chain of command and professional competency are relevant. This PVS Gap Analysis recommends that DAH gains control over the 4 major national slaughterhouses from Sub-DAH in order to implement consistent and improved slaughterhouse hygiene and inspection practices. A carefully developed training package should be undertaken by inspectors, including an overseas component. Inspected meat should be identified through stamping and permitted to be marketed nationally with its superior hygiene and inspection standards promoted as a market advantage. As it is proven successful, DAH can expand control over other major slaughterhouses.

For the many smaller local slaughterhouses and slaughter slabs private veterinarians or veterinary para-professionals should be officially delegated hygiene and inspection tasks, and again this meat should be identified as having undergone some hygiene and inspection measures, to differentiate it from backyard or home slaughter. It should only be permitted to be marketed locally. Again, if any veterinary para-professionals are involved they require adequate veterinary supervision.

## **3. Border Inspection and Quarantine** (*Critical Competency II.4 - Quarantine and border security*)

In Vietnam the Central VS (DAH) does not have control over all international border posts. Many of the terrestrial road border posts continue to be controlled and managed by Sub-DAH offices. Again, cross cutting chain of command and professional competency issues are relevant with this VS activity. The need for consistent and stringent border security and inspection procedures should be used to advocate for the takeover by DAH or RAHOs of the terrestrial borders currently not under DAH control. At the same time, the inspection and quarantine activities and procedures at major border posts currently under DAH control should be improved to reach OIE international standards. Inspectors should all receive adequate training to ensure technical aspects of their role are understood and adhered to. Non-veterinarians involved must have adequate veterinary supervision. Close liaison and zoonosanitary education and extension with other relevant agencies such as customs and police should be undertaken with the aim of reducing illegal trade. The ultimate aim should be eventual control over all international border posts by DAH, with all of them meeting international standards and linked to national programmes for disease control, eradication or the maintenance of freedom.

### **Summary**

In brief summary, the major issues that should be the focus for improvement by the Vietnamese VS over the next 5 years should be strengthening internal coordination and the chain of command, improving the competence and standards for veterinarians and veterinary para-professionals and to a lesser extent but still of importance, improving stakeholder

consultation. If these cross cutting issues are managed effectively, especially the first two, they will manifest themselves in targeted improvements in priority technical activities including disease management by the field animal health network, animal production food safety in slaughterhouses and slaughter slabs, and improved border inspection and quarantine.

# METHODOLOGY OF THE PVS GAP ANALYSIS MISSION

A PVS Gap Analysis mission facilitates the definition of country's Veterinary Services' objectives in terms of compliance with OIE quality standards, suitably adapted to national constraints and priorities. The country PVS Gap Analysis report includes an indicative operational budget for 5 years and an exceptional budget (necessary investments) when relevant. In practice, this means:

- defining, together with the Veterinary Services, and in accordance with national priorities and constraints, the expected result (level of advancement defined in the OIE PVS tool) at the end of the five-year period for the critical competencies (CCs) of the OIE PVS tool which are relevant to the national context;
- determining the activities to be carried out in order to achieve the expected CC results for the critical competencies of the OIE PVS Tool which are relevant to the national context;
- determining, with the help of information, data and interviews, the human, physical and financial resources required to implement these activities to enable the Veterinary Services to function appropriately.

It is important to note that, consistent with the OIE PVS concept, this report is focused at the animal health systems level. It does not focus on strategic or technical aspects of control and eradication for specific diseases, such as for HPAI and FMD. In Vietnam, such considerations are dealt with by additional, individual and disease-specific strategic plans for control/eradication, such as for HPAI, FMD and rabies, whose development is ongoing. The PVS Gap Analysis looks at the systems basis that might permit an appropriately improved level of disease control, without including details or technical commentary on actual disease control activities that are current or that should be taking place.

## I The PVS Gap Analysis process

### *1.1 Background information*

Following a request to the OIE from its government, an evaluation of the Veterinary Services of Vietnam based on the OIE PVS (Performance of Veterinary Services) methodology was conducted in March 2010 by a team of independent OIE certified experts.

In order to adequately understand the objectives of a country, as well as the figures presented in a PVS Gap Analysis report, it is important to have access to some key information. Some of this information came from the OIE PVS follow-up evaluation report, and a limited amount of baseline data was provided prior to and during the mission.

Unfortunately, Vietnam was unable to supply the majority of the information specifically requested by the team for the PVS Gap Analysis mission. Notably, financial information at all levels was conspicuously lacking, but also information relating to field staff, private veterinarians, veterinary drugstores and official activity. This deficiency was largely representative of the lack of a clear, technical chain of command between VS levels. Information requests were sent by DAH to all Sub-DAH offices in good time, with less than half of the Sub-DAH offices ending up supplying the requested information. This reveals two important characteristics of the Vietnamese VS. Firstly the central DAH office did not already have in its possession such basic information, and therefore does not routinely collect such data for the purposes of VS analysis and planning. Secondly, despite early requests and the importance of the information as feeding into the Gap Analysis and subsequently a national VS Roadmap, the Sub-DAH offices felt no compulsion or obligation to provide the data to DAH on time. This demonstrates a lack of effective internal coordination (chain of command). Both

improved systems for centralised data and information management and improved chain of command structures are key recommendations of this report.

### 1.1.A. Country details

Vietnam is a socialist country under the leadership of the Vietnam Communist Party. The Party holds a national congress every five years to outline the country's overall direction and future course as well as to formalize policies.

The National Assembly, which includes 498 members and is open to non-Party members, is the supreme organ of state and the only body with constitutional and legislative power. The National Assembly is the highest representative organ of the people and the highest organ of State power of the Socialist Republic of Vietnam. The President of the State and the Prime Minister are elected by the National Assembly.

Vietnam's administrative structure consists of four levels of government:

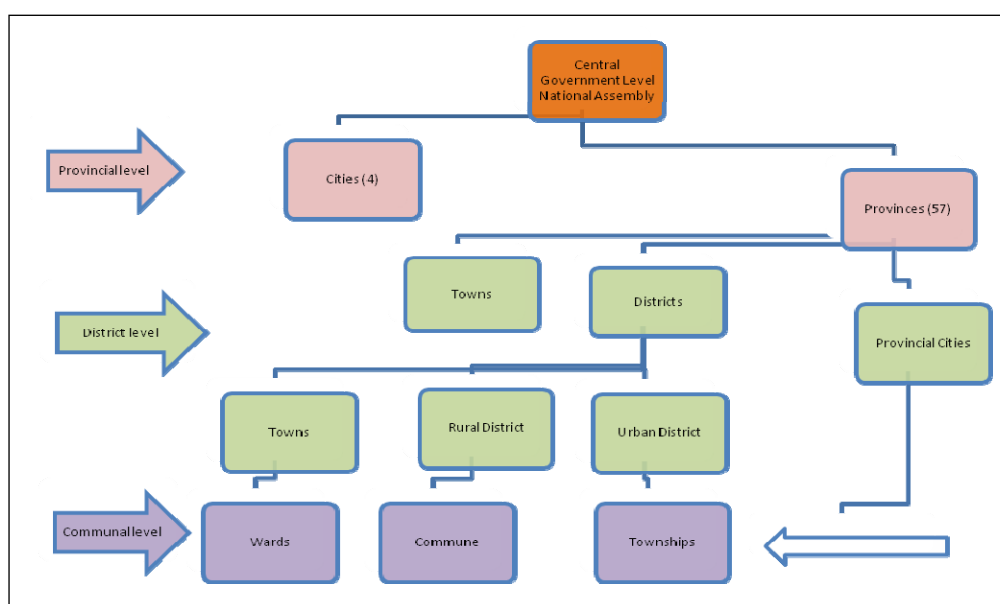
- central,
- provincial / municipal,
- district /precinct / city under provincial authority, and
- commune / ward / township.

The country is divided administratively into 63 provinces of which Hanoi, Haiphong, Da Nang, Ho Chi Minh City, and Can Tho are municipalities. These are further subdivided into several dozen urban districts and hundreds of rural districts. Nearly 10,000 communes comprise Vietnam's lowest level of local administration. At the provincial, district, and commune levels, the highest government authority is an elected People's Council, the actual work of which is carried out by a People's Committee elected by the council.

The Prime Minister of Vietnam heads a cabinet currently composed of three deputy prime ministers and the heads of twenty-six ministries and commissions, all confirmed by the National Assembly.

The Ministry of Agriculture and Rural Development is headed by a Minister, assisted by 8 Deputy Ministers<sup>1</sup>.

Diagram 1: Government Structures of Vietnam



Country details are summarised as such in the Table n°2 of the OIE PVS follow-up report

<sup>1</sup> <http://www.chinhphu.vn>

OIE PVS follow-up report Table n°2: Data summary for geography, agriculture and livestock

### Geographic features

Climatic and/or agro-ecological zones Rainfall	(mm/year) Topography Km2 %
Temperate north	>1000
Tropical south	>1000
Hills facing sea	2000 - 2500

Topography	Km <sup>2</sup>	%
Total area	331689	100
Arable land	?	?
Pasture lands	?	?
Forest	150000	42
Wetlands/deserts	50000	20
Highlands	240000	75

Source: <http://www.vietnambassay.org.uk>

### Demographic data

Human population		Livestock households/farms	
Total number	86 million	Total number	17635
Average density / km <sup>2</sup>	259 / km <sup>2</sup>	% intensive	?
% of urban	27	% agro-pastoral (mixed)	?
% of rural	73	% extensive	?

### Current livestock census data

Animals species	Total Number('000 head)	Intensive production system (% or no.)	Mixed production system (% or no.)	Extensive production system (% or no.)
Cattle & Buffalo	6877	?	40	?
Sheep & Goats	622	?	?	?
Pigs	21370	?	80	?
Poultry	233000	?	75	?

Source: [www.fao.org/ag/againfo/resources/en/publications/sector\\_briefs/lbs\\_VNM.pdf](http://www.fao.org/ag/againfo/resources/en/publications/sector_briefs/lbs_VNM.pdf)

### Animal and animal product trade data

Animals and animal products	Average annual import		Average annual export	
	Quantity	Value(x1000USD)	Quantity	Value
Cattle & Buffalo	?	?	?	?
Sheep & Goats	?	?	?	?
Pigs	388	274		
Poultry (x1000)	1530	3140		
TOTAL				

Source: [www.fao.org/ag/againfo/resources/en/publications/sector\\_briefs/lbs\\_VNM.pdf](http://www.fao.org/ag/againfo/resources/en/publications/sector_briefs/lbs_VNM.pdf)

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### *I.1.B Current organisation of the Veterinary Services*

The Department of Animal Health (DAH) is part of the Ministry of Agriculture and Rural Development (MARD) and has 7 functional divisions (Administration and Personnel, Financial, Epidemiology, Legislation and Inspection, Inspection and Quarantine, Drug Management, Planning-international cooperation-science) located at the head office in Hanoi, with a link office in Ho Chi Minh City.

The DAH also has responsibility for the National Centre for Veterinary Diagnosis, the two Centres for Quality Control of Drug and Bio-products, the two Centres for Veterinary Sanitary and Hygiene, and six Regional Animal Health Centres. DAH also manages Airport, Harbour and Border Inspection Stations. The National Institute of Veterinary Research is directly under MARD.

The DAH does not have direct line management of the 64 Provincial Veterinary Sub-departments. The Provincial Sub-departments manage Inland Inspection Stations and District Veterinary Stations which in turn have links with commune and village veterinary and veterinary para-professional teams.

A more detailed written description of these VS levels can be found in the original OIE PVS evaluation report from 2006.

The following diagrams and map provide an overall summary of VS structures both within MARD and throughout the different levels of the VS.

Diagram 2 - Vietnam MARD Structure

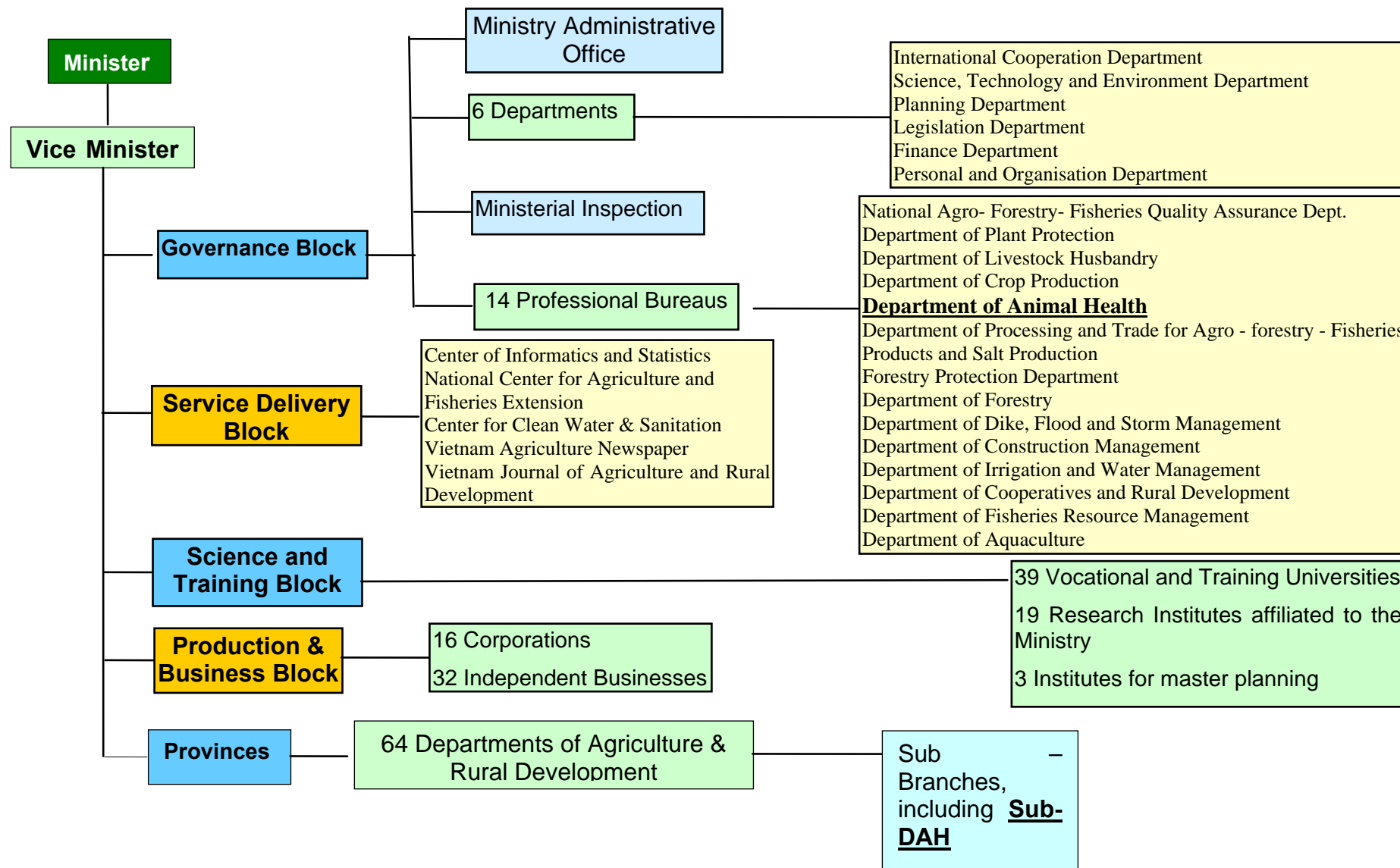
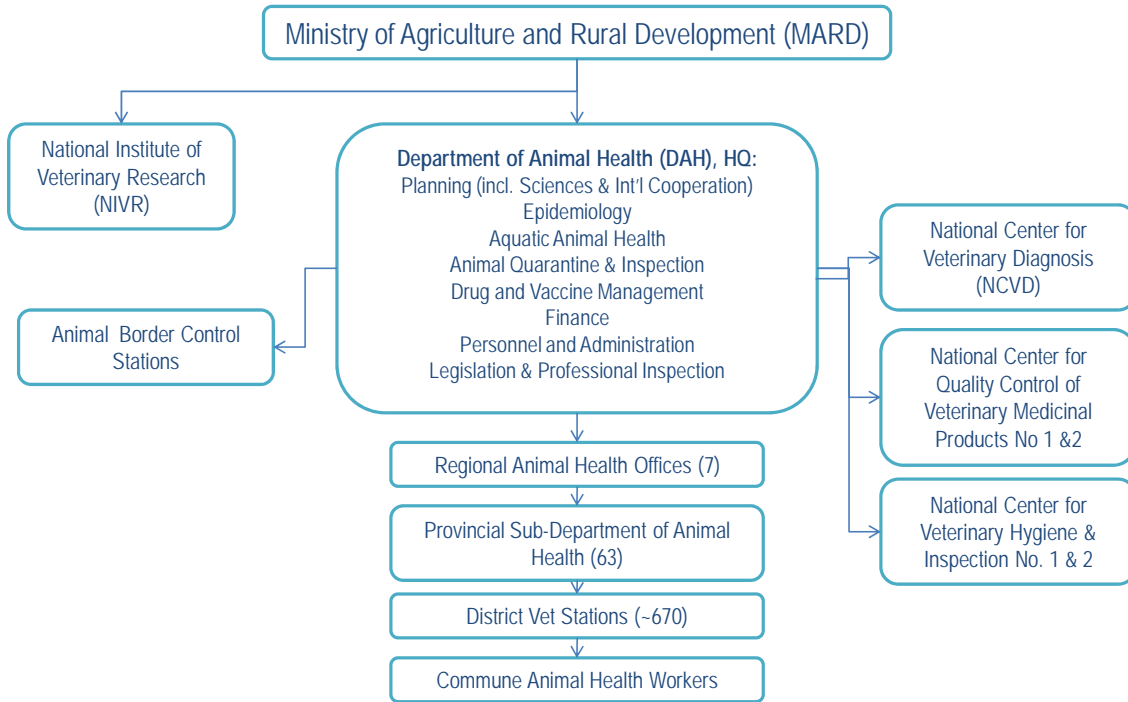


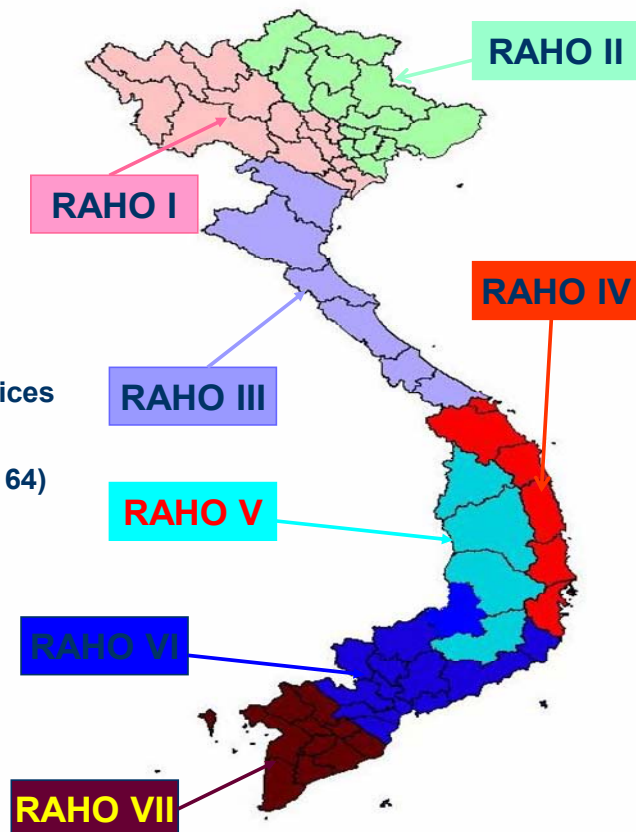


Diagram 3 - DAH's organizational chart



Map 2 - RAHO and Sub-DAH Organization from January 2008

Central level: **DAH**  
 7 Regional Animal Health offices (RAHOs)  
 63 Provincial Sub-DAH (now 64)



I.



### 1.1.C List of entities or sites related to Veterinary Services activities

	Terminology/names used in the country	Number of sites
<b>GEOGRAPHICAL ZONES OF THE COUNTRY</b>		
Climatic zone		5
Topographical zone		
Agro-ecological zone		
<b>ADMINISTRATIVE ORGANISATION OF THE COUNTRY</b>		
1st administrative level	<i>Provinces</i>	63
2nd administrative level	<i>Districts</i>	600
3rd administrative level	<i>Communes</i>	> 10 000
Urban entities	Cities	8
<b>VETERINARY SERVICES ORGANISATION AND STRUCTURE</b>		
Central (Federal/National) VS	DAH	1
Internal division of the central VS	Divisions	9
1 <sup>st</sup> level of the VS	RAHOs	7
2 <sup>nd</sup> level of the VS	Sub DAH	63
3 <sup>rd</sup> level of the VS	District VS	600
Veterinary organisations (VSB, unions...)	Vietnamese Veterinary Association	1
<b>FIELD ANIMAL HEALTH NETWORK</b>		
Field level of the VS (animal health)	Communes AHW	> 10 000
Private veterinary sector	Private veterinarians & para-professionals	> 20 000
Other sites (dip tanks, crush pens....)		
<b>VETERINARY MEDICINES &amp; BIOLOGICALS</b>		
Production sector		90
Import and wholesale sector		?
Retail sector	Drug shops	5000
Other partners involved		
<b>VETERINARY LABORATORIES</b>		
National labs	NCVD and RAHO	7
Regional and local labs		63
Associated, accredited and other labs		
<b>ANIMAL AND ANIMAL PRODUCTS MOVEMENT CONTROL</b>		
Bordering countries	Cambodia, Laos, China	3
Airports and ports border posts		20
Main terrestrial border posts		
Minor terrestrial border posts		
Quarantine stations for import		3
Internal check points		45
Live animal markets		
Zones, compartments, export quarantines		
<b>PUBLIC HEALTH INSPECTION OF ANIMALS AND ANIMAL PRODUCTS</b>		
Export slaughterhouse		10
National market slaughterhouses		
Local market slaughterhouse		
Slaughter areas/slabs/points		
On farm or butcher's slaughtering sites		
Processing sites (milk, meat, eggs, etc)		
Retail outlets (butchers, shops, restaurants)		
<b>TRAINING AND RESEARCH ORGANISATIONS</b>		
Veterinary university		6
Veterinary para-professional schools		
Veterinary research organisations		1
<b>STAKEHOLDERS' ORGANISATIONS</b>		
National livestock farmers organisations		
Local livestock farmers organisations		
Other stakeholder organisations		
Consumer organisations		

### *1.1.D Summary results of the OIE PVS evaluation*

A PVS follow up evaluation mission was conducted between 1-14 March 2010. The mission found that good progress had been made in specific areas of the Vietnamese VS since the original OIE PVS evaluation mission of 2006, but fundamental aspects of VS coordination, particularly the lack of effective linkages between central and field levels, continue to restrict progress and outcomes.

Greater financial resources from both government and donors, provided in response to endemic HPAI, has created significant improvements with physical resources and some aspects of technical capacity at central and regional levels, particular examples being much improved laboratory diagnosis and risk analysis capacity. At field level, resources have been dedicated to building offices and quarantine stations, purchasing very large amounts of vaccine and creating a new level of VS, and the network of government supported commune veterinary para-professionals at field level. These steps have had some impact on VS field coverage and activity.

The most significant limitations within the Vietnamese Veterinary Services concern the ongoing lack of effective linkages from the central VS to the field. These gaps incorporate particularly the elements of the OIE PVS Tool of Internal Coordination and chain of command (critical competency 1.6A), Technical Independence (critical competency 1.4) and Interaction with Stakeholders (fundamental component 3). In such an animal health system, irrespective of levels of funding and resources available, these insufficient links are likely to always limit efficient progress towards successful outcomes.

The poor linkages restrict the effectiveness of VS activity both “up the line” in terms of disease reporting and incorporation of field perspectives into policy and decision making, as well as “down the line” in terms of effective policy implementation and delivery to field level.

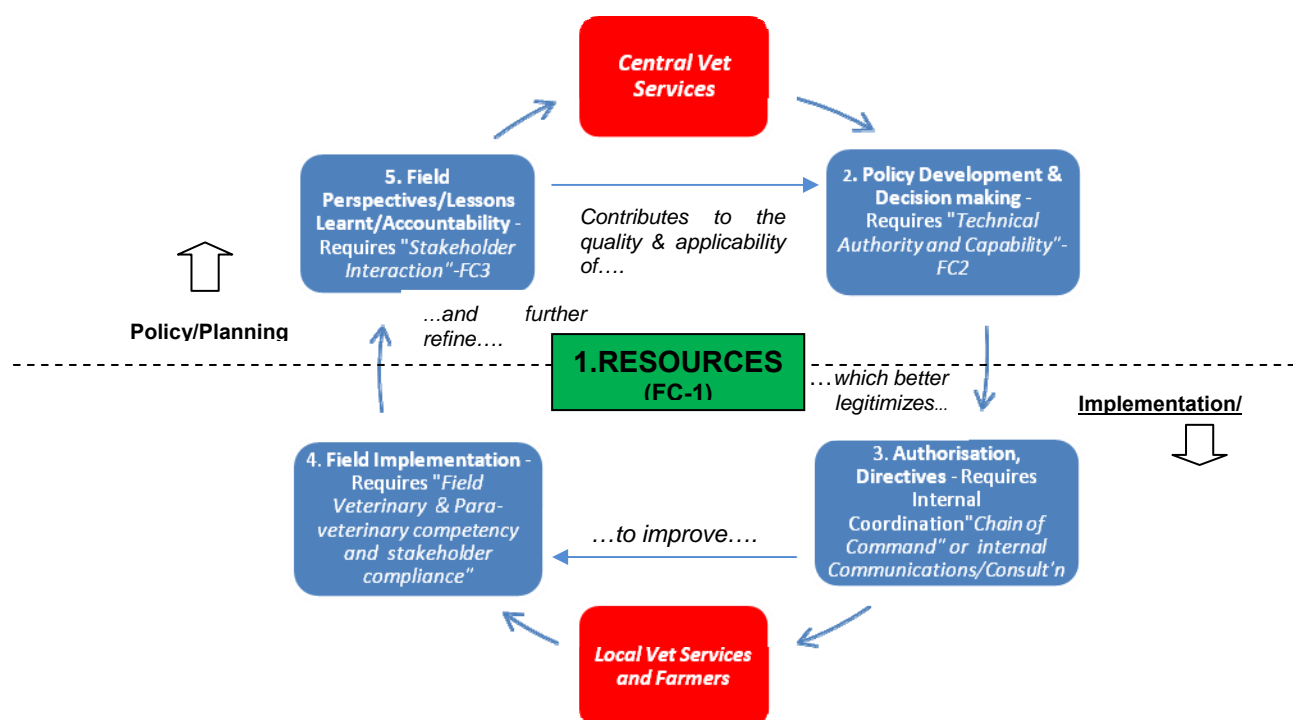
The impacts of this are most clearly demonstrated by difficulties in rapidly and efficiently responding to animal disease outbreaks, and ultimately their persistence as endemic diseases. The most obvious case example is the ongoing fight against highly pathogenic avian influenza, but it also applies to FMD, both of which remain endemic. It also relates to other aspects of the VS mandate such as border control and quarantine and non-export meat hygiene and inspection.

Decision making on these fundamental VS structural and organisational components are often not in the hands of the Veterinary Services, who, especially at Central level, are staffed by competent and hardworking officers who are doing their best to implement policies and plans in difficult environments where they cannot link effectively to the field.

In addition a lack of standardised knowledge and skills from field veterinarians and veterinary para-professional staff (critical competency 1.2) and issues with stakeholder compliance (particularly farmers) also hinder progress.

Effective links between central and field levels are so important and fundamental to this OIE PVS evaluation that it is worth exploring them in greater detail. The following diagram shows a cycle that describes the basic stages in successful animal health policy development and implementation. It shows how vital the field linkages are, the staged activity they comprise, and how mutually dependent stages are in pushing effective policy implementation forward to achieve animal health outcomes. The diagram can be used to demonstrate the current strengths and weaknesses of the Vietnamese VS, in both linking Central with field and as components of the OIE PVS Tool, and how they impact on success.

## Cycle of Efficient Animal Health Policy Development and Implementation



As can be seen, a cycle of efficient animal health (or other) policy development and implementation between central (or higher) levels of the Veterinary Services and the lower (local or field) levels of the Veterinary Services (including farmers and other stakeholders), can be thought of as comprising five stages: one cross cutting and four which provide effective linkages. The stages, along with the aspects of Veterinary Services most associated with success (as expressed within the OIE PVS Tool) included in brackets are:

- Stage 1 : Resources (FCI – Human, Physical and Financial Resources)
- Stage 2 : Policy Development and Decision Making (FCII - Technical Authority and Capability)
- Stage 3 : Authorisation/Directives/Control (CC1.6.A – Coordination capability of the VS - Internal Coordination (chain of command); I.4 - Technical Independence; and IV.1- Preparation of legislation and regulation)
- Stage 4 : Field Implementation (I.2 – Competencies of veterinarians and veterinary para-professionals; and IV.2 – Implementation of legislation and regulation and stakeholder compliance)
- Stage 5 : Field or other External Perspectives (FCIII – Interaction with Stakeholders)

The first stage of this cycle, a basic requirement for any progression, is the major cross cutting factor of Resources (indicated in green at the centre of the cycle). It is the "engine" of progress, a basic pre-requisite for any activity. 'Resources' includes all human, physical and financial resources available to the Veterinary Services, either internally from the government, externally from donors and international agencies, or from contributions by the private sector through joint programmes, delegation to private veterinarians etc. This factor incorporates related factors such as political will (to mobilize resources), numbers of veterinary and support staff and their distribution, programme budget provision and expenditures, contingency funding, and buildings, equipment and their maintenance. Resources are not a significant limitation for the

Vietnamese VS currently given the ongoing HPAI response, but levels need to be made sustainable.

Policy Development and Decision Making by Central VS can be regarded as the second stage of the cycle and depends particularly on OIE PVS Fundamental Component 2 – Technical Capability and Authority. In Vietnam, most gains have been made here via increased funding and training, particularly in laboratory diagnosis. Technical planning capability and activities of the Central VS seem strong with the development of major plans for both HPAI and FMD that were funded in 2006. However, given that the process is a cycle, effective policy development is being hindered by a lack of consultation and input from the field, which refines policy, better ensures it is practically relevant, improves the likelihood of compliance and builds accountability.

Once an animal health policy has been set, it needs to be passed “down the line” with sufficient authority via a chain of command to ensure those responsible persons will implement it at field level – stage three. These actors might include, for example, field veterinary and para-veterinary vaccinators for a vaccination programme, veterinary inspectors for borders and slaughterhouses or relevant authorities/police for outbreak quarantine and movement controls. As discussed in detail, Vietnam has serious limitations in relation to capabilities and authority for linking down to field level at this stage of the cycle.

To successfully implement animal health policy – stage four, veterinary and veterinary para-professional staff need to be of sufficient competence (CCI.2), and stakeholders such as farmers or traders need to be compliant with legislation or policy (CCIV.2). Vietnam has deficiencies here in terms of veterinary and related skills and education, especially as one moves closer to field levels.

The fifth and final stage of the cycle is regular, formal and effective Stakeholder Interaction, (PVS Fundamental Component 3). Stakeholder Consultation (CCIII.2) in particular permits VS to incorporate field (and other) perspectives, realities and lessons learnt into initial and ongoing policy development, and build real accountability for VS to their stakeholders, such as farmers, who have the opportunity for input when they are unsatisfied with how policies and activities are progressing.

Stakeholder communications and consultation is the chance stakeholders have to hear about and influence policies that will ultimately affect them. It also refers to inputs from experts external to the government, such as academics, who can contribute meaningfully to policy from a technical perspective. Stakeholder consultation, as well as feeding usefully into policy development directly, has flow on beneficial effects throughout the whole of policy development and implementation cycle as shown in the black italicized text in the cycle diagram. In summary, informed stakeholders who have at least some input into central government policies, provide a legitimacy to policy directives via the chain of command to lower levels of government, increase the likelihood that they, as stakeholders, will comply with and support policy implementation (especially in the field) and also can further contribute to refinement and accountability of policies both during and after their implementation.

The PVS Gap Analysis mission and ensuing National VS Roadmap or Strategic Plan due in October 2010 should provide more detail in relation to planning to improve VS, with a focus on the above priority areas. It should provide a firm launching pad to some rich opportunities for the Vietnamese VS.

## 1.2 Methodology of the PVS Gap Analysis mission

Following a request to the OIE from its government, a PVS Gap Analysis mission based on the outcomes of the OIE PVS follow up evaluation report was conducted from 21<sup>st</sup> to 29<sup>th</sup> June 2010 by a team of independent OIE certified experts: Dr Eric Fermet-Quinet as team leader, Dr Terry Hunt as technical expert and Dr John Stratton as OIE observer.

The first step of the PVS Gap Analysis mission is discussion and agreement with the Director General and representatives from each of the DAH Divisions on national priorities relevant to VS. Then, the desired levels of advancement for each critical competency are identified, recognising national priorities as well as constraints, again in discussion with the VS leadership. A PVS Gap Analysis is then carried out, which identifies specific tasks required to move to each critical competency target over approximately a five year period, as well as an estimation of resources needed to achieve these targets. This facilitates better compliance with recognised international standards as determined by the OIE and agreed by all OIE member countries.

### 1.2.A Organisation of the mission

The mission was organised in advance by the team of experts and the VS, as follows:

Day (D)	Date	Purpose of the meeting	Participants
D1 – morning  afternoon	<b>21/6</b>	Opening meeting Definition of national priorities Determination of unit costs Definition of levels of advancement	CVO, heads of relevant divisions
D2	<b>22/6</b>	Definition of levels of advancement	Heads of all technical divisions
D3 – morning  afternoon	<b>23/6</b>	Technical meeting with quarantine and inspection division to design the relevant systems Technical meeting with the veterinary medicine division and laboratory of quality control	Heads of relevant services
D4 – morning  afternoon	<b>24/6</b>	Technical meeting on the veterinary services field network  Technical meeting on laboratories	Epidemiology, Planning  NCVD and 7 RAHOs
D5 morning  afternoon	<b>25/6</b>	Technical meeting on veterinarians and veterinary para professional training  Meetings with resource persons from cross-cutting services: finance, legal, personnel management	3 veterinary faculties and 3 veterinary para professional schools Administration, Human resources, Legislation and Finance Divisions of DAH
D6 & D7	<b>27/6</b>	First synthesis of findings by the team of experts	The experts
D8 –	<b>28/6</b>	Plenary meeting for the preliminary presentation of the objectives and activities Collection of additional information & finalisation Discussion of next steps and conversion of PVS Gap Analysis into Vietnamese VS Roadmap	CVO and heads of all technical divisions  Vietnamese VS Roadmap drafting team
D9 –	<b>29/6</b>	Closing meeting	CVO, heads of divisions

### 1.2.B Estimation of resources needed

A logical approach for estimating the budget for strengthening the Veterinary Services is used as follows:

The Veterinary Services should have the financial resources sufficient to carry out essential tasks and duties, and be able to adapt to changes in health status. The budget for field activities (for government staff and officially delegated private veterinarians) must allow for planned activities, but should also support a flexible approach necessary to allow immediate responses when these are required. The amount of expenditure for each activity should be adjusted according to the national constraints, human resources (number and public/private split), priorities, trends and changes of animal health or veterinary public health status.

During the first day of the mission, the VS, facilitated by the experts, defined (average) unit costs for components of VS expenditure grouped into:

- material investments such as buildings and vehicles
- non-material expenditure such as training and consultancies
- salaries of staff required to reach the targeted levels, to strengthen technical independence and to be coherent within the national context
- consumables such as travel allowances and transport costs

The agreed **unit costs** are listed in the following table. These then formed the basis for systematic calculations across the breadth of VS activities under each critical competency.

For each critical competency card where tasks have been identified, the relevant resources required, calculated based on the agreed unit costs, are detailed in the corresponding cost estimation card. All these cards (CC and cost estimation) are included in the appendices of this report.

In the body of the report, cost estimation cards are regrouped under the four relevant pillars of trade and livestock development, animal health, veterinary public health and laboratories, and so define a complete budget for each pillar.

The overall budget analysis (Chapter VI) synthesises the different budget lines: ongoing investment, salaries, repairs and maintenance, operations, etc. This budget demonstrates the feasibility of the PVS Gap Analysis, its sustainability and also identifies the need to incorporate the programme into the quality control and monitoring and evaluation policy of the Veterinary Services.

**In order to establish the budget, some references are established as follows:**

1/ The international currency used in this report for the estimation of costs and the budget is the USD (US Dollar). The exchange rate is 1 USD for 20 000 VND.

2/ The amortisation rates have been determined as such:

- 20 years: 5% of construction cost for building maintenance
- 10 years: 10 % of purchasing value for cold chain and incinerators
- 5 years: 20% of purchasing value for transport means
- 5 years: 20 % of purchasing value for laboratory equipment
- 3 years: 33 % of purchasing value for telecommunication and office equipment sets

3/ Telecommunication sets and office equipment sets represent averages costs for such equipment. They could be differentiated during operational planning.

4/ Averages are defined for specialised training, continuing education, travel abroad and mileage of transports.

Unit costs		
<b>1- Currencies</b>		
Currency used for this report (USD or EUR)	Currency USD	Exchange rate Number of 1000 VND per USD
National currency	1000 VND	20
<b>2- Material investments</b>		
<b>Buildings</b>	<b>Supply cost / unit</b>	<b>Number of years for amortisation</b>
Maintenance cost m <sup>2</sup>	13	
cost to renovate m <sup>2</sup>	50	15
Cost built m <sup>2</sup>	250	20
<b>Transport</b>		
Cost of motorbikes	1 300	3
Cost of cars	30 000	5
Cost of 4x4 vehicles	50 000	5
Other		
Other		
Cost of Telecommunication equipment set (scanner+fax+telephone+photocopier)	500	3
Cost of officer equipment set (base computer and necessary peripherals)	1 000	3
<b>3- Non material expenditure</b>		
<b>Training</b>		
<b>Initial training (per student)</b>		
Under-graduated veterinarians (DVM, BVS) cost		
Veterinary paraprofessionals training cost		
<b>Specialised training (short courses, certificates, master, PHD...)</b>		
Accommodation per month	1 000	
Training fees per month	2 000	
Travel per month	1 000	
<b>Cost of specialised training per month</b>	<b>4 000</b>	
<b>Continuing education (daily cost for a group of 15 people)</b>		
Per diem for 15 participants	300	
Room rental and educational tools per day	95	
Cost per day for a national expert consultant	50	
<b>Daily cost per trainee</b>	<b>30</b>	
<b>National expertise (cost per day)</b>		
Daily fees	30	
Per diem	20	
<b>Total per day and per expert</b>	<b>50</b>	
<b>International expertise (cost per week)</b>		
Daily fees	780	
Per Diem	220	
Cost of an international travel	1 000	
<b>Total cost per week</b>	<b>8 000</b>	
<b>4- Salaries (salaries, bonuses and social benefits) / year</b>		
Veterinarians	4 000	
Other university degree	4 000	
Veterinary para-professionals	3 000	
Support staff	2 500	
<b>5- Consumable resources</b>		
<b>Travel allowances</b>		
Per diem for technical staff	20	
Per diem for drivers	20	
Daily allowance for technical staff travelling abroad	120	
Cost of an international travel	700	
<b>Weekly allowance abroad</b>	<b>1 540</b>	
<b>Transport fees</b>		
Price of fuel (average between petrol, diesel or mixt) per unit	1,00	Unit litre
Average number of km/miles per year		Unit
Average distance per year by motorbike (miles or km)	10 000	km
Average distance per year by car (miles or km)	20 000	km
Average distance per year by 4*4 car (miles or km)	20 000	km
Average distance per year by other transport		
Average distance per year by other transport		
Fuel consumption per 100 km/miles		Running (fuel + maintenance + insurance = consumption x 2)
Km or mileage cost (motorbike)	2,5	0,05
Km or mileage cost (car)	10	0,20
Km or mileage cost (4x4 vehicle)	20	0,40
Km or mileage cost (Other)		
Km or mileage cost (Other)		

### 1.2.C Organisation of the report

The following chapters of the PVS Gap Analysis report indicate the priorities, activities and the resources necessary to strengthen the Veterinary Services. The chapters follow a logical order identifying priorities, recognising constraints and issues, assessing processes and resources necessary and providing a work plan for improvement.

Chapter II.1 sets out the national priorities of the VS in four relevant areas;

Chapter II.2 sets out the levels of advancement to be reached as decided by the Veterinary Services in discussion with the PVS Gap Analysis mission team.

The first four chapters of the following part ('PVS Gap Analysis') then set out the objectives to be achieved, identifying the needs to strengthen the technical independence and coordination of the Veterinary Services.

- Chapter I sets the standards required for International trade in animals and animal products. Establishing the levels of advancement required for exports sets the target for strengthening the Veterinary Services
- Chapter II addresses animal health issues, the recognised core mission of any Veterinary Services
- Chapter III considers veterinary public health, specifically food safety, veterinary medicines and biologicals.
- Chapter IV considers the capability and capacity of veterinary laboratories, as required by the three preceding chapters.

Chapter V makes recommendations on the general management of the Veterinary Services and the related regulatory services, including both the public and private components, aiming to provide coordination and technical independence in line with OIE standards. Both the organisational structure of the national (public) Veterinary Services, including central and decentralised structures and the role of private veterinary practices are defined. This chapter is usually the major component of the budget as it includes the salaries, operations and investment for the national Veterinary Services and also for field activities. This chapter also identifies the reinforcement of cross-cutting skills (communication, legislation, education, etc.) required to run effective Veterinary Services in the country.

Chapter VI presents a global budget for strengthening the Veterinary Services and provide an analysis of this budget compared with GDP (national, agriculture and livestock), national budget (total, agriculture, Veterinary Services), value of national livestock and of imported and exported animal products.



## II National priorities and expected levels of advancement

The strengthening of the VS is based on carefully developed and agreed national priorities, and also must consider national constraints. National priorities have been discussed and agreed on by the VS leadership at the start of the OIE PVS Gap Analysis mission. Relevant strategic planning or other documentation already in existence, such as for the agricultural or livestock sectors, for relevant aspects of human health (zoonoses), or for the VS itself, must be taken into account such that the PVS Gap Analysis is consistent with broader and/or related national priorities and policies that have already been established and agreed on.

### II.1 National priorities

National priorities are driven by national livestock sector policies, appropriate management of emerging infectious disease risks including zoonoses, food security issues, and animal production food safety aspects within the country. Consideration of national priorities is country driven, and balanced carefully with the findings of the external, independent PVS evaluation, appropriately respecting national sovereignty of the VS.

**Table n°1 - Table for listing national priorities**

Category of priorities	National priorities	Explanatory comments (importance for the country)
LD: Policy on livestock development and trade	LD1: Increase animal production through intensification of the different animal production systems and through market chain improvement LD2: Develop and gain specific/niche export markets (poultry & pig products)	Livestock Development Strategy to 2020 (DLP 2009)  Private sector driven (CP poultry)
AH: Technical priorities in animal health	AH1: HPAI - progressive eradication AH2: FMD - progressive control and eradication AH3: Rabies control AH4: CSF & PRRS control	National strategy documents are available for HPAI, FMD and rabies  Most other important diseases are controlled on voluntary and cost recovery basis and could be considered as joint programs. A PRRS and rabies national policy exists.
VPH: Technical priorities in veterinary public health	VPH1: Improve Meat Hygiene & Inspection in major slaughter houses to meet international standards. VPH2: Progressively reorganize slaughter slabs and improve inspection and hygiene VPH3: Sustain and increase monitoring plans for residue testing VPH4: Control the quality of veterinary medicines and biologicals, and progressively regulate their distribution and use	There is a national policy on progressive improvement of the slaughtering system and food inspection from farm to fork
VS: Policy on organisational structure and management of the Veterinary Services	VS1: Reestablish progressively the chain of command from the DAH to the field level in priority aspects of: Disease Control, Border Security, and Veterinary Public Health VS2: Regulate veterinarians and veterinary para-professionals through a Veterinary Statutory Body including the harmonization of veterinary education to recognized international standards. VS3: Improve communications and consultation both within the VS (including through improved data management) and with external stakeholders	The break in the veterinary chain of command is a major mitigating factor in progressing the efficiency and effectiveness of the VS in many key areas of activity.  Vietnam has membership on the OIE <i>ad hoc</i> group on veterinary education

## II.2 Level of advancement

The experts and the VS then worked together, taking into account the above national priorities and the current levels to systematically establish the expected level of advancement for each of the 46 critical competencies over the next five years as indicated in the following table.

**Table n°2 - Levels of advancement**

Critical competencies	Level of advancement	
	current	expected
<b>Chapter 1. Human, physical and financial resources</b>		
I.1.A. Staffing of Veterinarians and other professionals	3	4
I.1.B. Staffing of Veterinary para-professionals and technical staff	3	4
I.2.A. Competencies of Veterinarians and other professionals	1	2
I.2.B. Competencies of Veterinary para-professional technical staff	2	3
I.3. Continuing education	2	3
I.4. Technical independence	2	3
I.5. Stability of structures and sustainability of policies	3	5
I.6.A. Internal coordination (chain of command)	2	3
I.6.B. External coordination	2	3
I.7. Physical resources	3	4
I.8. Operational funding	2	3
I.9. Emergency funding	3	3
I.10. Capital investment	3	4
I.11. Management of resources and operations	2	3
<b>Chapter 2. Technical authority and capability</b>		
II.1 Veterinary laboratory diagnosis	5	5
II.2 Laboratory quality assurance	2	3
II.3 Risk analysis	2	2
II.4 Quarantine and border security	2	3
II.5.A. Passive epidemiological surveillance	2	3
II.5.B. Active epidemiological surveillance	2	3
II.6 Early detection and emergency response	3	4
II.7 Disease prevention, control and eradication	3	3
II.8.A. Ante and post mortem inspection	2	3
II.8.B. Inspection of collection, processing and distribution	2	2
II.9 Veterinary medicines and biologicals	3	4
II.10 Residue testing	3	3
II.11 Emerging issues	2	3
II.12 Technical innovation	2	2
II.13.A. Animal identification and movement control	2	3
II.13.B. Identification and traceability of products of animal origin	1	2
II.14 Animal welfare	1	2
<b>Chapter 3. Interaction with stakeholders</b>		
III.1 Communications	3	4
III.2 Consultation with stakeholders	1	3
III.3 Official representation	2	3
III.4 Accreditation / authorisation / delegation	1	4
II.5.A. VSB authority	1	4
II.5.B. VSB capacity		3
III.6 Participation of producers & other in joint programmes	1	2
<b>Chapter 4. Access to markets</b>		
IV.1 Preparation of legislation and regulations, & implementation	2	4
IV.2 Stakeholder compliance with legislation and regulations	3	3
IV.3 International harmonisation	3	4
IV.4 International certification	2	3
IV.5 Equivalence and other types of sanitary agreements	2	2
IV.6 Transparency	3	4
IV.7 Zoning	2	2
IV.8 Compartmentalisation	2	5

## PVS GAP ANALYSIS

### I Strengthening competencies for international trade

The purpose of this section is to explain the proposed activities in the field of international trade development, for both imports and exports.

This will include the activities presented in Critical Competency Cards II.4, II.13, IV.4, IV.5, IV.6, IV.7 and IV.8.

#### ***I.1 Strategy and activities***

Vietnam will continue to be a net importer of animals and animal products.

Taking into account the long and often mountainous terrestrial borders with China, Laos and Cambodia, the strategy of the VS will be to focus on main trade routes. The VS should upgrade the quality of border inspection at 19 main border posts and the 3 quarantine stations, mainly through specialised training for staff in relevant procedures. DAH will establish legal authority over all border posts, including those currently under provincial authority. The data management of border inspection will be centralised. At the same time, DAH will progressively address illegal trade through external coordination, information and training of customs and police staff.

Animal identification is a long and costly process whose feasibility will be carefully analysed with the support of international expertise. A pilot national data management system for livestock identification and traceability will be established. The priority is to firstly focus on permanent individual identification of specific categories of animals (imported cattle, dairy cattle, breeding stock...) and temporary identification of traded animals for the purposes of movement control (individual for cattle and group for other species). Animal identification will be implemented on a cost recovery basis and through official delegation by the field veterinary network for animal health. Movement control will be restructured through 13 national checkpoints under DAH authority.

International certification will be established according to international standards in order to secure, recover and develop specific niche export markets (suckling pigs, salted eggs, honey, etc).

The VS of Vietnam will increase their transparency by improving drastically their data management system and communication in order to regularly inform all stakeholders.

Equivalence agreements and zoning for the purpose of trade are not considered to be cost effective for the moment.

The VS will ensure that they have the authority and the capacity to monitor and certify compartmentalisation, which may be established and implemented by the private sector for poultry exports in coming years.

#### ***I.2 Human resources***

As there is a large number of veterinary graduates available in Vietnam, they will continue to constitute the majority of staff employed in border inspection and movement control. The total required is 230.

90 veterinary para-professionals will be employed mainly in quarantine stations and internal checkpoints.

The 3 quarantine stations will also incorporate 5 university degree (animal husbandry) and 45 support staff.

10 support staff are necessary for data entry and updating of around 200 000 animals per year in the individual identification data management system. They could be distributed at DAH and RAHO levels.

Details on human resources for trade have been estimated in Tool 1.

### ***1.3 Physical resources***

Needs for buildings and transport are relatively minor, as the cost of maintenance of quarantine stations will be supported by service fees.

However a relatively important investment should be made for incinerators at main border posts.

Most physical resource requirements will be concentrated on telecommunications (83) and office equipment (48) in order to strengthen the chain of command and data management.

Details on physical resources for trade been estimated in Tool 1

### ***1.4 Financial resources***

Maintenance of physical resources represents around 100 000 USD per year, as the maintenance of quarantine stations should be covered by service fees and thus are not included in the budget. A specific study could be necessary to determine the adequate level of fees for quarantine stations in order to ensure their sustainability.

In order to ensure technical independence, border inspection staff should receive sufficient income. The overall amount of salaries will represent around 1 350 000 USD per year.

An exceptional budget (1 000 000 USD) over the five years is required mainly for the specialised training of border inspectors (estimated on average 3 months training for 75 veterinarians) and international expertise for developing a animal identification system and providing national capacity building (3 months).

Table n°3 - Sub-Total for strengthening competencies for international trade

SUB-TOTAL TRADE						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m <sup>2</sup> )	1310	1310				
Existing building to be maintained (m <sup>2</sup> )	1310	1310	13	1	16 375	
Existing building to be renovated (m <sup>2</sup> )			50	15		
Building to be built (m <sup>2</sup> )			250	20		
Transport						
Number of motorbikes		3	1 300	3	1 300	
Number of cars			30 000	5		
Number of 4x4 vehicles		3	50 000	5	30 000	
Other						
Other						
Telecommunication equipment set		83	500	3	13 833	
Office equipment set		48	1 000	3	16 000	
Other specific equipment						
Small gas incinerators + motorised sprayers					13 367	62 500
manual sprayers for disinfection					833	
Sub-total Material investments					91 708	62 500
<b>Non material expenditure</b>						
Training						
Specialised training (man-months/ 5 years)	-	227	4 000			908 000
National expertise (days/5 years)		-	50			
International expertise (weeks/5 years)		12	8 000			96 000
Special funds (/ 5 years) for ...		-				
Sub-total non material expenditure						1 004 000
<b>Salaries / year</b>						
Veterinarians	-	230	4 000		920 000	
Other university degree	-	5	4 000		20 000	
Veterinary para-professionals	-	90	3 000		270 000	
Support staff	-	55	2 500		137 500	
Sub-total Salaries					1 347 500	
<b>Consumable resources / year</b>						
Administration			20%		269 500	
Travel allowances						
staff within the country (man-days) / year	-	-	20			
drivers within the country (man-days) / year	-	-	20			
staff abroad (man-weeks) / year	-	2	1 540		3 080	
Transport fees						
Km or miles Motorbikes / year	-	30 000	0		1 500	
Km or miles cars / year	-	-	0			
Km or miles 4x4 vehicle / year	-	60 000	0		24 000	
km or miles Other / year	-	-				
km or miles Other / year	-	-				
Specific costs						
Specific continuing education (man-days / year)	-	335	30		9 938	
Specific communication / year						
Specific consultation / year						
Specific kits / reagents / vaccines						
Sub-total Consumable resources					308 018	
<b>Delegated activities / year</b>						
Specific official delegation / year						
Sub-total Delegated activities						
<b>Total in</b>	<b>USD</b>				<b>1 747 227</b>	<b>1 066 500</b>
<b>Total in</b>	<b>1000 VND</b>				<b>34 944 533</b>	<b>21 330 000</b>

Tool 1 - Estimation of human and physical resources for field Trade control and inspection

Number of working days per year per employee in the country

245

PVS Critical competency	Units	Number of units to inspect	Number of days of work per year and per unit	Number of hours of work per day and per unit	Human resources								Physical resources (for Public Veterinary Services)														
					Veterinarians		Other university degree		Veterinary para-professionals		Support staff		Telecommunication equipment set (No)		Office equipment set (No)		Motorbikes (No)		Cars (No)		4x4 Vehicles (No)		Buildings m2		Other specific equipment		
					on site	total in equivalent full time	on site	total in equivalent full time	on site	total in equivalent full time	on site	total in equivalent full time	per unit	total	per unit	total	per unit	total	per unit	total	per unit	total	per unit	total	per unit	total	Designation or Description
II.4	<b>Border security and quarantine</b>				168,7		4,5		31,3		44,7		69		25		3				3		1140			69	
	<i>Airports</i>	2	365	14,0	2	10,4			2	10,4			1	2	1	2							20	40	1	2	
	<i>Sea ports</i>	4	365	8,0	3	17,9			2	11,9			1	4	1	4							20	80	1	4	
	<i>Major terrestrial road border posts</i>	13	365	10,0	2	48,4							1	13	1	13							12	156	1	13	
	<i>Railway terrestrial border posts</i>	2	365	10,0	1	3,7							1	2									12	24	1	2	
	<i>Minor terrestrial border posts</i>	45	365	10,0	1	83,8							1	45									12	540	1	45	
	<i>Quarantine stations</i>	3	365	8,0	1	4,5	1	4,5	2	8,9	10	44,7	1	3	2	6	1	3			1	3	100	300	1	3	
	<i>International post office</i>																										
II.13.A	<b>Movement control / Animal ID</b>				58,1				58,1		10,2		13,0		23,0								156,0			13,0	
	<b>Internal check points</b>																										
	<i>VS controlled internal check points</i>	13	365	24,0	1	58,1			1	58,1			1	13	1	13							12	156	1	13	
	<b>Animal identification</b>																										
	<i>Identification specialised staff</i>																										
	<b>Data management for animal ID</b>																										
	<i>data entry</i>	200000	1	0,1						1	10,2			1	10												
II.13.B	<b>Traceability of animal products</b>																										
IV.7.	<b>Zoning</b>																										
	<i>Check points for zoning</i>																										
IV.8	<b>Compartmentalisation</b>																										
	<i>Compartment</i>	3																									







## II Strengthening competencies for animal health

The purpose of this section is to explain the activities proposed in the field of animal health, with a focus on animal disease outbreak management. The section includes field activities dealing with non-foodborne zoonotic diseases in the animal population (such as HPAI in poultry).

These activities are chiefly those presented in the Critical Competency Cards II.5, II.6; II.7 and II.14.

### II.1 Strategy and activities

The national policy is to gradually transfer most field animal health activities to the private sector through official delegation.

The proposed strategy is to progressively organise a sustainable, reliable and competent veterinary field network for animal health, which would implement official animal health programs under a clear national chain of command and national budget from DAH.

Official delegation will be established for a progressively selected and trained number of field veterinarians, enabling them to implement all official delegated activities under the authority of DAH. The control and monitoring of implementation will be realised by RAHOs and progressively, Sub-DAH (for example, responsibility for post vaccination sero-surveillance under national programmes). The formation of a VSB in Vietnam can be used to set minimum standards for and register veterinarians and veterinary para-professionals and can usefully accompany this rationalisation and upskilling of field animal health staff.

Official delegation will include all relevant activities for passive surveillance, active surveillance, early detection and rapid response, and prevention, control and eradication for national programs and joint national programs.

As the current break in the chain of command hampers implementation of animal health programs, detailed objectives of all the national programs have not yet been fully determined by the VS for the next five years, however, they could be summarised as follows:

- passive surveillance of disease at smaller slaughter points (tasks also include field level meat hygiene and inspection at these sites but this is discussed in next section on Veterinary Public Health)
- field notification of animal disease
- active surveillance of FMD and HPAI in non vaccination areas
- early detection and rapid response against HPAI
- compulsory vaccination against FMD for at least 2 500 000 cattle twice a year
- joint programs on voluntary vaccination for rabies, CSF, HS and NCD

In the current context with the break in the chain of command, the central VS has very poor data available for animal health strategic and operational planning. Despite three months preparation for the mission, DAH could not collect relevant data from more than half of the provincial animal health offices (sub-DAH). Two factors here are relevant and relate data collection with chain of command. Firstly, DAH did not have any existing access to most relevant data concerning field animal health staffing, resources and programme implementation as part of routine internal coordination/information sharing, and secondly, there was no compulsion for Sub-DAH (or lower) VS to provide it to DAH, even upon special request.

Detailed data, by district, is needed for further operational planning. However, the following analysis allows for strategic planning over the next five years.

The current situation of drug shops and private practitioners could not be assessed. Even the distribution of animal census could not be collated at a national level in a comprehensive

manner and it did not include small ruminants. Therefore estimations provided of required veterinary field activity could not be compared or strategically integrated with current levels of private veterinary practices or veterinary drug shops.

It is envisaged that the use of private veterinary practices and/or drugshops as geographical “bases” for the provision of officially delegated VS activities would make sense due to the regular contact both would have with producers and other animal health practitioners (veterinary para-professionals) and their livestock market based distribution across the country (relating to supply of clinical VS and veterinary pharmaceuticals).

The following table gives an estimate of the Veterinary Livestock Units (VLUs) of Vietnam per province. A VLU establishes equivalence between animal species that allow an estimation of the animal health workload.

One can estimate that **Vietnam has approximately 20 000 000 VLUs.**

## Step A - Estimation of number of Veterinary Livestock Units (VLU)

Administrative level	Number of animals						Equivalent number of VLU <small>a = (value of VLUs * Number of Animals)</small>
	Bovines	Small Ruminants	Porcines	Equines, Asines, Camelides	Poultry	Others	
value of VLU	1,00	0,10	0,30	0,30	0,01		
<b>Red River Delta</b>	901 600		7 334 100		68 640 000		3 788 230
Bac Ninh	53 200		416 900		3 924 000		217 510
Ha Nam	48 200		798 000		5 533 000		342 930
Hai Duong	52 000		629 400		6 857 000		309 390
Hai Phong	25 500		531 900		5 532 000		240 390
Hanoi	236 300		1 669 700		15 696 000		894 170
Hung Yen	48 900		615 000		6 263 000		296 030
Nam Dinh	69 800		1 023 100		7 962 000		456 350
Ninh Binh	65 800		372 300		3 394 000		211 430
Quang Ninh	91 500		362 400		2 113 000		221 350
Thai Binh	42 400		424 900		4 316 000		213 030
Vinh Phuc	168 000		490 500		7 050 000		385 650
<b>and Mountainous area</b>	2 683 200		5 927 400		55 447 000		5 015 890
Bac Giang	236 700		1 050 600		12 067 000		672 550
Bac Kan	113 900		164 100		1 200 000		175 130
Cao Bang	230 200		322 300		2 113 000		348 020
Dien Bien	142 600		245 300		1 634 000		232 530
Ha Giang	236 500		373 000		2 742 000		375 820
Hoa Binh	190 600		416 000		3 588 000		351 280
Lai Chau	102 600		179 400		900 000		165 420
Lang Son	211 300		372 700		3 284 000		355 950
Lao Cai	148 800		382 100		2 623 000		289 660
Phu Tho	232 000		593 000		8 495 000		494 850
Son La	328 400		460 800		5 014 000		516 780
Thai Nguyen	161 900		529 200		5 295 000		373 610
Tuyen Quang	201 300		441 100		3 611 000		369 740
Yen Bai	146 400		397 800		2 881 000		294 550
<b>Central Coast</b>	3 527 900		5 880 000		52 509 000		5 816 990
Binh Dinh	326 700		621 400		4 269 000		555 810
Binh Thuan	229 000		263 000		2 116 000		329 060
Da Nang	18 100		56 500		314 000		38 190
Ha Tinh	293 400		394 600		4 670 000		458 480
Khanh Hoa	90 100		106 600		1 910 000		141 180
Nghe An	705 400		1 171 300		12 599 000		1 182 780
Ninh Thuan	116 300		65 800		857 000		144 610
Phu Yen	194 700		126 500		2 065 000		253 300
Quang Binh	174 000		381 500		2 253 000		310 980
Quang Nam	309 500		586 300		3 410 000		519 490
Quang Ngai	329 600		502 800		2 405 000		504 490
Quang Tri	104 700		221 700		1 438 000		185 590
Thanh Hoa	578 600		1 149 600		12 556 000		1 049 040
Thua Thien Hue	57 800		232 400		1 647 000		143 990
<b>High lands</b>	809 900		1 557 200		9 552 000		1 372 580
Dak Lak	243 600		624 400		4 536 000		476 280
Dak Nong	33 100		127 400		1 079 000		82 110
Gia Lai	339 800		335 000		1 350 000		453 800
Kon Tum	100 000		111 000		567 000		138 970
Lam Dong	93 400		359 400		2 020 000		221 420
<b>Eastern South</b>	556 200		2 372 800		13 645 000		1 404 490
Ba Ria - Vung Tau	53 400		278 100		1 857 000		155 400
Binh Duong	48 600		332 100		1 901 000		167 240
Binh Phuoc	91 200		158 100		1 475 000		153 380
Dong Nai	94 900		1 084 300		5 925 000		479 440
Ho Chi Minh city	110 000		296 500		101 000		199 960
Tay Ninh	158 100		223 700		2 386 000		249 070
<b>Mekong Delta</b>	756 600		3 630 100		47 527 000		2 320 900
An Giang	76 500		169 300		4 802 000		175 310
Bac Lieu	3 500		253 800		1 624 000		95 880
Ben Tre	172 400		280 300		3 565 000		292 140
Ca Mau	1 000		219 700		1 042 000		77 330
Can Tho	5 800		125 100		1 894 000		62 270
Dong Thap	31 900		299 500		4 239 000		164 140
Hau Giang	4 500		183 000		3 595 000		95 350
Kien Giang	26 700		331 700		5 183 000		178 040
Long An	105 400		310 800		4 656 000		245 200
Soc Trang	35 800		257 800		3 506 000		148 200
Tien Giang	67 800		520 800		5 711 000		281 150
Tra Vinh	160 700		367 900		4 102 000		312 090
Vinh Long	64 600		310 400		3 608 000		193 800
<b>Total</b>	<b>9 235 400</b>		<b>26 701 600</b>		<b>247 320 000</b>		<b>19 719 080</b>

## II.2 Human resources

Currently thousands of veterinarians, veterinary para-professionals and animal health workers work in the animal health field without clear regulation, on a part time basis with very low income and a variable but often low level of competency. Most of them are not linked with the DAH. Communes and provinces hire them for vaccination campaigns and disease control programs on varying bases that often lack effective coordination, official delegation and/or control of efficiency.

In order to establish a consistent, sustainable and efficient veterinary field network for animal health, one should assess the network on the basis of both the workload and its accessibility.

The workload could be assessed taking into account that the network should be able to:

- vaccinate on average all cattle twice a year (estimated 50 cattle / day / staff)
- organise rabies vaccination campaigns in each commune once a year (see CCC III.6)
- organise an extension meeting in each commune once a year (see CCC III.6)
- ensure food inspection of all district slaughter slabs (estimated 2 hours per day) (see CCC II.8.A)
- ensure officially delegated activities during a maximum of 120 days per year (this would allow time to undertake regular private practice including animal care and veterinary medicines sales allowing the network to have regular contact with farmers and animals and participate in early detection of disease, passive surveillance and to identify emerging issues.

### Step B - Estimation of minimum number of Field Veterinary Posts to undertake official activities

Number of working days necessary to undertake all official activities related to individual animals					
Campaign or dates (duration)	Activity	Species	Targeted number of animals b	Average animals per day c	Total number of days d= (b/c)
March April & September-October	2 vaccinations per year for bovines(FMD, or HS, or other) including active surveillance when required	bovines	16 000 000	50	320 000
					<b>320 000</b>

Number of working days necessary for official visit of sites (food inspection, village training, farm surveys...)					
Campaign or dates (duration)	Activity	Type of site to visit	Number of visits per year e	Number of days per visit f	Total number of days g= (e*f)
once a year	rabies vaccination in village	communes	10000	1	10000
once a year	extension work (HS, newcastle, CSF, etc)	communes	10000	1	10000
once a day	slaughter slab inspection	district	125000	0,25	31250
					<b>51 250</b>

Total number of working days necessary to implement all official activities	$h = (d+g)$	371250
Number of working days available yearly to undertake official activities	i	120
<b>Minimum number of Field Veterinary Posts</b>	$j = (h/i)$	<b>3 094</b>
<b>Maximum number of VLU per Field Veterinary Post</b>	$k = (a/j)$	6 374

The workload analysis shows that the network would need around **3000** field veterinary posts (private practices or “active” drug shops), each of them taking care of approximately 6500 VLUs.

Accessibility of such a field network is analysed in the following table.

If each field veterinary post (FVP) is filled by a single veterinarian, the average maximum radius of service would be around 7 km. If each field veterinary post is filled by a veterinarian

working with one veterinary para-professional or another veterinarian, the average maximum radius of service would be around 10 km.

The second option seems more realistic for the next five years. The network would be organised around 1500 private veterinary practices or active drug shops representing 3000 staff.

On average each district would have 3 field veterinary practices and each field veterinary practice would take care of 6 communes, 80 households and 13 000 VLUs.

This would mean supporting as a priority all veterinarians already having a veterinary drug shop in order for them to undertake clinical field activities and officially delegated activities.

## Step C - Estimation of accessibility of the Field Veterinary Network

Administrative level	Area in Km2 or sq mile	Number of VLU	Number of communes	Number of households or groups	Number of VLU / Km2 or sq mile	Minimum number of FVPs*	Accessibility to minimum number of FVPs*	Proposed optimum number of FVPs*	Accessibility to optimum number of FVPs*	Number of commune per FVP*	Number of households per FVP*	Number of VLU per FVP*
	l	m = (a)	n	o	p = m/l	q = (m/k)	r = $\sqrt{((0,5^*)/q)}$	s	t = $\sqrt{((0,5^*)/s)}$	u = (n/s)	v = (o/s)	w = (m/s)
Red River Delta	20 932	3 788 230	1 965	17 318	181	594	4	297	6	7	58	12 748
Bac Ninh	808	217 510	103	1 962	269	34	3	17	5	6	115	12 748
Ha Nam	852	342 930	104	572	403	54	3	27	4	4	21	12 748
Hai Duong	1 648	309 390	234	1 179	188	49	4	24	6	10	49	12 748
Hai Phong	1 526	240 390	143	1 631	158	38	4	19	6	8	86	12 748
Hanoi	3 334	894 170	408	2 511	268	140	3	70	5	6	36	12 748
Hung Yen	923	296 030	145	2 402	321	46	3	23	4	6	103	12 748
Nam Dinh	1 641	456 350	194	963	278	72	3	36	5	5	27	12 748
Ninh Binh	1 384	211 430	124	723	153	33	5	17	6	7	44	12 748
Quang Ninh	5 900	221 350	130	1 440	38	35	9	17	13	7	83	12 748
Thai Binh	1 545	213 030	267	2 989	138	33	5	17	7	16	179	12 748
Vinh Phuc	1 371	385 650	113	946	281	61	3	30	5	4	31	12 748
Northern Mid-lan	95 068	5 015 890	2 278	4 423	53	787	8	393	11	6	11	12 748
Bac Giang	3 823	672 550	207	1 785	176	106	4	53	6	4	34	12 748
Bac Kan	4 857	175 130	112	10	36	27	9	14	13	8	1	12 748
Cao Bang	6 691	348 020	181	57	52	55	8	27	11	7	2	12 748
Dien Bien	9 560	232 530	92	152	24	36	11	18	16	5	8	12 748
Ha Giang	7 884	375 820	181	169	48	59	8	29	12	6	6	12 748
Hoa Binh	4 663	351 280	191	186	75	55	7	28	9	7	7	12 748
Lai Chau	9 059	165 420	89	120	18	26	13	13	19	7	9	12 748
Lang Son	8 305	355 950	207	26	43	56	9	28	12	7	1	12 748
Lao Cai	6 357	289 660	144	253	46	45	8	23	12	6	11	12 748
Phu Tho	3 520	494 850	251	555	141	78	5	39	7	6	14	12 748
Son La	14 055	516 780	191	111	37	81	9	41	13	5	3	12 748
Thai Nguyen	3 543	373 610	144	638	105	59	5	29	8	5	22	12 748
Tuyen Quang	5 868	369 740	129	54	63	58	7	29	10	4	2	12 748
Yen Bai	6 883	294 550	159	307	43	46	9	23	12	7	13	12 748
North Central an	95 768	5 816 990	2 491	18 202	61	913	7	456	10	5	40	12 748
Binh Dinh	6 025	555 810	129	1 019	92	87	6	44	8	3	23	12 748
Binh Thuan	7 828	329 060	96	2 002	42	52	9	26	12	4	78	12 748
Da Nang	1 256	38 190	11	328	30	6	10	3	14	4	109	12 748
Ha Tinh	6 056	458 480	238	478	76	72	6	36	9	7	13	12 748
Khanh Hoa	5 198	141 180	105	2 430	27	22	11	11	15	9	219	12 748
Nghe An	16 487	1 182 780	436	1 133	72	186	7	93	9	5	12	12 748
Ninh Thuan	3 360	144 610	45	756	43	23	9	11	12	4	67	12 748
Phu Yen	5 045	253 300	91	2 661	50	40	8	20	11	5	134	12 748
Quang Binh	8 052	310 980	141	943	39	49	9	24	13	6	39	12 748
Quang Nam	10 407	519 490	210	994	50	82	8	41	11	5	24	12 748
Quang Ngai	5 138	504 490	166	363	98	79	6	40	8	4	9	12 748
Quang Tri	4 746	185 590	118	911	39	29	9	15	13	8	63	12 748
Thanh Hoa	11 116	1 049 040	586	3 687	94	165	6	82	8	7	45	12 748
Thua Thien Hue	5 054	143 990	119	497	28	23	11	11	15	11	44	12 748
High lands	54 475	1 372 580	590	9 481	25	215	11	108	16	5	88	12 748
Dak Lak	13 085	476 280	152	1 198	36	75	9	37	13	4	32	12 748
Dak Nong	6 515	82 110	61	4 664	13	13	16	6	22	9	724	12 748
Gia Lai	15 495	453 800	181	2 194	29	71	10	36	15	5	62	12 748
Kon Tum	9 615	138 970	81	528	14	22	15	11	21	7	48	12 748
Lam Dong	9 765	221 420	115	897	23	35	12	17	17	7	52	12 748
Eastern South	23 555	1 404 490	488	13 792	60	220	7	110	10	4	125	12 748
Ba Ria - Vung Ta	1 982	155 400	51	691	78	24	6	12	9	4	57	12 748
Binh Duong	2 696	167 240	72	1 747	62	26	7	13	10	5	133	12 748
Binh Phuoc	6 857	153 380	89	4 468	22	24	12	12	17	7	371	12 748
Dong Nai	5 895	479 440	136	3 387	81	75	6	38	9	4	90	12 748
Ho Chi Minh city	2 095	199 960	58	1 413	95	31	6	16	8	4	90	12 748
Tay Ninh	4 030	249 070	82	2 086	62	39	7	20	10	4	107	12 748
Mekong Delta	39 739	2 320 900	1 299	57 483	58	364	7	182	10	7	316	12 748
An Giang	3 406	175 310	122	7 464	51	28	8	14	11	9	543	12 748
Bac Lieu	2 526	95 880	50	13 014	38	15	9	8	13	7	1730	12 748
Ben Tre	2 322	292 140	144	3 777	126	46	5	23	7	6	165	12 748
Ca Mau	5 202	77 330	81	3 506	15	12	15	6	21	13	578	12 748
Can Tho	1 390	62 270	36	315	45	10	8	5	12	7	64	12 748
Dong Thap	3 246	164 140	119	4 619	51	26	8	13	11	9	359	12 748
Hau Giang	1 608	95 350	54	51	59	15	7	7	10	7	7	12 748
Kien Giang	6 268	178 040	115	9 269	28	28	11	14	15	8	664	12 748
Long An	4 491	245 200	166	3 336	55	38	8	19	11	9	173	12 748
Soc Trang	3 223	148 200	87	6 442	46	23	8	12	12	7	554	12 748
Tien Giang	2 367	281 150	146	2 995	119	44	5	22	7	7	136	12 748
Tra Vinh	2 215	312 090	85	2 290	141	49	5	24	7	3	94	12 748
Vinh Long	1 475	193 800	94	405	131	30	5	15	7	6	27	12 748
Total	329 537	19 719 080	9 111	120 699	60	3 094	7	1 547	10	6	78	12 748

### II.3 Physical resources

Each field veterinary practice should have at least a small building of 60 m<sup>2</sup>, a fridge, 2 mobile phones, 2 motorbikes and a basic set of clinical equipment.

Such physical resources should be mandatory to benefit from official delegation. However, these physical resources are purchased and maintained by the private veterinarians and thus are not budgeted directly by the VS.

### II.4 Financial resources

In order to undertake its official activities, the veterinary field network for animal health should be sustainable.

The veterinary field network should be able to travel from its location to communes. The average maximum radius of service could be considered equivalent to an average return distance for every single day of implementation of official activities at commune level. It is thus possible to estimate the annual distances necessary to undertake official activities.

#### Step D - Estimation of annual distances necessary to undertake official activities

Type of official activity		Type of site to visit x	Number of visits per year y = (d)	Average return distance FVP to site z	Vehicles involved in the visit		Budget (Km) ac = (y*z*ab)	
					Type aa	Number ab		
<b>Official activities related to individual animals</b>								
March April & September-October	2 vaccinations per year for bovines(FMD, or HS, or other) including active surveillance when required	household	320 000	10	moto	2	6 400 000	
<b>Official activities related to visiting sites</b>								
once a year	rabies vaccination in village	communes	10 000	10	moto	2	200 000	
once a year	extension work (HS, newcastle, CSF, etc)	communes	10 000	10	moto	2	200 000	
once a day	slaughter slab inspection	district	125 000					
<b>Total annual distance to be covered by the national field veterinary network</b>							<b>ad = total (ac)</b>	<b>6 800 000</b>
<b>National average distance per Field Veterinary Post</b>							<b>ae = (ad/s)</b>	<b>4 396</b>

The total number of kilometre per year is around 6 800 000 km at national level and 4400 km per field veterinary practice.

The level of revenues of private veterinarians and veterinary para-professionals should at least be the same as that in the public sector, to be attractive and to maintain appropriate technical independence.

Taking into account the required physical and human resources, the financial resources needed to sustain the field veterinary network for animal health is around 21 000 000 USD per year.

## Step E - Estimation of human, physical and financial resources

Budget line	Designation of units	Number of units af	Unit cost ag	Nb of years for amortisation ah	Annual cost per FVP ai = (af*ag/ah)	Total for field network
<b>Human resources (Full Time Equivalent)</b>					<b>8 100</b>	<i>staff</i> aj = (af*s)
Veterinarian	net income per year	1	4 500	-	4 500	1547
Veterinary para-professional	net income per year	1	3 600	-	3 600	1547
Support staff	net income per year			-		
<b>Physical resources</b>					<b>1 770</b>	<i>units</i> ak = (af*s)
Buildings	m <sup>2</sup> to maintain	60	13	-	780	92813
Transport	motorcycle	2	1 300	3	867	3094
Telecommunication set	mobile phone	2	50	3	33	3094
Office set				3		
Cold chain	gaz fridge	1	600	10	60	1547
Other Equipment	small technical equipment	2	150	10	30	3094
<b>Functioning</b>					<b>3 818</b>	<i>amounts</i> al = (ai*s)
Transport fees	km or mile	4 396	0,50	-	2 198	3 400 000
Administrative/social costs	lump sum % on net income	20%		-	1 620	2 505 938
Other				-		
<b>Total cost of a Field Veterinary Post</b>					<b>am = total (ai)</b>	<b>13 688</b>
<b>Total cost for Field Veterinary Network</b>					<b>an = (am*s)</b>	<b>21 173 594</b>

Official delegation on animal health will represent almost half the working time for delegated staff. In order to be attractive and to sustain a selected, efficient and competent field veterinary network, one can estimate that **the necessary budget for official delegation in animal health should be at least 12 000 000 USD per year.**

The budget should also include a provision for 5 000 000 doses of trivalent FMD vaccines (estimated 1 USD per dose). There is no provision for disinfectant and HPAI vaccines.

All 3000 staff of the field veterinary network will receive on average 3 days of continuing education per year on all official delegated activities in animal health.

An audit of the emergency compensation fund and mechanism for HPAI should be carried out in order to improve its efficiency. It is estimated at 8 weeks of international expertise.

**The total budget for animal health programs** could be estimated at around **17 250 000 USD per year.**

**This budget should be under the DAH authority to establish a direct chain of command on the field veterinary network for animal health (3000 private staff) through official delegation.**



Table n°4 - Sub-Total for strengthening competencies for animal health

SUB-TOTAL ANIMAL HEALTH						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m <sup>2</sup> )						
<i>Existing building to be maintained (m<sup>2</sup>)</i>	-	-	13	1		
<i>Existing building to be renovated (m<sup>2</sup>)</i>	-	-	50	15		
<i>Building to be built (m<sup>2</sup>)</i>	-	-	250	20		
Transport						
<i>Number of motorbikes</i>	-	-	1 300	3		
<i>Number of cars</i>	-	-	30 000	5		
<i>Number of 4x4 vehicles</i>	-	-	50 000	5		
<i>Other</i>	-	-				
<i>Other</i>	-	-				
Telecommunication equipment set	-	-	500	3		
Office equipment set	-	-	1 000	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
<i>Specialised training (man-months/ 5 years)</i>	-	-	4 000			
National expertise (days/5 years)	-	-	50			
International expertise (weeks/5 years)		8	8 000			64 000
Special funds (/ 5 years) for ...		-				
<b>Sub-total non material expenditure</b>						<b>64 000</b>
<b>Salaries / year</b>						
Veterinarians	-	-	4 000			
Other university degree	-	-	4 000			
Veterinary para-professionals	-	-	3 000			
Support staff	-	-	2 500			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
<i>staff within the country (man-days) / year</i>	-	-	20			
<i>drivers within the country (man-days) / year</i>	-	-	20			
<i>staff abroad (man-weeks) / year</i>	-	1	1 540		1 540	
Transport fees						
<i>Km or miles Motorbikes / year</i>			0			
<i>Km or miles cars / year</i>			0			
<i>Km or miles 4x4 vehicle / year</i>			0			
<i>km or miles Other / year</i>						
<i>km or miles Other / year</i>						
Specific costs						
<i>Specific continuing education (man-days / year)</i>	-	9 000	30		267 000	
<i>Specific communication / year</i>						
<i>Specific consultation / year</i>						
<i>Specific kits / reagents / vaccines</i>					5 000 000	
<b>Sub-total Consumable resources</b>					<b>5 268 540</b>	
<b>Delegated activities / year</b>						
<i>Specific official delegation / year</i>					12 000 000	
<b>Sub-total Delegated activities</b>					<b>12 000 000</b>	
<b>Total in</b>	<b>USD</b>				<b>17 268 540</b>	<b>64 000</b>
<b>Total in</b>	<b>1000 VND</b>				<b>345 370 800</b>	<b>1 280 000</b>



### III Strengthening competencies for veterinary public health

The purpose of this section is to explain the proposed activities in the field of veterinary public health.

In the OIE Code, veterinary public health includes food safety, veterinary medicines and biologicals, residue testing and zoonoses. This will chiefly include the activities presented in the Critical Competency Cards II.8, II.9 and II.10.

#### III.1 Strategy and activities

##### III.1.A Food safety

The national plan to strengthen food safety all over the country from farm to fork is hampered by the break of chain of command between DAH and Sub-DAH, the very low level of competencies of food inspection staff and the very scattered and very poor hygiene and inspection of at least a thousand slaughter slabs.

DAH will progressively regain authority over food inspection by:

- establishing a comprehensive data management system on food inspection from field inspectors, through sub-DAH, to RAHOs and DAH
- maintaining DAH inspectors in the 12 export slaughterhouses
- directly appointing specialised DAH food inspectors in the 4 main national slaughter houses and 2 main national poultry slaughterhouses and establishing clear standards and protocols for meat hygiene and ante and post-mortem inspection at these major sites. Over time, such DAH managed standards can be extended to other larger slaughterhouses.
- developing and financing DAH official delegation of private veterinarians for food inspection in district slaughter slabs on a part time basis (estimated on average 2 hours per day), with associated standards and protocols. Control of this official delegation will be done by RAHOs and then Sub-DAH.
- developing a national meat identification (stamping) system that clearly separates hygiene and inspection standards used into 3 categories; export meat, meat from the four major national slaughterhouses and meat from traditional smaller slaughterhouse/slaughterslabs.
- developing and legislating a marketing system based on the different categories of meat identification and standards; i.e. only export identified meat for export, nationwide marketing permitted for national slaughterhouses whose tighter hygiene and inspection standards should be promoted as a comparative advantage, and only local marketing for smaller slaughterhouses and slaughterslabs whose identification separates them from “backyard” or “home” slaughter where marketing is prohibited.
- continuing to work closely with related agencies also involved in the human food chain including the Department of Health responsible for food inspection for some aspects of processing and at the retail level, consistent with a One Health approach.

##### III.2.B Veterinary medicines and biologicals

Veterinary medicines and biologicals quality will continue to be controlled and inspection of establishments (production, importers, wholesalers, retailers) will be strongly reinforced.

The retail distribution and sales, as well as use, will be progressively controlled by tighter regulations and clearly linked with private veterinary practices. An appropriate implementation mechanism for this may be gained through the establishment of a Veterinary Statutory Body.

Veterinarians holding drug shops will be supported to intervene in rural clinical practice and to implement official delegated activities in order to constitute the backbone of the field veterinary network for animal health (estimated at minimum of 1500 veterinary practices and 3000 staff).

### *III.2.C Residue testing*

The VS will continue to implement residue testing for export purposes and will progressively develop residue testing for the national market. This activity will be linked with progressive control of veterinary medicines retail and use.

### *III.2.D Zoonoses*

Zoonoses are targeted through progressive improvement of food inspection and through joint programs (extension on HPAI, rabies, cysticercosis, etc). Specific activities targeting zoonoses in animal populations are dealt with in the Animal Health section. Closer coordination with relevant human health and environmental authorities, especially in relation to emerging zoonoses, will continue to be pursued aligned with a One Health approach.

## **III.2 Human resources**

Human resources are detailed in annexed Cost Estimation Cards of corresponding Critical Competency Cards II.8.A & B, II.9 and II.10.

The total of human resources directly employed by the VS will represent around 108 veterinarians, 21 other university degrees, 14 veterinary para-professionals, and 17 support staff. They could be categorised as follows:

- Ante and post mortem slaughterhouse hygiene and inspection will require 45 veterinarians for export and national slaughter houses. Inspection of slaughter slabs will represent an equivalent full time of 255 food inspectors through official delegation.
- Food inspection of animal products is under the authority of DAH only for raw products (meat, milk, etc). Inspection of such collecting or marketing points will be done routinely by sub-DAH staff as part of their regular activities of coordination and control.
- The 2 National Laboratories for Hygiene and Inspection are directly involved in bacteriological and residues testing of animal products. Their staffs represent 28 veterinarians, 6 other university degrees, 4 technicians and 6 support staff.
- The 2 National Laboratories for Control of Veterinary Medicines and Biologicals represent 30 veterinarians, 15 other university degrees, 10 technicians and 11 support staff.
- The DAH division of Veterinary Drug will require 5 specialised inspectors in order to undertake proper inspection of establishments. Inspection of retailers will be implemented by RAHOs or Sub-DAH staff as part of their regular activities of coordination and control.

## **III.3 Physical resources**

Physical resources are detailed in annexed Cost Estimation Cards of Critical Competency Cards II.8.A & B, II.9 and II.10.

Annual budget for physical resources represents around 930 000 USD per year, mainly for maintenance of equipment and buildings of the 4 national laboratories

Other physical resources are relatively limited: 18 telecommunication and office equipment sets, 6 vehicles for national inspectors of Drugs and Food Safety.

### **III.4 Financial resources**

Financial resources are detailed in annexed Cost Estimation Cards of Critical Competency Cards II.8.A & B, II.9 and II.10.

Annual budget for veterinary public health is estimated around 3 030 000 USD, out of which:

- 930 000 USD is for physical resources, mainly to maintain the 4 national laboratories
- 600 000 USD for inspectors and staff directly employed by the VS
- 500 000 USD for consumables (administration, reagents, inspection and education)
- 1 000 000 USD for official delegation of food inspection of slaughter slabs

An exceptional budget of 950 000 USD will be used for the relocation of the building of the National Laboratory of Hygiene of Hanoi and for specialised training of 30 food inspectors (6 months) and 5 drug inspectors (1 month).

Table n°5 - Sub-Total for strengthening competencies for veterinary public health

SUB-TOTAL VETERINARY PUBLIC HEALTH						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m <sup>2</sup> )	3 650	4 650				
<i>Existing building to be maintained (m<sup>2</sup>)</i>	3 650	3 650	13	1	45 625	
<i>Existing building to be renovated (m<sup>2</sup>)</i>	-	-	50	15		
<i>Building to be built (m<sup>2</sup>)</i>		1 000	250	20	12 500	187 500
Transport						
<i>Number of motorbikes</i>	-	-	1 300	3		
<i>Number of cars</i>	-	4	30 000	5	24 000	
<i>Number of 4x4 vehicles</i>	-	2	50 000	5	20 000	
<i>Other</i>	-	-				
<i>Other</i>	-	-				
Telecommunication equipment set	-	18	500	3	3 000	
Office equipment set	-	18	1 000	3	6 000	
Other specific equipment					820 000	
<b>Sub-total Material investments</b>					<b>931 125</b>	<b>187 500</b>
<b>Non material expenditure</b>						
Training						
<i>Specialised training (man-months/ 5 years)</i>	-	190	4 000			760 000
National expertise (days/5 years)		-	50			
International expertise (weeks/5 years)		-	8 000			
Special funds (/ 5 years) for ...		-				
<b>Sub-total non material expenditure</b>						<b>760 000</b>
<b>Salaries / year</b>						
Veterinarians	-	108	4 000		432 000	
Other university degree	-	21	4 000		84 000	
Veterinary para-professionals	-	14	3 000		42 000	
Support staff	-	17	2 500		42 500	
<b>Sub-total Salaries</b>					<b>600 500</b>	
<b>Consumable resources / year</b>						
Administration			20%		120 100	
Travel allowances						
<i>staff within the country (man-days) / year</i>	-	880	20		17 600	
<i>drivers within the country (man-days) / year</i>	-	880	20		17 600	
<i>staff abroad (man-weeks) / year</i>	-	4	1 540		6 160	
Transport fees						
<i>Km or miles Motorbikes / year</i>			0			
<i>Km or miles cars / year</i>		80 000	0		16 000	
<i>Km or miles 4x4 vehicle / year</i>		40 000	0		16 000	
<i>km or miles Other / year</i>						
<i>km or miles Other / year</i>						
Specific costs						
<i>Specific continuing education (man-days / year)</i>	-	2 063	30		61 202	
<i>Specific communication / year</i>						
<i>Specific consultation / year</i>						
<i>Specific kits / reagents / vaccines</i>					250 000	
<b>Sub-total Consumable resources</b>					<b>504 662</b>	
<b>Delegated activities / year</b>						
<i>Specific official delegation / year</i>					1 000 000	
<b>Sub-total Delegated activities</b>					<b>1 000 000</b>	
<b>Total in</b>	<b>USD</b>				<b>3 036 287</b>	<b>947 500</b>
<b>Total in</b>	<b>1000 VND</b>				<b>60 725 747</b>	<b>18 950 000</b>

## IV Strengthening competencies for veterinary laboratories

The purpose of this section is to explain the proposed activities in the field of veterinary laboratories: Critical Competency Cards II.1 and II.2.

### IV.1 Strategy and activities

The strategy is to ensure that the current level of quality and activity of the national (NCVD) and 7 regional (RAHO) diagnostic laboratories is maintained and sustained over the next five years.

National laboratories for Hygiene and Inspection and for Veterinary Drug Control are not considered in this chapter, as they have been incorporated in the previous chapter on Veterinary Public Health.

The activities of sub-DAH laboratories are not taken into consideration, as they should remain under provincial authority and financing. However, there is a need for an in-depth rationalisation and reorganisation of the network of laboratories in order to avoid overlapping and wastage of resources. Provincial laboratories cannot provide a good quality of services if their activity is low.

DAH and national reference laboratories must have the authority to accredit (or not) provincial laboratories for some specific analysis in order to be recognised as official results for the purpose of national programs. In such context, DAH should also consider that accreditation of provincial laboratories should not hamper the sustainability of national and regional laboratories by decreasing their relevant and necessary level of activity.

Most resources described in the table below have been collated from a very fruitful and participative technical meeting held during the mission with representatives of all the relevant laboratories.

**Table n°6 - Data for national laboratory network costings collating responses**

	NCVD	RAHO1	RAHO2	RAHO3	RAHO4	RAHO5	RAHO6	RAHO7	Total
Location	Hanoi	Hanoi	Haiphong	Vinh	Danang	Buon Thuoc	HCMC	Can Tho	
Buildings (m <sup>2</sup> )									
Existing building to be maintained (m <sup>2</sup> )		3000	800	1008	661	3300	1560	2291	12620
Existing building to be renovated (m <sup>2</sup> )									
Building to be built (m <sup>2</sup> )	2000								2000
Transport									
Number of cars	2	1	1	1	1	1	1	1	9
Number of 4x4 vehicles	2	2	2	1		1	3	1	13
Lab. Equipment total value	1100000	286400	300608	421159	470000	350000	1355000	364000	4647167
International expertise (weeks/5 years)									40
Staffing									
Veterinarians	23	7	6	5	8	6	14	9	78
Other University degree		1							1
Veterinary para-professionals	8		3	1		1	6	1	20
Support staff	13	1	2		2	1	4	1	24
Travel allowances									
Staff within the country (man-day/year)	310	80	90	60	80	70	200	100	990
Drivers within the country (man-day/year)									
Staff abroad (man-day/year)	8	1	1	1	1	1	4	1	18
Kits / reagents, annual cost	95118	20000	78264	35000	29000	30000	325000	30000	642382

## **IV.2 Human resources**

The total human resources of national and regional laboratories are 150 veterinarians, 10 other university degrees, 30 laboratory technicians, and 40 support staff. During the technical meeting, the laboratory directors raised their concern about the fact that more staff should be permanent in order to maintain human resources stability and sustainability.

## **IV.3 Physical resources**

The challenge is to maintain the current level of physical resources, which have benefited from strong international support through HPAI programs since 2006.

The NCVD building (2000 m<sup>2</sup>) will be relocated outside Hanoi city centre.

Laboratory equipment (4 500 000 USD) should be renewed on the basis of 20% per year, which represent around 900 000 USD per year in the annual budget.

There is a need to establish relevant waste disposal and biosecurity infrastructures in all national and RAHO laboratories. It is roughly budgeted at 250 000 USD for all 8 relevant laboratories (approximately 30,000 USD each), but needs a professional estimation.

## **IV.4 Financial resources**

The annual budget for national and regional diagnostic laboratories is estimated around 3 360 000 USD out of which:

- 1 450 000 USD is for maintenance of physical resources
- 830 000 USD staff of laboratories
- 1 080 000 USD for consumables (administration, reagents, inspection and education)

An exceptional budget of 2 000 000 USD is required for the relocation of the NCVD, investment in waste disposal and biosecurity infrastructures, and equivalent of one man-month specialised training and one man-week international expertise on quality assurance per lab over the next five years.

The following table incorporates data gathered using the template above to provide a cost estimation for strengthening the diagnostic laboratories component of the VS.



Table n°7 - Sub-Total for strengthening competencies for veterinary laboratory

<b>SUB-TOTAL VETERINARY LABORATORIES</b>						
<b>Resources and Budget lines</b>	<b>Current Number</b>	<b>Required Number</b>	<b>Unit Cost</b>	<b>Nb of years for amortisation</b>	<b>Annual Budget</b>	<b>Exceptional Budget</b>
<b>Material investments</b>						
Buildings (m <sup>2</sup> )	13 000	15 000				
<i>Existing building to be maintained (m<sup>2</sup>)</i>	13 000	13 000	13	1	162 500	
<i>Existing building to be renovated (m<sup>2</sup>)</i>	-	-	50	15		
<i>Building to be built (m<sup>2</sup>)</i>		2 000	250	20	25 000	375 000
Transport						
<i>Number of motorbikes</i>	-	-	1 300	3		
<i>Number of cars</i>	-	9	30 000	5	54 000	
<i>Number of 4x4 vehicles</i>	-	13	50 000	5	130 000	
<i>Other</i>	-	-				
<i>Other</i>	-	-				
Telecommunication equipment set	-	70	500	3	11 667	
Office equipment set	-	210	1 000	3	70 000	
Other specific equipment					900 000	
					100 000	1 500 000
<b>Sub-total Material investments</b>					<b>1 453 167</b>	<b>1 875 000</b>
<b>Non material expenditure</b>						
Training						
<i>Specialised training (man-months/ 5 years)</i>	-	8	4 000			32 000
National expertise (days/5 years)		-	50			
International expertise (weeks/5 years)		8	8 000			64 000
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						<b>96 000</b>
<b>Salaries / year</b>						
Veterinarians	-	150	4 000		600 000	
Other university degree	-	10	4 000		40 000	
Veterinary para-professionals	-	30	3 000		90 000	
Support staff	-	40	2 500		100 000	
<b>Sub-total Salaries</b>					<b>830 000</b>	
<b>Consumable resources / year</b>						
Administration			20%		166 000	
Travel allowances						
<i>staff within the country (man-days) / year</i>			20		19 800	
<i>drivers within the country (man-days) / year</i>			20		19 800	
<i>staff abroad (man-weeks) / year</i>			1 540		27 720	
Transport fees						
<i>Km or miles Motorbikes / year</i>			0			
<i>Km or miles cars / year</i>		180 000	0		36 000	
<i>Km or miles 4x4 vehicle / year</i>		260 000	0		104 000	
<i>km or miles Other / year</i>						
<i>km or miles Other / year</i>						
Specific costs						
<i>Specific continuing education (man-days / year)</i>	-	550	30		16 317	
<i>Specific communication / year</i>						
<i>Specific consultation / year</i>						
<i>Specific kits / reagents / vaccines</i>					640 000	
					50 000	
<b>Sub-total Consumable resources</b>					<b>1 079 637</b>	
<b>Delegated activities / year</b>						
<i>Specific official delegation / year</i>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>3 362 803</b>	<b>1 971 000</b>
<b>Total in</b>	<b>1000 VND</b>				<b>67 256 067</b>	<b>39 420 000</b>



## V Strengthening of general management and regulatory services

In this section, reference should be made to the Critical Competency Cards I.2, I.3, I.4, I.5, I.6, I.11, II.3, II.11, II.12, III.1, III.2, III.3, III.4, III.5, III.6, IV.1, IV.2 and IV.3.

### V.1 General organisation of the Veterinary Services

Despite adequate and increasing financial resources over recent years, the VS of Vietnam will not be able to improve their quality if their general organisation is not changed to align more closely with the standards of OIE, particularly relating to technical independence and chain of command. Regulation of veterinary practice and development of official delegation should be enforced in order to improve the technical independence of field staff.

#### V.1.A Technical independence

Technical independence of staff is a cornerstone to improve the quality of VS in order to reach international standards. It is one of the most important problems for the VS in Vietnam. It cannot be solved in the short term and needs a dedicated and long term commitment.

Technical independence will be indirectly improved as a consequence of improvement of all cross-cutting competencies mentioned below: internal coordination (chain of command), initial and continuing education, management procedures, legislation and regulations, communication and official representation.

At commune, district and provincial level, the interference of People's Committees with the technical decisions of the VS staff should be progressively mitigated. At least data management (such as disease reporting) should not be submitted for signatures or authorisations of political authorities. Data management of the VS should be a technically independent channel from field to DAH.

The major concern for technical independence is the low level of revenue and status of veterinarians in the country. Currently salaries for veterinarians are approximately 1500 USD per year. Depending on the position and function, the government authorises the supplementation of income generated through a percentage of services fees. This income generated sometimes doubles the revenues of staff but this is subject to huge annual and institutional variations and depends on many unclear factors. On average, over the past five years, salaries have increased around 12% per year. It is absolutely necessary to sustain adequate revenue of VS staff, either through permanent bonuses above salaries or by a clearer mechanism of services fees repartition. Services fees could be charged not only for laboratories, but also for import certificates, food and drug inspection, etc.

For the purpose of the annual budget, the experts established a desirable level of revenues taking into account the current level of salaries, doubling their amount with "income generated" (which is the current situation of many staff depending on the activity of the year, but which should be stabilised), and adding 30 % as an average for the next five years. In this report, annual revenues are estimated as follows:

- 4000 USD for a veterinarian and a university degree
- 3000 USD for a veterinary para-professional
- 2500 USD for a support staff

Level of revenues of veterinarians and veterinary para-professionals working in the private sector is expected to be similar to those of the public sector in order to promote a sustainable, competent and reliable field veterinary network for animal health (see chapter II).

### V.1.B Coordination

The internal coordination of the VS will thus be progressively established between the central level (DAH), regional level (7 RAHOs) and provincial level (63 Sub-DAH). Internal coordination is the main issue relating to the quality of the VS in Vietnam.

The break of chain of command between the DAH and the 63 sub-DAH offices is identified as a major reason for lack of consistency, efficiency and success in the management of operations and resources of the VS.

The chain of command will be progressively strengthened through:

- establishment of a linked comprehensive data management system for all operations and resources of the VS at all levels
- formal communication and consultation procedures and regular meetings between sub-DAH and RAHOs
- legal authority of DAH over all border posts and major food inspection points
- allocation of national budget to DAH for major national programs
- development of adequate legislation and regulations enabling progressively DAH to have authority over sub-DAH.

The role of RAHOs should be gradually strengthened beyond their current limitation to the provision of technical functions such as laboratory and epidemiological advice. They should gradually gain responsibility for coordination of sub-DAHs and control of implementation of delegated activities. They will implement continuing education plans and monitoring and evaluation activity (such as post vaccination sero-surveillance).

Sub-DAH will be responsible for planning and coordination of routine officially delegated activities outside of the specific dedicated national programmes for which DAH will be directly responsible for, and for implementation of inspection and control on food safety and veterinary drugs at provincial level.

### V.1.C Veterinary practice organisation and policy

The veterinary profession suffers from a low status in Vietnam. During discussions with veterinary and veterinary para-professional faculty staff it was mentioned that veterinarians are equated as being closer in professional status to farmers than to medical doctors. This is very different to other countries, including in South East Asia, where the demand for veterinary degrees and society's respect for veterinarians is amongst the highest of all the professions and often on a par with medical doctors.

There is little professional and no legal distinction between veterinarians and veterinary para-professionals, the later working independently without any effective supervision by veterinarians. Most of these workers are working on a very part time base for very low income. Private activities are fragmented and mixed with public activities. The tens of thousands of staff working in such conditions are not sufficiently skilled or sufficiently linked to the VS system to enable the VS to rely on them for official veterinary activity.

A Veterinary Statutory Body will be established in the next five years and should be a strong step towards defining, setting standards for, and appropriately improving the status of veterinarians and veterinary para-professionals in Vietnam. It will set up appropriate regulations and provide a regulation mechanism in order to:

- define appropriate levels of education, competencies and estimate required numbers of veterinary and veterinary para-professional students in consultation with veterinary faculties and colleges of agriculture
- define the activities of veterinarians, each category of veterinary para-professionals and the modalities of effective supervision of them by veterinarians

- establish a register of private veterinarians and veterinary para-professionals
- establish a code of ethics and regulations for veterinary practice which will support the development of a competent, sustainable and reliable field veterinary network for animal health. This will include defining acts only veterinarians or veterinary para-professionals can conduct and formulating a mechanism for disciplinary action against professionally negligent or otherwise inappropriate activities by veterinarians.

The progressive establishment of such a network should be driven by DAH and developed in consultation with the Veterinary Association, RAHOs, sub-DAHs, local authorities and farmers. Appropriate selection and training of the estimated 3000 staff of the field veterinary network for animal health can only be adequately established through a detailed analysis and classification system.

Fragmentation of activities should be stopped. Integration of activities, including animal care, veterinary drug distribution and involvement in official delegation, should be promoted to establish comprehensive and expert public and private veterinary practice.

#### *V.1.D Official delegation*

Official delegation will be regulated in order to establish a clear chain of command from DAH to the field veterinary network for animal health. It will be used to progressively establish this field network by selecting and training the required number of staff.

The budget for official delegation will be managed under the authority of DAH.

Detailed procedures will be established for all delegated activities.

The control of official delegated activities will be implemented by RAHOs (e.g. post vaccination serological monitoring, documentary control, etc).

## **V.2 Cross-cutting competencies of the VS**

### *V.2.A Initial training*

The veterinary faculties need substantial support to progressively reach for an internationally recognised standard of veterinary education. It is proposed that five Masters degrees for instructors and two months of international expertise will be available for veterinary faculties every year. A study to assess the required number of veterinarians in Vietnam over the long term will be carried out in order to reorganise veterinary faculties.

In addition, specialised training abroad will be organised for 30 food inspectors, 75 border inspectors and 5 veterinary drug inspectors.

The agricultural colleges will be supported to study the future market of graduates. Most of the current capacity of these colleges should probably be reorganised to meet the demand in intensive animal production specialists and farmers.

A specialised curriculum of veterinary para-professionals, with a limited number of students, will be developed to meet the international standards. Veterinary teaching staff should also involve themselves in veterinary para-professional's education (visiting lecturers etc) to raise standards.

### *V.2.B Continuing education*

Continuing education is a key point to improve the competencies of veterinarians over the short and medium term. It is also a means to strengthen the chain of command of DAH linked with sub-DAH and field staff.

A continuing education programme will be organised by DAH Human resources division and implemented under the authority of RAHOs and linked with relevant partners.

Detailed needs of continuing education are described in annexes for each relevant critical competency card.

A particular focus should be made on continuing education for the 3000 staff selected for the field veterinary network for animal health, in order to implement official delegated activities. Training in other areas such as laboratories, border inspection and meat inspection will also be required.

Another focus will be made on the sub-DAH staff to improve their management skills and their knowledge of legislation and regulations.

The global volume of VS continuing education is estimated at 15 000 man days per year. This represents 1000 days of training in groups of 15 people per year.

### *V.2.C Management of operations and resources*

The establishment of comprehensive data management of operations and resources is the first element of strengthening the quality of the VS. Without its development, there is no possibility to develop relevant operational plans and to evaluate efficiency. Data management requirements are detailed in all relevant critical competency cards.

Its development will require international expertise for 12 months.

### *V.2.D Communication*

Internal communication and consultation within the VS will be improved (regular, formal and documented) for coordination purposes between DAH/RAHOs and sub-DAH. This may be an essential first step to improve linkages both to and from the VS field levels.

Communication with stakeholders will be improved gradually and will be established as an internal and permanent expertise within DAH.

Sub-DAH staff will receive adequate training on communication.

A global budget estimate is made on the base of 25 USD per commune.

### *V.2.E Consultation with stakeholders*

Consultation with stakeholders is difficult to establish as long as there are currently no farmer associations. However, consultation could be organised and formalised systematically at provincial level twice a year, with relevant procedures and records.

In order to ease such consultation, a budget will be provided for 130 meetings per year and 20 people per meeting, with an accommodation and transport allowance of 10 USD per stakeholder. The first step would involve facilitating the different stakeholders to become represented with appropriate forms of leadership and organisation.

### *V.2.F Official representation*

DAH should be able to participate at least to the relevant OIE, Codex and SPS international and regional meetings, which are estimated to be around 12 per year.

Official representation is important for central staff of different services mentioned in the relevant critical competencies and estimated 13 per year. The budget is established on the basis of one staff abroad during one week per meeting.

### *V.2.G Joint programme*

Most vaccinations (e.g. HS, CSF, rabies, Newcastle) are currently undertaken under cost recovery and voluntary basis and could be considered as joint programs if they included the benefits of better extension.

These programs will be implemented by the field veterinary network twice a year in each commune, through official delegation.

### *V.2.H Legislation*

DAH is engaged in a Memorandum of Understanding with OIE about a comprehensive legislation review. It will be supported by two weeks of international expertise per year, by a specialised training (master) for one staff and one month specialised training for 5 staff of the Legislation Division of DAH.

## **V.3 Human resources**

Human resources are shared between DAH, 7 RAHOs and 63 Sub-DAH.

The table “tool 5” gives an estimate of the breakdown of human resources and details are described in the relevant critical competency cards and cost estimations cards in annexes.

DAH will globally maintain its current organisation chart (divisions) and staffing. Some positions will be strengthened: on animal health to increase capacity of epidemiology unit on risk analysis and emerging issues, on communication and on administrative management (continuing education, data management, finance).

On average each RAHO will have 4 veterinarians and 4 support staff, and each sub-DAH will have 6 veterinarians, 6 veterinary para-professional and 6 support staff.

The total staff for management and regulatory is 443 veterinarians, 13 other university degree, 378 veterinary para-professionals and 430 support staff.

## **V.4 Physical resources**

The relevant physical resources are detailed in the table “tool 5” and relevant CCCs.

DAH requires 9 telecommunication sets, 23 office equipment sets, one high capacity copier, 2 city cars and 5 vehicles 4x4.

Each RAHO will need 4 communications and office equipment sets, 1 city car and 1 vehicle 4x4.

Each sub-DAH will need 4 communications sets, 6 office equipment sets, a cold room, 1 city car and 2 vehicles 4x4

The total represents 18 500 m<sup>2</sup> of building, 300 telecommunications sets, 462 office equipment sets, 72 city cars, 138 vehicle 4x4, 1 high capacity copier and 63 cold rooms.

Tool 5 - Estimation of human and physical resources for Management and Regulatory Services

Sectors	No of units of each level	Human resources (full time equivalent)				Physical resources (for public Veterinary Services)						
		Public (full time equivalent)				Telecommunication equipment set (No)	Office equipment set (No)	Motorbikes (No)	Cars (No)	4x4 Vehicles (No)	Buildings m2	Other specific equipment (No)
		Veterinarians	Other university degree	Veterinary para-professionals	Support staff							
<b>I.6.A. Internal coordination of the VS</b>		<b>428</b>	<b>0</b>	<b>378</b>	<b>425</b>	<b>289</b>	<b>429</b>	<b>0</b>	<b>72</b>	<b>138</b>	<b>18 500</b>	<b>64</b>
<b>Central level</b>	<b>1</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>8</b>	<b>23</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>1 000</b>	<b>1</b>
Director General		4	0	0	1	2	5	0	1	2	1 000	1
Deputy director general		1			1	1	2		1	1	1 000	1
		3				1	3			1		
<b>Animal health</b>		<b>9</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>4</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
Disease control		3			3	1	3			1		
Epidemiological surveillance		3			3	1	3					
Emergency plan and sanitary policy		2			2	1	2					
Animal identification and internal check point control		1			1	1	1					
<b>Food safety</b>		<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
Slaughter inspection of export and national level		2			2	1	2			1		
<b>Border control</b>		<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
Internal main border post management		3			3	1	3			1		
<b>Veterinary pharmacy and veterinary medicines</b>		<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
Drug registration		4			4	1	4		1			
<b>Deconcentrated Level of coordination</b>		<b>406</b>	<b>0</b>	<b>378</b>	<b>406</b>	<b>280</b>	<b>406</b>	<b>0</b>	<b>70</b>	<b>133</b>	<b>17 500</b>	<b>63</b>
<b>1st level of deconcentrated coordination</b>	<b>7</b>	<b>28</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>28</b>	<b>28</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>1 750</b>	<b>0</b>
Head of RAHO (regional)		1			1	1	1		1	1	250	
Animal health		1			1	1	1					
Veterinary public health		1			1	1	1					
Border security and movement control and identification		1			1	1	1					
<b>2nd level of deconcentrated coordination</b>	<b>63</b>	<b>378</b>	<b>0</b>	<b>378</b>	<b>378</b>	<b>252</b>	<b>378</b>	<b>0</b>	<b>63</b>	<b>126</b>	<b>15 750</b>	<b>63</b>
Head of Sub DAH (provincial)		1		1	1	1	1		1	2	250	1
Animal health		2		2	2	1	2					
Veterinary public health		2		2	2	1	2					
Traceability		1		1	1	1	1					
<b>3rd level of deconcentrated coordination</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Head of unit												
Animal health												
Veterinary public health												
Traceability												
<b>I.6.B. Inter-sectoral coordination</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Zoonotic disease management with Ministry of Health		1			1	1	1					



<b>General Cross-cutting competencies</b>		14	13	0	4	10	32	0	0	0	0	0
<b>II.3. Continuing education</b>		3	1	0	1	1	5	0	0	0	0	0
<i>Human resources management staff or unit</i>		3	1		1	1	5					
<b>II.11. Management of resources and operations</b>		6	9	0	2	6	17	0	0	0	0	0
<i>Finance resources management</i>		1	3		1	1	5					
<i>Physical resources management</i>		1	1			1	2					
<i>Information system and databases</i>		1	2			1	3					
<i>Documentation and archives</i>		1	1		1	1	3					
<i>Planning</i>		1	1			1	2					
<i>Quality management and Internal audit services</i>		1	1			1	2					
<b>II.3. Risk analysis</b>		0	0	0	0	0	0	0	0	0	0	0
<i>Risk analysis staff or unit</i>												
<b>II.11. Emerging issues</b>		0	0	0	0	0	0	0	0	0	0	0
<i>Emerging issues staff or unit</i>												
<b>II.12. Technical innovation</b>		0	0	0	0	0	0	0	0	0	0	0
<i>Technical innovation staff or unit</i>												
<b>III.1. Communication</b>		1	1	0	1	1	3	0	0	0	0	0
<i>Communication staff or unit</i>		1	1		1	1	3					
<b>III.2. Consultation</b>		0	0	0	0	0	0	0	0	0	0	0
<i>Consultation staff or unit</i>												
<b>III.3. Official representation</b>		0	0	0	0	0	0	0	0	0	0	0
<b>III.4. Official delegation</b>		0	0	0	0	0	0	0	0	0	0	0
<i>International cooperation with OIE, Codex, WTO</i>												
<b>III.5. Veterinary Statutory Body</b>		0	0	0	0	1	1	0	0	0	0	0
						1	1					
<b>IV.1. IV.2. IV.3. Legislation and regulation</b>		4	2	0	0	1	6	0	0	0	0	0
<i>Legal services</i>		4	2			1	6					
<i>Enforcement services</i>												
<b>Total Management and regulatory services</b>		443	13	378	430	300	462	0	72	138	18 500	64

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## **V.5 Financial resources**

The annual budget for strengthening management and regulatory services is around 9 400 000 USD.

Human resources represent around 4 050 000 USD and maintenance of physical resources for 2 350 000 USD.

Despite the fact that all cross-cutting competencies are mentioned in this chapter, consumables account only for 2 600 000 USD in this chapter. In fact the major parts of their respective budgets have already been specified in previous chapters. This is especially the case for continuing education, official representation and official delegation.

An exceptional budget of 3 860 000 USD is required to finance long term investments:

- purchase of 63 cold rooms for sub-DAH
- 580 man-months specialised training abroad: 25 masters for instructors of the veterinary faculties, 1 master and 5 months in legislation, one year training in veterinary public health for 5 staff in an OIE Collaborating Centre, 5 months on risk analysis;
- 129 man-weeks of international expertise on veterinary faculties (50 weeks), veterinary para-professional training (16 weeks), OIE PVS follow-up evaluation (8 weeks), data management (40 weeks), Veterinary Statutory Body (5 weeks) and legislation (10 weeks);
- 700 man-days of national expertise on veterinary para-professional training (60 days), data management (240 days) and Veterinary Statutory Body (400 days)

Table n°8 - Sub-Total General management and regulatory services

SUB-TOTAL MANAGEMENT OF VETERINARY SERVICES						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m <sup>2</sup> )	18 500	18 500				
<i>Existing building to be maintained (m<sup>2</sup>)</i>	18 500	18 500	13	1	231 250	
<i>Existing building to be renovated (m<sup>2</sup>)</i>	-	-	50	15		
<i>Building to be built (m<sup>2</sup>)</i>	-	-	250	20		
Transport						
<i>Number of motorbikes</i>	-	-	1 300	3		
<i>Number of cars</i>	-	72	30 000	5	432 000	
<i>Number of 4x4 vehicles</i>	-	138	50 000	5	1 380 000	
<i>Other</i>	-	-				
<i>Other</i>	-	-				
Telecommunication equipment set	-	300	500	3	50 000	
Office equipment set	-	462	1 000	3	154 000	
Other specific equipment					97 833	472 500
<b>Sub-total Material investments</b>					<b>2 345 083</b>	<b>472 500</b>
<b>Non material expenditure</b>						
Training						
<i>Initial training</i>						
<i>Specialised training (man-months/ 5 years)</i>	-	580	4 000			2 320 000
National expertise (days/5 years)		700	50			35 000
International expertise (weeks/5 years)		129	8 000			1 032 000
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						<b>3 387 000</b>
<b>Salaries / year</b>						
Veterinarians	2	443	4 000		1 772 000	
Other university degree	2	13	4 000		52 000	
Veterinary para-professionals	-	378	3 000		1 134 000	
Support staff	-	430	2 500		1 075 000	
<b>Sub-total Salaries</b>					<b>4 033 000</b>	
<b>Consumable resources / year</b>						
Administration			20%		806 600	
Travel allowances						
<i>staff within the country (man-days) / year</i>	-	170	20		3 400	
<i>drivers within the country (man-days) / year</i>	-	170	20		3 400	
<i>staff abroad (man-weeks) / year</i>	-	6	1 540		29 260	
Transport fees						
<i>Km or miles Motorbikes / year</i>			0			
<i>Km or miles cars / year</i>		1 440 000	0		288 000	
<i>Km or miles 4x4 vehicle / year</i>		2 760 000	0		1 104 000	
<i>km or miles Other / year</i>						
<i>km or miles Other / year</i>						
Specific costs						
<i>Specific continuing education (man-days / year)</i>	-	3 052	30		90 543	
<i>Specific communication / year</i>					250 000	
<i>Specific consultation / year</i>					26 000	
<i>Specific kits / reagents / vaccines</i>						
<b>Sub-total Consumable resources</b>					<b>2 601 203</b>	
<b>Delegated activities / year</b>						
<i>Specific official delegation / year</i>					400 000	
<b>Sub-total Delegated activities</b>					<b>400 000</b>	
<b>Total in</b>	<b>USD</b>				<b>9 379 286</b>	<b>3 859 500</b>
<b>Total in</b>	<b>1000 VND</b>				<b>187 585 720</b>	<b>77 190 000</b>



## VI Global budget analysis

The global budget to strengthen the quality of the VS in compliance with OIE standards during the next five years is estimated around 182 000 000 USD.

The annual budget is estimated around 35 000 000 USD and the exceptional budget 8 000 000 USD.

Note that these figures include the VS consisting of DAH, RAHOs and the field veterinary network, and all associated staff, physical resources and activities. It includes also all national and regional laboratories.

### VI.1 Operational funding

Operational funding is estimated around 30 000 000 USD per year and represents around 82% of the budget.

It includes salaries (20%), consumables (40%) and delegated activities (30%). One should note that salaries cover all activities of coordination, regulation and inspection although delegated activities cover all animal health activities and slaughter inspection at local level.

66% of consumables are represented by reagents and vaccines. One should mention that the amount of vaccines could increase depending on the further development of national programs.

### VI.2 Emergency funding

No financial data was provided indicating that there exists a specific emergency fund such as that relating to compensation for livestock culling, although compensation seems to be budgeted for on an *ad hoc* basis in relation to HPAI outbreaks.

It is not estimated in this report as a permanent special fund.

### VI.3 Capital investment

Capital investment is estimated around 32 000 000 USD over the next five years, including an annual budget of 4 800 000 USD and an exceptional budget of 7 900 000 USD.

The annual budget is necessary to maintain the VS infrastructure.

The exceptional budget is required mainly to invest in specialised training (4 000 000 USD), major physical resources (2 600 000 USD) and external expertise (1 300 000 USD).

TOTAL BUDGET									
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget	Total budget for 5 years	% annual budget	% total budget for 5 years
<b>Material investments</b>									
Buildings (m <sup>2</sup> )	36 460	39 460							
Existing building to be maintained (m <sup>2</sup> )	36 460	36 460	13	1	455 750		2 278 750	1,3%	1,3%
Existing building to be renovated (m <sup>2</sup> )		-	50	15					
Building to be built (m <sup>2</sup> )		3 000	250	20	37 500	562 500	750 000	0,1%	0,4%
<b>Transport</b>									
Number of motorbikes	-	3	1 300	3	1 300		6 500	0,0%	0,0%
Number of cars	-	85	30 000	5	510 000		2 550 000	1,5%	1,4%
Number of 4x4 vehicles	-	156	50 000	5	1 560 000		7 800 000	4,5%	4,3%
Other	-	-							
Other	-	-							
Telecommunication equipment set	-	471	500	3	78 500		392 500	0,2%	0,2%
Office equipment set	-	738	1 000	3	246 000		1 230 000	0,7%	0,7%
Other specific equipment					1 932 033	2 035 000	11 695 167	5,6%	6,4%
<b>Sub-total Material investments</b>					<b>4 821 083</b>	<b>2 597 500</b>	<b>26 702 917</b>	<b>13,9%</b>	<b>14,7%</b>
<b>Non material expenditure</b>									
<b>Training</b>									
Initial training									
Specialised training (man-months/ 5 years)	-	1 005	4 000			4 020 000	4 020 000		2,2%
National expertise (days/5 years)		700	50			35 000	35 000		0,0%
International expertise (weeks/5 years)		157	8 000			1 256 000	1 256 000		0,7%
<b>Special funds</b>									
<b>Sub-total non material expenditure</b>						<b>5 311 000</b>	<b>5 311 000</b>		<b>2,9%</b>
<b>Salaries / year</b>									
Veterinarians	2	931	4 000		3 724 000		18 620 000	10,7%	10,2%
Other university degree	2	49	4 000		196 000		980 000	0,6%	0,5%
Veterinary para-professionals	-	512	3 000		1 536 000		7 680 000	4,4%	4,2%
Support staff	-	542	2 500		1 355 000		6 775 000	3,9%	3,7%
<b>Sub-total Salaries</b>					<b>6 811 000</b>		<b>34 055 000</b>	<b>19,6%</b>	<b>18,7%</b>
<b>Consumable resources / year</b>									
Administration			20%		1 362 200		6 811 000	3,9%	3,7%
<b>Travel allowances</b>									
staff within the country (man-days) / year	-	1 050	20		40 800		204 000	0,1%	0,1%
drivers within the country (man-days) / year	-	1 050	20		40 800		204 000	0,1%	0,1%
staff abroad (man-weeks) / year	-	25	1 540		67 760		338 800	0,2%	0,2%
<b>Transport fees</b>									
Km or miles Motorbikes / year		30 000	0		1 500		7 500	0,0%	0,0%
Km or miles cars / year		1 700	0		340 000		1 700 000	1,0%	0,9%
Km or miles 4x4 vehicle / year		3 120	0		1 248 000		6 240 000	3,6%	3,4%
km or miles Other / year									
km or miles Other / year									
<b>Specific costs</b>									
Continuing education (man-days / year)		15 000	30		445 000		2 225 000	1,3%	1,2%
Communication / year					250 000		1 250 000	0,7%	0,7%
Consultation / year					26 000		130 000	0,1%	0,1%
Specific kits / reagents / vaccines					5 890 000		29 450 000	16,9%	16,2%
Other					50 000		250 000	0,1%	0,1%
Other									
<b>Sub-total Consumable resources</b>					<b>9 762 060</b>		<b>48 810 300</b>	<b>28,1%</b>	<b>26,8%</b>
<b>Delegated activities / year</b>									
Specific delegated activities					13 400 000		67 000 000	38,5%	36,8%
Other activities or global estimation									
<b>Sub-total Delegated activities</b>					<b>13 400 000</b>		<b>67 000 000</b>	<b>38,5%</b>	<b>36,8%</b>
<b>Total in</b>	<b>USD</b>				<b>34 794 143</b>	<b>7 908 500</b>	<b>181 879 217</b>	<b>100%</b>	<b>100%</b>
<b>Total in</b>	<b>1000 VND</b>				<b>695 882 867</b>	<b>158 170 000</b>	<b>3 637 584 333</b>		

## **VI.4 Profitability and sustainability**

### *VI.4.A Analysis related to national economy and budget*

The annual budget represents:

- 1,75 USD per Veterinary Livestock Unit (20 000 000 VLUs)
- 2,5 % of the livestock GDP (1 400 000 000 USD)
- 1,2 % of the national budget (2 900 000 000 USD)

This budget is in coherence (proportional) with the national economy of Vietnam (which continues to grow rapidly) and the contribution of the livestock sector. It could be sustained by the national government budget and/or the livestock sector through public-private partnership and joint programmes in the long term.

### *VI.4.B Analysis of distribution per pillar*

During the next five years, it is expected that:

- almost half of the budget is applied to animal health (disease management), including the field veterinary network (47,5%)
- general management and regulatory services accounts for 28 % of the budget
- diagnostic laboratories maintenance and activities represent 10 % of the budget
- veterinary public health will increase up to 9 % of the budget
- trade will account for less than 6 % of the budget

This repartition between pillars is coherent with the national priorities.





## CONCLUSION

Based on the systematic and participatory PVS Gap Analysis methodology, this report has successfully identified national VS priorities, competency targets, tasks and costing for strengthening the Vietnamese VS to better align with the OIE international standards for the Quality of VS over the next five years.

In terms of looking ahead, planning and follow up relating to the practical use of this PVS Gap Analysis report in Vietnam are at an advanced stage of development through additional support provided by the OIE Programme for Strengthening Veterinary Services in South East Asia (PSVS). For example, PSVS has facilitated the formal integration of this PVS Gap Analysis with the internal development in Vietnam of a VS Roadmap to be considered by the highest levels of government. PSVS is also supporting promotion of the PVS Gap Analysis report and Roadmap as a guide to investments from donors, through a donor roundtable to be progressed (as appropriate) after consideration of the Roadmap by the Vietnamese government.

### Summary by PVS Gap Analysis Pillar

The PVS Gap Analysis report identifies five “pillars” of VS competencies; international trade, animal health, veterinary public health, laboratories, and general management and regulatory services.

In terms of **International Trade**, given livestock and livestock product terms of trade are generally in favour of imports into Vietnam, international trade priorities focus on VS activities facilitating safe importation, particularly international border post inspection and quarantine. As the priority target in this pillar, border post activities require strengthening both in terms of chain of command with a progressive assumption of control by DAH over terrestrial border posts currently under SubDAH, and the general improvement of inspection staff competencies and related data management systems.

Currently, small niche export markets exist for terrestrial animals and products (such as suckling pigs to Hong Kong). These will be built upon through a targeted strengthening of VS systems for trade facilitation, such as pilot livestock identification and traceability, building systems for export certification and data management, and compartmentalisation trials for the intensive poultry sector.

For the second pillar of **Animal Health**, the focus is on improvements to the field animal health network. The number of field animal health staff should be reduced, to improve the level and consistency of services, and to ensure they are properly linked into national level surveillance systems and disease control programmes. It is recommended that the government consider official delegation via national programmes as the most effective method to strengthen field VS, particularly with respect to the national VS chain of command. Careful engagement with veterinary drug stores and their veterinarian owners and network “hubs” represent a particularly promising avenue to pursue here.

For the third pillar of **Veterinary Public Health**, the priority is animal production food safety in Vietnamese slaughterhouses and slaughterslabs. Again, the chain of command and competency levels are the cross cutting issues of most relevance. A staged assumption of control over major slaughterhouses and official delegation of inspection activities in smaller local slaughterhouses and slaughterslabs should be initiated. This should be accompanied by training to improve meat hygiene and inspection competence, and stronger and more consistent data management and animal product identification systems.

For **Laboratories**, Vietnam is already very well served, and this pillar is not regarded as a current priority. The focus is on ensuring current diagnostic systems are sustainable and that rationalisation between laboratory services provided at different levels (particularly RAHO

and sub-DAH) takes place to avoid duplication and wastage. Accreditation powers at national level could facilitate this.

Finally, for **VS Management and Regulatory Services**, a number of cross cutting issues are current priorities. Firstly the national VS chain of command should be strengthened via all possible avenues; legislative, financial, information management, formal communications/consultation between levels and through official delegation to private animal health providers. Tailoring approaches using a mix of these options as they fit to the relevant VS areas will yield the best results. For example, advocating for legislative change that mandates DAH control over international border posts may be warranted given that this is one aspect of VS traditionally under national jurisdiction and for which a nationally consistent approach is most obviously needed. As discussed, official delegation may be more appropriate for national control over the field animal health network, and the smaller slaughtering establishments. Regardless of other activities, formal, regular and documented communications and consultation should take place between the different VS levels, with the specific aim of sharing information on activities, consulting and gaining general agreement on national animal health policy and programmes.

Focused activity to strengthen the veterinary and para-veterinary professions is urgently required. A Veterinary Statutory Body can do much to raise the standards, consistency, salaries and profile of the entire profession. This (ideally) independent mechanism can do this by defining minimal professional educational and other (e.g. ethical) standards, registering those having reached those standards, disciplining those registered who fail to meet those standards in their work and defining “acts” only registered members of the profession can do. Through this a real value is placed on the profession, by both members and society. Veterinary Services “supply” is restricted to those that can provide higher quality services, which can become valued and rewarded appropriately. Targeted activity to establish a VSB are defined in the report. External support could be provided here, such as through a dedicated project.

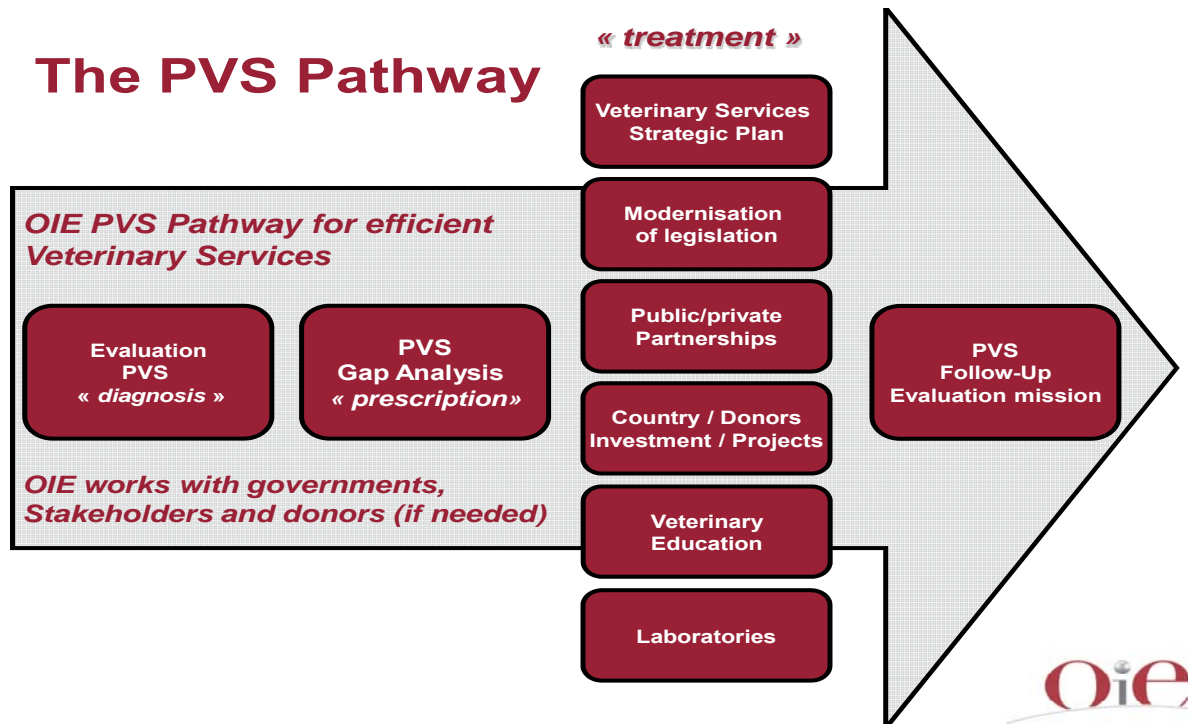
Urgent efforts are also required in both initial and continuing education for VS. Undergraduate curricula for both veterinarians and veterinary para-professionals should become better standardised, and this could be facilitated through the VSB. Improvement in national and international postgraduate educational opportunities should be pursued. In addition, shorter term, targeted training in priority field animal health services, border post inspection and meat hygiene and inspection should be planned and delivered to selected staff by both national and international experts.

Data management systems need to be updated and nationalised for almost all aspects of VS provision.

Stakeholder consultation is nearly non-existent in Vietnam and should be built up from its very low base. Livestock and related companies should be invited to meetings with government for two way information sharing and policy and programme discussions. Eventually, industry and smallholder group representation should be developed in order to truly represent producer interests to the government. The Veterinary Association should be strengthened and also engaged in meaningful dialogue with government VS as a representative of private veterinarians.

### **The Way Forward**

The PVS Gap Analysis is an essential component of the OIE PVS Pathway to stronger VS as follows:



With reference to the PVS Pathway diagram, based on the PVS Evaluation “diagnosis” and this PVS Gap Analysis “prescription”, “treatment” activities for strengthening VS are already at an advanced stage of planning or progress in Vietnam, facilitated by the South East Asian OIE PSVS programme. Such activity will be informed directly by this report.

OIE PVS inputs (especially from this PVS Gap Analysis report) will feed directly into the first “treatment” option in the diagram, a VS Strategic Plan (Roadmap) which will be developed with further OIE support and considered by the highest levels of government in Vietnam in late 2010. Following government consideration, it is planned that a donor roundtable will take place in 2011 to consider the PVS findings and the VS Roadmap as a strong basis for the development of new (or the refinement of ongoing) external projects and investments relevant to VS, particular where government funding is not available or to supplement it (the fourth “treatment” option).

Veterinary legislation is an enabling tool that forms the basis of VS capacity and is another “treatment” avenue Vietnam is progressing. Vietnam is currently updating its Veterinary Legislation. It has formally engaged with the OIE through a formal MOU relating to the OIE Veterinary Legislation Support Programme (VLSP). This is a long term and sustainable partnership to facilitate the improvement of Vietnamese veterinary legislation with assistance from an OIE expert and using the OIE Guidelines on Veterinary Legislation as a basis. The VLSP is formally linked to the PVS Pathway with strategic planning (“roadmapping”) a prerequisite in the MOU. Strategic planning, facilitated by the PVS Pathway and PVS Gap Analysis in particular, defines objectives and planning towards which improved veterinary legislation can be targeted.

In terms of veterinary laboratories, there is already a plethora of activity and support within Vietnam. OIE may provide direct assistance through upcoming initiatives such as through the facilitation of an OIE laboratory “twinning” in the area of pig diseases. Along with FAO and WHO, OIE will also be assisting laboratory diagnosis of emerging pathogens in the region through the IDENTIFY programme of work.

As discussed, Veterinary and Veterinary Para-professional Education will need to be a major focus for Vietnamese VS in the coming years if it hopes to effectively strengthen its capacity. It is also a major focus for the OIE, with an ongoing programme of work relating to

conferences, improving and harmonising curricula and building global capacity. Both institutions should ensure they are partnering each other as they both move forward in this important endeavour. A Vietnamese member of the OIE *ad hoc* Group on Veterinary Education will facilitate this partnership.

Consistent with the OIE PVS concept, this report is focused at the animal health systems level. It does not focus on strategic or technical aspects of control and eradication for specific diseases, such as for HPAI and FMD. In Vietnam, such considerations are dealt by additional, individual disease focused strategic plans for control/eradication, such as for HPAI, FMD and rabies, whose development is ongoing. The PVS Gap Analysis looks at the systems basis that might permit an appropriately improved level of disease control, without including details or technical commentary on actual disease control activities that are current or that should be taking place.

In a related way, with its comprehensive focus at the systems level, the results of the PVS Gap Analysis are not always neatly suitable for project based activity, such as might be undertaken by government taskforces or external donors and agencies. Many of the recommendations are of a policy rather than a technical, programme or project nature. The most significant example in Vietnam would be improving the veterinary chain of command, which is largely a matter of internal policy. However, there are many specific aspects of the PVS Gap Analysis report that are amenable to project type approaches, such as the need for training to improve veterinary and veterinary para-professional competencies (animal health field network, slaughterhouse hygiene/inspection and border post staff), improved veterinary data management and information systems, the development of a Veterinary Statutory Body or the facilitation of improved stakeholder interaction. Others aspects require scrutiny and carefully developed planning to see where project type approaches may be employed by government, donors or relevant agencies.

In summary, through some careful policy adjustments and targeted resourcing at animal health systems level, Vietnam can move forward towards a highly functional and efficient VS, built upon its strong resource base, its enthusiastic, talented and competent inner core of veterinarians and its rapidly improving technical capabilities. The rewards available to a dynamic country which is “on the move” such as Vietnam, with its rapidly expanding economy, are seemingly limitless. These include a suite of gains including animal and zoonotic disease control and eradication, poverty alleviation, a safer and more secure food supply and profitable export opportunities.

## APPENDICES

### Reference Indexing

The following appendices systematically include all the CC cards and cost estimate cards for each CC of the PVS Gap Analysis.

Whilst the Vietnamese VS, through the PVS Gap Analysis process, have identified improvements in almost every single critical competency as targets over the next five years, some of these will be more significant and be far more involved in terms of dedicated activity and resources than others.

Given the complexity of providing comprehensive VS covering the entire veterinary domain, some critical competencies, relevant to PVS Gap Analysis planning, overlap in function. This is especially the case between those cross-cutting CCs in Fundamental Components 1 (Resources) and 3 (Stakeholder Interaction), which often have cross cutting relevance to more technically specific items such as those in Fundamental Components 2 (Technical Capability) and 4 (Market Access). Interpreting this complexity is not easy in terms of activity and budget analysis across the VS.

The decision making of which critical competencies should include activities and budgeting for various forms of staff (salaries), physical and financial resources (buildings, equipment, transport) and training (overseas and national) is mostly intuitive but can be complex for those unfamiliar with the PVS Gap Analysis methodology. The following is provided as a form of “index” to assist interpretation and rapid referencing for particular activity and resourcing within the more detailed cards, and divides CC’s into three categories:

1. CC’s with significant activity and budget components, especially those with staffing and building/equipment costs included
2. CC’s with more simple single activity/budget provisions, mostly relating to specific training activities and/or attendance at meetings
3. CC’s with no specific budget provisions, but whose improvement activity may be covered by resources and staffing provided under other CC’s. *Note: planning for the improvement of these CCs is still included within designated CC cards.*

### Critical Competencies with significant activity and budget components

#### *(i.e. staffing and buildings/equipment)*

I.2. Competencies of veterinarians & veterinary para-professionals - This CC incorporates a large provision relating to training and upgrading of veterinary and veterinary paraprofessional teaching staff and curricula.

I.3. Continuing education – This CC incorporates a small number of staff dedicated to planning and managing continuing education and a provision for general continuing education costs.

I.6A. Coordination capability of the Veterinary Services - Internal coordination (chain of command) - This is a very large CC item. It includes staffing, buildings and equipment for the entire technical “coordination” function of the VS; that is all resources associated with coordination and oversight over the field veterinary level. This includes the non-administrative staff of DAH central office, sub-DAH offices and district veterinary offices. It does not include staff, activity and expenditure relating to specific implementation of technical functions such as field staff, laboratories, slaughterhouses or border posts. These are included under specific CCs in Fundamental Component 2. Administrative staff such as

HR/data management are included under the Management CC I.11, rather than being included here.

I.11. Management of resources and operations – This is another large CC that incorporates the administrative or secretarial (non-technical) staffing of the VS, including HR, accounting and data management staff within DAH. It also includes training and equipment costs relating to the establishment of nationally coordinated data management systems for all relevant VS activities

II.1. Veterinary laboratory diagnosis - This CC includes staffing, building, equipment and training costs relating to laboratory diagnosis within Vietnam.

II.4. Quarantine and border security - This CC includes staffing, building, equipment and training costs relating to border inspection and control

II.7. Disease prevention, control and eradication - This CC includes among other things the purchase of vaccine by the VS. It does not include funding of the animal health field network which is included under the official delegation CC.

II.8. Food safety II.8A. Ante and post mortem inspection at abattoirs and associated premises (e.g. meat boning / cutting establishments and rendering plants) – This CC includes inspection staff and training relating to animal production food safety issues at slaughterhouses.

II.8B. Food safety – Inspection of collection, processing and distribution of products of animal origin - This CC includes staffing, buildings, specialised training and continuing education relating to post slaughterhouse food safety inspection and all veterinary food safety laboratory testing, both biological and residue related.

II.9. Veterinary medicines and biologicals – This CC covers all staffing, buildings, equipment and training relating to management of veterinary drugs (especially laboratory quality testing)

II.13. Identification and traceability A. Animal identification and movement control – This CC includes costs relating to pilot livestock identification such as might be employed for certain species or production systems (e.g. dairy, breeding pigs) or for imported animals.

III.4. Accreditation / authorisation / delegation – This is an enormous CC, incorporating a set amount for official delegation by DAH to the entire field animal health network.

III.5. Veterinary Statutory Body (VSB) – This CC relates to a government funded consultancy for the investigation, planning and development of a VSB in Vietnam.

### **CC's with more simple single activity/budget provisions.**

***(mostly related to training activities and/or attendance at meetings)***

I.6.B. External coordination – This CC includes one dedicated staff member within DAH who would become responsible to agency liaison relating to a One Health approach, particularly in terms of government Human Health agencies, but also potentially with environmental agencies, livestock production agencies etc.

II.2. Laboratory quality assurance – This CC includes training and consumables relating to quality assurance systems for laboratories.

II.3. Risk analysis – This CC includes specialised training and continuing education in Risk Analysis

II.5.A. Passive epidemiological surveillance – This CC includes continuing education relating to passive surveillance (i.e. disease recognition, etc)

II.6. Early detection and emergency response – This CC includes international expertise and continuing education relevant to emergency response capacity.

II.11. Emerging issues – This CC includes attendance at one or two international conferences annually relevant to emerging issues, such as relevant to One World One Health.

II.14. Animal welfare – This CC includes attendance at one annual conference annually relevant to Animal Welfare.

III.1. Communication – This CC includes staffing, travel and materials for a small team dedicated to animal health communications

III.2. Consultation with stakeholders – This CC includes a global amount annually relating to consultation which would cover meeting costs/travel etc.

III.3. Official representation – This CC includes travel and associated costs relating to Vietnamese official representation at international meetings, such as OIE, Codex, SPS meetings, etc.

III.6. Participation of producers and other stakeholders in joint programmes – This CC includes a set funding amount for the development of joint programmes through extension and communications activity relating to non-funded vaccination (such as for HS, CSF, NCD, etc).

IV.1. Preparation of legislation and regulations – This CC includes funding relating to staff and training for the development of veterinary legislation and regulations.

IV.2. Implementation of legislation and regulations & stakeholder compliance – This CC includes continuing education programmes for staff relating specifically to legislation and regulations relevant to their work.

IV.4. International certification - This CC includes continuing education relating to international certification, in order to bring practices and procedures up to international standards

IV.8. Compartmentalisation – This CC includes specialised training in compartmentalisation.

All the remaining CCs do not have specific budget lines allocated to them. Their improvement either does not require dedicated funds, or else it is included through funding under other CCs (e.g. staff funded under other CCs would also cover this one).