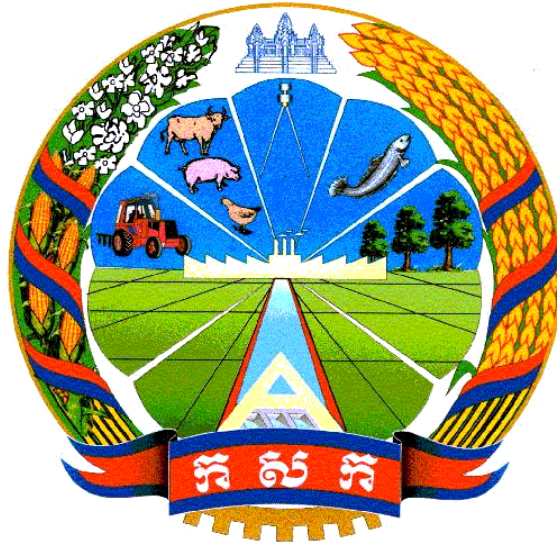


Kingdom of Cambodia  
Nation Religion King

**Ministry of Agriculture, Forestry and Fisheries**  
Department of Animal Health and Production



## Strategic Planning Framework for Livestock Development: 2016 – 2025



“A Future Direction for Livestock Development in Cambodia”

December, 2015

## PREFACE

Under leadership with wisdom and strong attention of **Samdech Akka Moha Sena Padei Techo Hun Sen**, the Royal Government of Cambodia tried very hard to apply its Rectangular Strategy Stage II at field practice. This effort gave Cambodia the great positive impacts in both political security and socioeconomic aspects.

For this fifth mandate, the Government decides to continue implementing its rectangular strategy and gives agriculture sector a prominent place as a high priority in its national development agenda for economic growth as well as poverty reduction. The National Strategy Development Plan (NSDP) and Agricultural Sector Strategic Development Plan (**ASDP:2014-2018**) had stimulated the agricultural growth by 5% per annum through the enhancement of agriculture productivity, diversification and commercialization as well improvement of animal production and aquaculture with high consideration of sustainable natural resource management.

To achieve these, the Ministry of Agriculture, Forestry and Fishery (MAFF) has set out its strategic direction and approaches which including Gender Mainstreaming Policy and Strategic Plan Framework in Agriculture Sector (2016-2020), Policy and Strategic Plan Framework on Childhood Development and Protection in Agriculture Sector (2016-2020), and a long term strategic planning framework for livestock development (2016-2025). The strategic planning framework for livestock development also supports the development of gender, environmental considerations and social aspects in the livestock development programs over the coming ten years. Particularly, this has contributed to a comprehensive strategy which addressing the critical challenges and constraints in livestock development in Cambodia.

It is noted that, the Strategic Planning Framework for Livestock Development (2016-2025) was prepared in accordance with RGC's policy goals as defined in Rectangular Strategy Phase-III and the Agricultural Sector Strategic Development Plan (2014-2018) in Programme-2: Promote Animal Production and Animal Health. In the process of developing this strategic planning framework, there were good consultations and cooperation with all technical line institutions, development partners, NGOs, private sectors and the stakeholders at National and sub-national levels. This strategic plan framework is defined as master plan as well as roadmap for a long term livestock development.

The Ministry of Agriculture, Forestry and fishery has strongly committed with concerned parties to implement the strategic plan framework for livestock development with significant effects for achieving the set strategic goal. I have optimism to full supports and good cooperation from all relevant institutions, government departments, local authorities, National and International NGOs, development partners and private sectors to apply this strategic framework smoothly at field practice which giving great impacts for good of all.

In this case, I would like to take this opportunity to express my gratitude to **Samdech Akka Moha Sena Padei Techo Hun Sen**, Prime Minister of the Royal Government of Cambodia who always pay attention to Agriculture Sector Development while more than 80% of Cambodians still rely on this effort for improving their livelihood.

I would like to deeply thank to all relevant agencies including Government developments, National and International NGOs, development partners who spent their valuable time to participate in this strategic plan framework as well as have been supporting both technical and financial resources for agriculture sector development in Cambodia, especially European Union (EU) and its people through a wide range of project implementations such as SLPP, ECOSORN, Food Facility and EU-PGA – Livestock Sub-Sector Component etc.

On behalf of the Ministry of Agriculture, Forestry and Fishery, I urge DAHP, all line departments, institutions at all levels and ask the wide range of stakeholders to fully participate in coordination of the implementation of this long term strategic planning framework for livestock development: 2016-2025 with strong cooperation with concerned development agencies, private sectors and farmers groups and/or communities.

Phnom Penh, ....., 2016

**Minister**

**Ministry of Agriculture, Forestry and Fisheries**

## List of Abbreviations

AEC	The ASEAN Economic Community
AH-NMTPP	Animal Health National Medium Term Priority Plan
AI	Artificial Insemination
AHO	Animal Health Office
AO	Administration Office
APHCA	Animal health and production Commission for Asia and the Pacific
APO	Animal Production Office
APRI	Animal Production Research Institute
ASDP	Agriculture Strategic Development Plan
ASEAN	Association of Southeast Asian Nations
CMDG	Cambodian Millennium Development Goal
CSES	Cambodia Socio Economic Survey
CODEX	The international Food Standards, Guidelines and Codes of Practice
DAHP	Department of Animal Health and Production
ECC	Economic Census of Cambodia
EID	Emerging Infectious Diseases
EO	Extension Office
FAO-UN	Food and Agriculture Organization of the United Nations
FMD	Foot and Mouth Disease
FRF	Feedstuff and Ration Formulation
GAHP	Good Animal Husbandry Practices
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GHP	Good Health Practices
GIS	Geographic Information Systems
GMP	Good Manufacturing Practices
HACCP	Hazard Analysis and Critical Control Points
H5N1	One strain of the HPAI virus
HPAI	Highly Pathogenic Avian Influenza
HS	Hemorrhagic Septicemia
IFAD	International Fund for Agricultural Development
IEC	Information, Education and Communication
ISO	International Organization for Standardization
IT	Information Technology
LCRO	Legislation and Conflict Resolution Office
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDG	Millennium Development Goal
MFI	Micro Finance Institution
MOWA	Ministry of Women Affairs
NaVRI	National Veterinary Research Institute
NBP	National Bio-digester Program
ND	Newcastle Disease
NGO	Non-Government Organization
NMTPF	National Medium Term Priority Framework

NSDP	National Strategic Development Plan
OAHP	Office of Animal Health and Production
OH	One Health Approach
OIE	World Organization for Animal Health
PAO	Planning and Accounting Office
PPP	Public Private Partnership
PRRS	Porcine Reproductive and Respiratory Syndrome
R&D	Research and Development
RGC	Royal Government of Cambodia
SARS	Severe Acute Respiratory Syndrome
SME	Small and Medium Enterprises
SOP	Standard Operating Procedures
SPS	Sanitary and Phyto Sanitary
TAD	Trans-boundary Animal Diseases
UNFCC	The United Nations Framework Convention on Climate Change
VAHWs	Village Animal Health Workers'
VPHO	Veterinary Public Health Office
WHO	World Health Organization

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## Executive Summary

The livestock sub-sector in Cambodia has great potential for growth due to the country's increasing meat consumption brought about by urbanization and its fast growing population. The development of Cambodia's livestock industry could greatly contribute towards poverty reduction and food security by supporting the livelihood of poor people in many ways for cash income, food, draft power, energy, and organic fertilizer, among others. In addition, livestock serves as a key component of poor people's livelihood strategies, serving as assets, instruments of insurance and savings. The livestock subsector, thus, has considerable potential depending on how effectively Cambodia is able to improve the efficiency and competitiveness of its livestock industry.

The major constraints of the livestock industry in Cambodia include the high costs of local production, lack of access to quality breeding stock, endemic diseases, insufficient domestic production base of commercial feed, importation of additives, medicines and vaccines, poor animal husbandry management, lack of capacity in processing livestock by-products, poor infrastructures and arrangements and market volatility.

It is within this background and context that the Department of Animal Health and Production (DAHP) has undertaken to develop the "Strategic Planning Framework for Livestock Development: 2016 – 2025". The strategic planning activities undertaken include the review of literatures, individual interviews, workshops and consultation meetings with different stakeholders.

**Strategic Issues:** The strategic planning identified strategic issues affecting the Cambodian livestock sub-sector during the next ten years. These include issues related to animal production, animal health, expanding markets, food safety and public health, poverty alleviation and food security, role of the private sector, farmer groups/associations, the Village Animal Health Workers (VAHWs), the regional economic integration and important cross cutting issues such as gender and climate change.

The DAHP vision, mission and values statements were formulated during the strategic planning process in alignment with a long term vision of the Ministry of Agriculture, Forestry and Fisheries as follows:

**Vision:** Sustainable livestock development ensures food security, food safety, and profitable trade and contributes to national socio-economic growth.

**Mission:** Promote good animal health and production practices through effective human resource development, research and extension, policy development and law enforcement, public-private partnerships and communication.

**Goal:** To strengthen animal health and production services that will reduce the impact of animal diseases, increase animal production, and enhance safe trade.

Through discussions and consultations with the stakeholders, the eight (8) strategic planning objectives were developed as indicated below:

## **Objectives**

1. Strengthen animal production, including the promotion of animal management and breeding
2. Strengthen animal health, veterinary public health and animal welfare
3. Promote law dissemination and law enforcement and policies
4. Promote and conduct research and development on animal health and animal production
5. Improve institutional and human resource development in the field of animal health and animal production
6. Promote partnership between the public and private sectors in the field of animal health and animal production
7. Strengthen media services on animal health and animal production and marketing development
8. Strengthen national and international economic and technical cooperation in animal health and production

## **Implementation Strategy**

The activities and related sub-activities have been identified and prioritized to effectively achieve the eight (8) objectives of the strategic plan. The two major approaches toward effective implementation of the livestock sub-sector development are strengthening support for the growth of the smallholder producers and the development of the commercial production scheme. The “Strategic Planning Framework for Livestock Development: 2016 – 2025” is summarized and synthesized into a logical framework which includes the indicators, milestones, risks and mitigating factors affecting the implementation of the ten year strategic plan.

## **Risks and Mitigation Strategy**

The potential risk factors that will greatly affect the livestock sub-sector development include the outbreak of infectious animal diseases and natural disasters could also affect the impact of livestock development program. This problem could be mitigated with the implementation of coping strategies related to effective intervention to outbreak of diseases as well as disaster risk management which are already included in the program implementation strategy.

## **Budget**

For successful implementation as well as to fully achieve the goal and objectives with great impacts of the strategic planning framework, technical and financial inputs and facilities from different sources including Government, Development Partners, NGOs, private sectors etc. will be required.

## **Monitoring and Evaluation**

A monitoring and evaluation tool and systems for the implementation of the “Strategic Planning Framework for Livestock Development: 2016 – 2025” are developed with simple and reliable performance indicators to measure progress and impact of activities towards achieving the goals, guide policy and decision making, inform priorities, and manage resources.

# STRATEGIC PLANNING FRAMEWORK FOR LIVESTOCK DEVELOPMENT 2016 - 2025

## 1. Introduction

The overarching objective of livestock sub sector development in Cambodia is to improve food security, reduce poverty and increase income through effective and efficient services in animal health and production. The challenges towards ensuring food security, poverty alleviation and development of the national economy require sustained productivity and effective marketing of the livestock industry in Cambodia.

The “Strategic Planning Framework for Livestock Development: 2016 – 2025” is aligned with Cambodia’s national development framework. The Agricultural Strategic Development Plan (ASDP) 2014 – 2018 of the Ministry of Agriculture, Forestry and Fisheries (MAFF) supports Cambodia’s agricultural growth within 5% rate per year through enhancement of agricultural productivity, diversification and commercialization and promotion of livestock farming and aqua-culture with high consideration of sustainable management of forest and fisheries resources. The ASDP plan promotes animal production and animal health by “increasing the growth rate of animal production by 3% per year through effective research and extension, improvement of capacity in animal disease and zoonosis prevention, ensure sanitary and safe supply of meat and animal by-products, and increase potential for export”. (ASDP 2014- 2018)

The National Medium Term Priority Framework (NMTPF) outlines the strategies in meeting the development priorities in the Agriculture, Forestry and Fisheries (MAFF) which include the livestock sub sector. The Animal Health National Medium Term Priority Plan (AH-NMTPP 2011 - 2015) has taken a step further to prioritize, detail, and operationalize the NMTPF with regard to animal and public health issues. The objective of the AH NMTPP is to improve food security, alleviate poverty, improve livelihoods and protect animal and human health. The development of the livestock sub-sector in conjunction with provision of improved and collaborative arrangements for animal health and disease control is included among these strategies.

Recognizing the gap between demand and supply of the livestock industry, the “Strategic Planning Framework for Livestock: 2011 – 2020” was formulated with the support from FAO in 2011. This strategic planning document intends to provide a roadmap for the development of Cambodia’s animal resources which benefits producers, traders and consumers and in promoting public private partnerships especially with the commercial sector. This strategic framework aims to enhance the contribution of the livestock sub-sector to the national economy and food security at the household levels. It aims to address the major constraints hindering the growth potentials of the livestock industry for the benefit of the people of Cambodia.

## **2. Methodology**

This “Strategic Planning Framework for Livestock Development: 2016 – 2025” was developed through an intensive process involving consultations through interviews and workshops with stakeholders inside and outside DAHP. The strategic plan takes into account the broader requirements for livestock sub-sector development in Cambodia focusing on the roles, responsibilities and strategies of DAHP within the context of the broader priorities of the development of the livestock sub-sector in Cambodia.

The following activities were undertaken from September 2014 to December 2015 in the process of developing the strategic plan included the following:

- Review of the literatures and documents on researches conducted, initiatives and activities undertaken, reports and other issues affecting the livestock sub-sector in Cambodia. Two consecutive consultative workshops were conducted with the Heads of Offices of DAHP in November 2014.
- Formation of the DAHP Strategic Planning Committee to manage and provide technical advice to the strategic planning process.
- Interviews of respondents which include the Heads of Offices and representatives from Department of Animal Health and Production (DAHP) and its offices and institutes, Office of the Animal Health and Production (OAHP), Development Partners, Non-Government Organizations (NGOs), and the Private Sectors.
- Consultative Workshops with representatives from the DAHP and OAHPs in Siem Reap Province, Cambodia on December 2014
- Interviews and a Consultative workshop with representatives from the Private Sector in Phnom Penh, Cambodia were conducted in January 2015.
- A Consultative Workshop with representatives from MAFF and DAHP, Development Partners, state universities and civil society organizations in Kampot Province, Cambodia in January 2015.
- Two feedback workshops with representatives from DAHP on the final draft of the strategic planning document were conducted in May and June 2015.
- Meetings for Operational Plan development were done in July-August 2015.
- Regular meetings with the Core Team providing technical support to the drafting of the document
- A National Consultative Workshop with representatives from MAFF, DAHP, Development Partners, relevant Ministries, state universities, NGOs and the Private Sectors on 11 December, 2015 in Phnom Penh.

## **3. An Overview of the Livestock Industry in Cambodia**

### **3.1 The Cambodian Context**

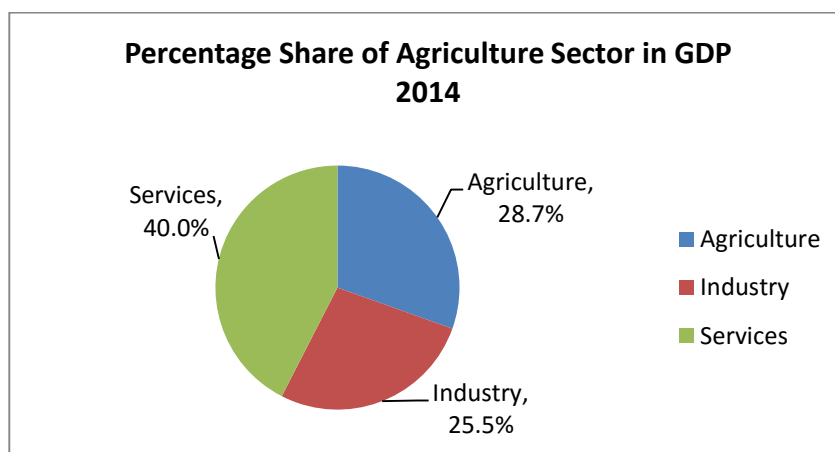
Cambodia has land area of 181,035 square kilometers (UN, 2014) and a population of 14,678,000 (CSES, 2013). About 80% live in rural areas and 20% live in the cities. By 2020, the country is expected to reach 18.7 million people (UNFPA, 2010). The demographics of the country have been affected by the civil war and genocide, with 8.2% of the population are widowed. It also has the most female-biased sex ratio in the

region of which 7,556,000 (51.5%) of the total population are female and 21.2% of the total households are headed by women. Cambodia has 25 provinces, 194 districts, 1,622 communes and 14,041 villages. (ECC, 2011)

Cambodia has exceeded the Millennium Development Goal (MDG) poverty target and is one of the best performers in poverty reduction worldwide. The World Bank Poverty Assessment Report indicated that the poverty rate was reduced from 45% in 2007 to 17.7 % in 2012. In 2014, approximately two out of 10 Cambodians are poor, compared with five out of ten Cambodians in 2004. However, many people moved only slightly above the poverty line and remaining highly vulnerable. (WB, 2014)

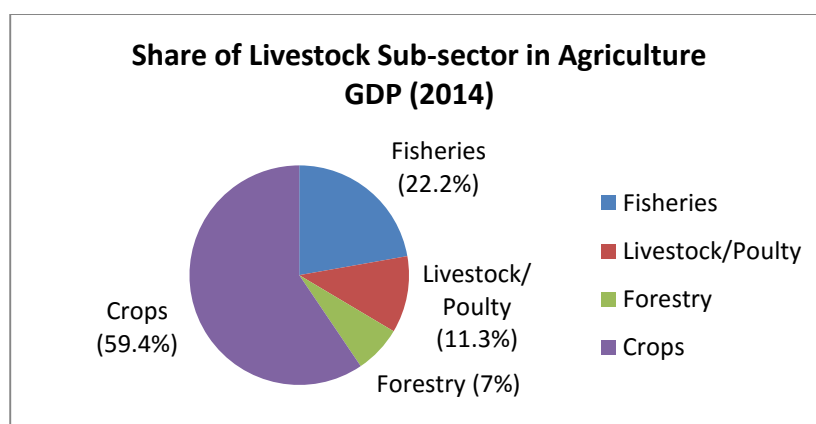
One of the key challenges in Cambodia's development is in stimulating the agricultural sector to become a strong engine of growth supporting poverty reduction. In 2014, the agriculture sector accounts for 28.7 percent of the national GDP, Consequently, the Livestock sub-sector accounts for 11.3% of the agriculture sector and 3.3 % of the national GDP. (MoP, 2014)

**Figure 1 Share of Agriculture Sector in National GDP in 2014**



Source: Ministry of Planning, 2014

**Figure 2 Percentage Shares of Sub-Agriculture Sectors in GDP (2014)**



Source: Ministry of Planning, 2014

Livestock has great potential to contribute to growth, employment, food security and trade in Cambodia. The livestock industry supports the livelihood of poor people such as providing cash income, draft power, food and nutrition, transportation, energy source and organic fertilizer among others. In addition, livestock serve as key coping mechanism serving as instruments of insurance and savings, promoting better distribution of income in rural communities.

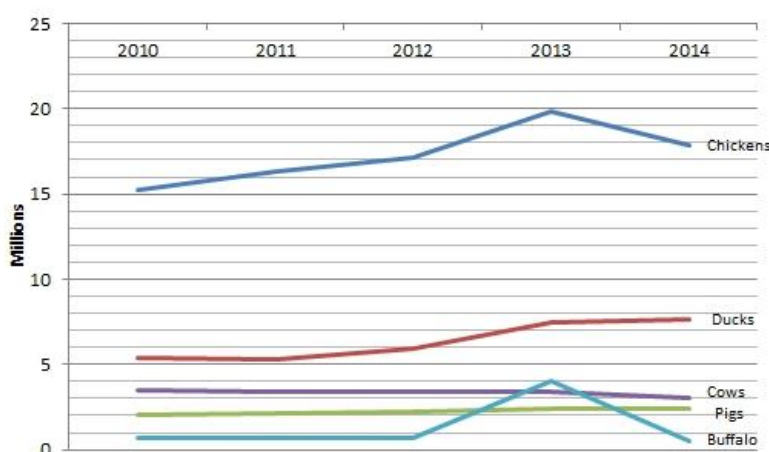
### 3.2 The Livestock Industry in Cambodia

The development of the livestock sub-sector in Cambodia plays a dual role in addressing the increasing demand of an expanding population for animal products as well as in achieving the Millennium Development Goal of poverty reduction and food security. The productivity of the livestock industry has increased through the provision of structural changes including privatization, legal framework, response of producers to better market opportunities, organization of producers, researches on breeding and the use of indigenous resources in feed production and the involvement of non-government organizations (NGOs) in the development of the livestock sub-sector.

#### Animal Production

From 2010 – 2014, the chicken population has increased by 17% from 15,247,919 heads to 17,834,875 heads, duck population has increased by 40.5% from 5,429,478 heads to 7,627,035 heads and the pig population has increased by 14.8% from 2,057,431 heads to 2,360,823 heads. On the other hand, the cow population has decreased by 12.4% from 3,484,601 heads to 3,053,481 heads and buffalo population has decreased by 22.8% from 702,074 heads to 541,827 heads. This decline may have been brought about by the export of buffaloes to neighboring countries. In addition, the introduction of machinery for land preparation and transportation may have contributed to the decline of the buffalo and cow population in Cambodia.

**Figure 3 Animal populations in Cambodia 2010 – 2014**

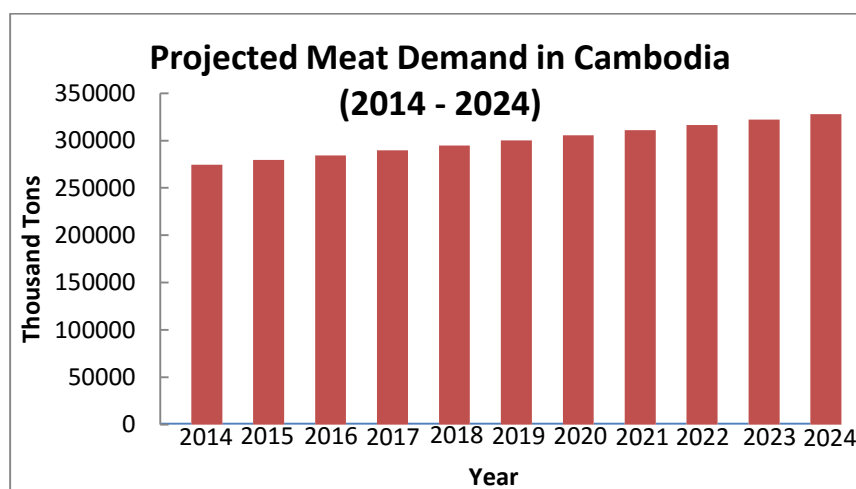


Source: DAHP Reports, 2014

## Market Demand

Cambodia's expanding population, urbanization, economic growth and the changing consumption patterns of the population have created opportunities for the growth of the livestock sub-sector in the country. With an estimated annual human population growth rate of 1.8%, the projected meat demand in Cambodia from 2014 - 2024 is anticipated to increase from 274,479 to 328,085 tons/year. The projected annual demand for pigs in Cambodia is 3.25 million heads compared to the country's annual domestic production of 2.7 million heads in 2014. The current broiler demand in Cambodia is around 800,000 – 1,000,000 birds per month. There are also potentials to fill up the gap by the importation of "high quality" meat in the near future.

**Figure 4** Estimated Meat Demand in Cambodia (2014 – 2024)



## 4. The Department of Animal Health and Production (DAHP)

### DAHP Institutional Development

DAHP, a governmental authority under the supervision of the Ministry of Agriculture, Forestry and Fishery (MAFF) is responsible for the management of animal health and production. DAHP's mandate for implementing the strategy is the draft Law on Animal Health and Production. The law defines DAHP's roles and responsibilities in preparing and implementing policies and plans to support the sustainable development of the animal production and health sectors. DAHP is also responsible for the preparation of draft legislations, and develop standards related to animal production and health.

In addition, DAHP also implements the registration and the licensing of facilities subject to sanitary controls. DAHP also carries out enforcement activities related to the animal production and health sectors. The Department also monitors risks related to human health, animal health and welfare and the environment as well as risks animal production. Finally, DAHP undertakes measures to manage risks, including measures to prevent and control diseases and serves as the lead agency in emergency responses to outbreaks of diseases.

The DAHP has a three tiered structure, consisting of the national DAHP, which is the highest authority, the provincial OAHPs and the District Vets. The DAHP, OAHPs and District Vets have the potential to take greater responsibility for their activities, if adequate support is provided. Additional financial support is needed for expanding and strengthening such services.

## 5. Strategic Issues Affecting the Livestock Sub-sector

The strategic issues affecting the livestock industry in Cambodia include the trends, challenges, opportunities and constraints whose impact will greatly affect the growth, survival and sustainability of the livestock sub-sector.

### 5.1 Animal Production

The Cambodian livestock sub-sector cannot meet the demand for meat especially for pork and poultry. Structural problems such as high credit interest rates, endemic diseases, and limited technological capacity prevent the swine industry from meeting local demand. The problem is further exacerbated by poor logistics owing to the small scale production base, and market volatility due to the surplus of meat and poultry products from neighboring countries resulting to the reduction of local market prices.

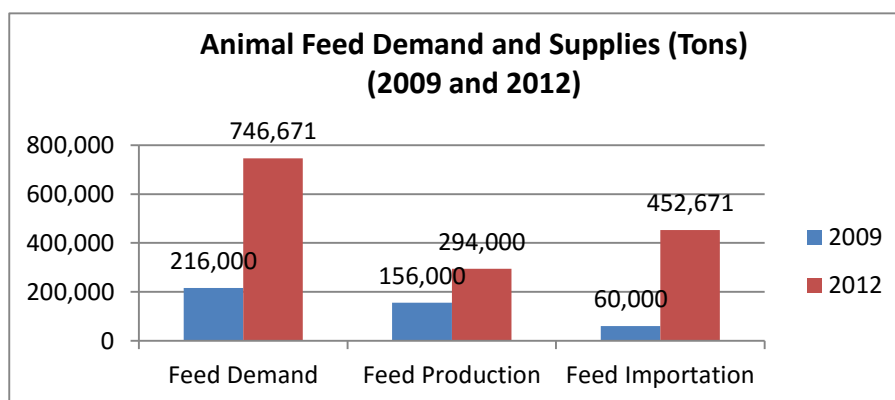
#### Breeding

Natural breeding is widely practiced. The native animals are found to better utilize locally available feeds and are resistant to diseases. Due to their low productivity it is important to upgrade the lines of these animals. Enhancing livestock productivity is possible by improving genetic capacity of the livestock towards improved disease tolerance and performance. However, the livestock industry relies on imported animals due to lack of access to adequate supplies of breeding stock and low product quality.

#### Feeding

Rice straw and other crop residues, grasses, weeds, and shrubs are some of the dominant feedstuff. However these local feed resources do not have complete nutritional values needed by the animals. The commercial feed market in Cambodia is dominated by foreign investors and imports from neighboring countries. In order to fill the gap in demand, Cambodia increased its importation of feeds from 60,000 tons in 2009 to 452,671 tons in 2012. (MAFF, 2013)

**Figure 6 Animal Feed Demands and Supplies (2009 and 2012)**



Source: (MAFF, 2013)

## **5.2 Animal Health**

Livestock productivity is constrained by outbreak of various diseases. The lack of access to animal health services, inappropriate drugs, lack of knowledge about animal diseases and poorly organized vaccination services greatly contributed to animal death and morbidity. Animal health systems support livestock production through proper animal health and biosecurity practices.

Private sector response to the problem of animal diseases is however constrained by lack of access to vaccines and drugs, lack of available cold chain facilities and lack of technical knowledge on the use of medicines and animal feeds. The livestock industry is also highly dependent on the import of medicines and vaccines. A domestic production of vaccines by the Vaccine Production Laboratory (VPL) was piloted in 2002.

## **5.3 Expanding Market for Animal Products**

Due to the dynamic changes in the local and global market, there is an increasing need to move from subsistence to a more market oriented production systems. These will require intensification of livestock production systems, increasing commercialization and the establishment of accessible and functioning markets and trading systems. In Cambodia, it is important for the livestock producers (both small and large scales) to better understand and analyze the opportunities and constraints of the market forces affecting the livestock production.

The increasing demand for meat in Cambodia is outgrowing its supply. With a growing population, urbanization and economic growth, Cambodia's consumption practices have changed from simple to high value and processed foods including animal products, especially in the urban areas. This market demand creates a unique opportunity for the growth of the livestock sub-sector. In the meantime the importation of high quality meat will continue to respond to the demand. While globalization and market forces provided opportunities, they have also challenged the smallholder livestock production systems. The concerns about food safety and the intensification of production threaten the viability and profitability of the smallholder livestock producers.

Smallholder livestock producers are missing out on the expanding livestock product markets because of their inability to meet quality, safety, uniformity and standards demanded by the market. Smallholders also do not have adequate access to technology, inputs and services required to produce high quality and quantity products demanded by consumers and unable to compete with commercial production system. This problem can be overcome by appropriate legal framework creating institutional mechanisms such as contract farming, Agriculture cooperatives and/or farmer groups to link smallholders with upper-end high value markets.

The major concern is that the local products may not be able to compete with foreign products which may be cheaper and of better standard and quality. The negative impact of trade liberalization and its consequences to the livestock industry in Cambodia need to be addressed so that smallholders do not face abrupt marginalization and extinction.

## 5.4 Public Health and Food Safety

The commercial scale production model may require intensification and scaling-up of animal production which could increase disease transmission between animals and humans (zoonotic diseases). The Highly Pathogenic Asian-origin Avian Influenza (HPAI) outbreak in Cambodia provided lessons-learned experiences that call for a better coordinated sub-national, national and international response to the prevention and control of emerging animal and zoonotic diseases. The lessons learned call for the strengthening of the veterinary services, the control of animal diseases, food hygiene and food safety standards to better protect public health. Cambodia's Sub-decree No. 108 on Slaughterhouse Management, Controlling on Meat Hygiene and Animal Products in 2007, which provides the legal framework for slaughterhouse management, sanitary inspection of animals, meat and animal products. However, poultry are still slaughtered in households and markets where no inspection has been conducted yet.

The contamination of food by pathogens poses health risks not only to Cambodia but also with its potential international trading partners. The uncontrolled production of medicines and chemicals for processing meat products, the use of prohibited drugs, improper use of drugs, and the use of growth promoting substances for feed are the causes of high drug residues in animals and animal by-products.

## 5.5 Poverty Alleviation and Food Security

Livestock serves as an important asset and source of income for poor people in Cambodia. The livestock industry has the potential to enhance rural development and poverty alleviation though its potential has not yet been fully exploited and explored. The smallholder livestock producers generate a large share of the livestock output in Cambodia. According to CSES 2009 survey, poor households received nearly 20% of their income from livestock. **In Cambodia, women manage a significant proportion of livestock and they use income from livestock for education of children and to meet other household needs.**

## 5.6 Private Sector Role

The private sector is the part of the economy that is not state controlled and is run by individuals and/or companies for profit. In the development context, private sector development refers to a range of strategies for promoting economic growth and reducing poverty by building private enterprises. This can be done through a range of areas of policy and regulation to promote functioning competitive market.

The market-dependent private sector in Cambodia however is currently not yet prepared and equipped to deliver quality services for the livestock industry. This has been attributed to the weak capacity of the private sector coupled with the fact that private veterinary practitioners are generally reluctant to establish clinics in remote rural areas as compared to the more lucrative urban markets. The major problems currently faced by the private sector businesses are the impact of illegal imports of live animals to Cambodia bringing down the local prices and prompting farmers to stop raising livestock

especially pigs due to lack of financial viability in terms of production costs and market prices.

## **5.7 Farmer Groups/Associations**

The farmer groups/associations and Cooperatives are important institutions for people in the rural areas to enable them to actively participate towards improving their economic situation. A research commissioned by DAHP indicated a very low awareness and limited participation of farmers in the farmer groups/cooperatives. As a consequence, majority of the farmer groups/cooperatives are inactive. However, they were very interested to gain further education on business management operation, cooperative management and technical agriculture training related to their livelihoods (Loka, 2014). A law on Farmer Cooperatives was approved in 2013 which supporting the farmers to organize themselves in legally recognized cooperatives, for improving their market position and increase access to financial and technical support (RGC, 2013).

## **5.8 The Village Animal Health Workers (VAHWs)**

In 2014, there were 12,386 VAHWs in Cambodia (MAFF, 2013). The sub-decree on the Creation and Regulation of VAHW (2001) supports the training of Village Animal Health Workers (VAHW's) towards job creation and increase animal productivity and quality. The sub-decree emphasizes that VAHW's are not government workers whose are chosen among local people or students receiving technical assistances from the DAHP.

The sustainability of the VAHWs as private sector entrepreneurs faces major challenges in terms of their misconceived status by community members as NGO workers. NGOs traditionally provide free medicines and services to community members. Other challenges faced by VAHWs are the quality of vaccines and drugs used in treating animals, lack of funds for VAHW associations to operate the pharmacy business, and the lack of capacity of the villagers to pay for medicines and their services. A small number of companies in the private business sector started to provide medicines on credit to VAHWs. The strategy has not been successful as a large of portion of the loans remains unpaid. Other private businesses started to provide monthly incentives to VAHWs who acts as their sales agent in the communities. A number of micro finance institutions have expressed interests to provide credit to VAHW associations.

## **5.9 The ASEAN Economic Integration**

The Association of Southeast Asian Nations (ASEAN) aims to establish an ASEAN Economic Community (AEC) by 31 December, 2015. Cambodia's AEC preparation of the private sector has been slow with little public awareness. Majority of the private sector surveyed by DAHP in January 2015 admitted that they have very little awareness about the AEC and its impact on the livestock industry. The situation needs to be addressed if Cambodia wants to maximize the benefits of the AEC integration in 2015. In addition, Cambodia needs to strengthen its regional cooperation on animal

identification, biosecurity, and animal health. It is essential to institute measures for proper use of veterinary biological practices and drugs. It is also important to put in place traceability mechanisms and other measures such as GAHP, HACCP and ISO for enhancing food safety and quality. Cambodia needs to promulgate and enforce laws and regulations on slaughterhouses and animal slaughtering.

Veterinary services and animal health systems in Cambodia should be harmonized based on OIE guidelines on 'Performance of Veterinary Services' to meet international standards. Cambodia's capacity building of national laboratories on animal disease, food safety and veterinary drug research should be developed and strengthened for rapid detection and early warning of outbreaks. For research on animal genetics, biodiversity, breeding, husbandry and diseases, there is a need for strong coordination, collaboration and communication in the ASEAN region, (ATAF, 2014).

## **5.10 Cross Cutting Issues**

### **i. Gender**

Cambodia's population is composed of 51.5% women and 48.5 % men. In addition, 21.2% of all Cambodian households are headed by women, (CSES, 2013). Cambodian women farmers play a crucial role in food production, preparation and nutritional security of their households. Women also play a central role in the wholesale and retail marketing of agricultural products. Women have been traditionally involved in livestock production and marketing. About 70% of women headed households are engaged in chicken raising producing a total sales values of 175 billion Riels (US\$ 43 million), (FAO, 2010).

The World Bank's Cambodia Gender Agricultural Assessment found a number of factors impacting positive change for women in the agricultural sector. As part of this, the assessment recommended targeted policy measures that can strengthen rural women's human capital resources and access to productive assets; access to economic opportunities; opportunities to participate in decision making and; ability to address emerging risks and opportunities, (WB, April 2015).

Limited efforts are currently being made to train women in using agricultural equipment and new technologies. Women have generally less access to extension services including information and skills in dealing with adaptation and mitigation of climate change. Women headed households have less access to financial services such as loans from banks, (MAFF, 2015).

The Cambodia millennium Development Goal 3 (CMDG 3) and the Ministry of Women's Affairs (MoWA) Strategic Plan "Neary Ratanak" serve as Cambodia's primary framework in promoting gender equity, participation and empowerment through improving the status of women, enhancing women employment opportunities and incomes and increasing access to public services such as health, education and credit. The Gender Mainstreaming Policy and Strategy Plan (2016 – 2020) has objectives for increasing women's access to goods and services for agricultural development, mainstreaming of gender perspectives in the agriculture sector and promote equal participation of men and women in decision making at all levels, (MAFF, 2015).

ii. Climate Change

Climate change manifested by the increase of droughts, storms or floods has various negative impacts on the livelihoods of rural farmers in Cambodia. The patterns of droughts and floods have become more frequent and last longer. Floods and droughts are two of the main factors for low livestock productivity due to loss of grazing pastures and shelters, feed and water availability, epidemics and occurrence of diseases. Many initiatives have been taken including policies, and projects and programs that address the issues. The adaptation and improvement of animal production during floods and droughts are currently being implemented. Responding to the challenge of climate require improving disaster risk reduction capacity and demands new models of cooperation and coordinated policy responses across multiple sectors, agencies and ministries, and a new set of policy instruments for decision-making in responding to climate change. There is currently very low demand of renewable energy systems in Cambodian households affecting the promotion and use of climate change mitigation and environmentally friendly energy sources. A pilot bio-digester project by the National Bio digester Program (NBP) of MAFF and managed by DAHP is currently being implemented.

iii. Migration

Migration impacts gender roles and labor force in Cambodia. Rural Cambodians household members usually migrate because of the difficult situations in the villages due to: decrease of the rice yield, decrease of water quality and natural resources. The rural push rather than urban pull is the dominant force of migration. The result of migration often leads to changes in household dynamics and livelihood activities, both positive and negative consequences, at the household and community level, (MAFF, 2015). The positive impact is the sending or remittances and bringing back knowledge, skills and values by both domestic and international migrants. The loss of able bodied men and women has negatively affected farm productivity. The absences of local leaders who have migrated to other places also affect the availability of social capital in local villages.

## 6. Challenges and Opportunities

**Table 1 SWOT Analysis of the Livestock Sub sector in Cambodia**

<b>Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>• Long history of animal husbandry practices</li> <li>• Diversity of livestock breeds</li> <li>• Access to natural and local resources</li> <li>• Availability of trained VAHWs</li> <li>• Availability of extension education services</li> <li>• Improving facilities for animal movement from farm gate to markets</li> <li>• Creation of farmer groups/associations</li> <li>• Successful piloting of bio-security practices</li> <li>• Successful piloting of biogas responding to waste management and natural energy</li> </ul>	<ul style="list-style-type: none"> <li>• Poor marketing infrastructures and arrangements</li> <li>• Lack of funds to support human resource development</li> <li>• High cost and low quality and safety of local feed</li> <li>• Lack of access to timely information on animal production and marketing</li> <li>• Weak dissemination and enforcement of laws</li> <li>• Limited resources for investment</li> </ul>

<ul style="list-style-type: none"> <li>creation</li> <li>Improved laws and inspection on sanitation and hygiene of slaughterhouses</li> <li>Increasing recognition of public-private partnership</li> <li>Low labor costs</li> </ul>	<ul style="list-style-type: none"> <li>Lack of funds for generic conservation and breeding program and related research</li> <li>Lack of funds for breeding program and research</li> <li>High cost of local production due to importation of medicines, vaccines and feeds</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>Expanding market demand due to expanding population and urbanization</li> <li>Globalization and economic liberalization</li> <li>Availability of new technology</li> <li>Increasing support from private sector</li> <li>Strong support from NGOs and civil society organizations</li> <li>Development and enforcement of legal framework</li> <li>Research facilities established</li> <li>Trend towards commercialization</li> <li>Potential for expanding public private partnership</li> <li>Funding support from bi-lateral and multi-lateral development partners</li> <li>Increasing role of the business private sector in livestock development</li> </ul>	<ul style="list-style-type: none"> <li>Outbreaks of emerging and re-emerging diseases and zoonosis</li> <li>Lack of and disintegration of infrastructures and facilities</li> <li>Effect of climate change</li> <li>Negative impact of migration on farming systems</li> <li>Environmental impact due to intensification of livestock production</li> <li>Negative effects of trade liberalization such as competition, standards and import regulations</li> <li>Challenges on financial sustainability of VAHWs</li> <li>Limited local production capacity for vaccines</li> <li>Weak and unorganized private sector</li> </ul>

## 7. Vision and Mission

In alignment with a long term vision of the Ministry of Agriculture, Forestry and Fisheries

“To contribute poverty reduction, ensure enough & safe food availability for all people through modernization of agricultural sector based on a new approach and with changed scope and pace for accelerating agricultural economic growth, and sustainable natural resource management & conservation”.

DAHP had formulated its vision and mission as follows:

### 7.1 Vision

Sustainable livestock development ensures food security, food safety, and profitable trade and contributes to national socio-economic growth.

### 7.2 Mission

Promote good animal health and production practices through effective human resource development, research and extension, policy development and law enforcement, public-private partnerships and communication.

## 8. Strategic Approach

The “The Strategic Planning Framework for Livestock Development: 2016-2025” sets the goals, objectives, outcomes and activities for the sub sector over the next 10 years.

### 8.1 Goal

To strengthen animal health and production services that will reduce the impact of animal diseases, increase animal production, and enhance safe trade.

### 8.2 Strategic Objectives

**Table 2 Objectives, Outcomes and Activities**

Objectives	Outcomes
<p>Objective # 1</p> <p>To strengthen animal production, including the promotion of animal management and breeding.</p>	<ul style="list-style-type: none"> <li>• The stakeholders have improved their livestock production with GAHP adaptation;</li> <li>• The households have increased incomes from sale of livestock;</li> <li>• The food security of small households have been increased</li> </ul>
<p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• Promote GAHP to the stakeholders involved in livestock production at all levels</li> <li>• Improving quality of animal feed and forages</li> <li>• Updating data management of animals and animal farms</li> <li>• Promote new technologies in animal production and breeding through farm demonstration and training</li> <li>• Promote management of animal waste at farms, slaughterhouses, meat processing places.</li> </ul>	
<p>Objective # 2</p> <p>Strengthen animal health, veterinary public health and animal welfare</p>	<ul style="list-style-type: none"> <li>• Incidence of animal disease outbreaks, zoonoses and human diseases have been reduced;</li> <li>• Animal movements and animal products have been effectively managed with biosecurity and safety standards;</li> <li>• Both private sectors and communities have applied local production of veterinary medicines and vaccines.</li> </ul>

Objectives	Outcomes
<p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Conduct disease surveillance, field investigation, laboratory diagnosis, prevention and control of animal diseases and zoonosis.</li> <li>• Establish animal health information system</li> <li>• Support the Village Animal Health Workers (VAHWs)</li> <li>• Manage movement of animals and animal products including inspection of quarantine stations</li> <li>• Enhance bio-security practices along value chains</li> <li>• Inspect farms, slaughterhouses, processing facilities, laboratories, private research and academic institutions, veterinary medicines and vaccines, veterinary services and feed product outlets</li> <li>• Meat quality control including testing of drug residues and microbial contamination</li> <li>• Encourage local production of veterinary vaccines</li> </ul>	
<p>Objective # 3: To promote law dissemination and law enforcement and policies.</p>	<ul style="list-style-type: none"> <li>• Law enforcement and policies on animal health and production have been developed and implemented;</li> <li>• Standards of veterinary profession, facilities and animal sanitary services have been improved.</li> </ul>
<p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Developing laws, policies and regulations as well as technical guidelines relating to animal health and animal production.</li> <li>• Licensing of farms, slaughterhouses, processing facilities, laboratories, private research and academic institutions, veterinary medicines and vaccines, veterinary services and feed product outlets</li> <li>• Licensing of veterinary service providers and support to Veterinary Statutory Body (VSB)</li> </ul>	
<p>Objective # 4: Promote research and development on animal health and animal production</p>	<ul style="list-style-type: none"> <li>• Database information system on animal health and animal production have been established and effectively functioned;</li> <li>• Progressive situation on animal health, production &amp; welfare, human health and outbreak investigations have been updated and published</li> </ul>
<p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Conduct and regulate research on animal health and production.</li> <li>• Collaborate with both national and International institutions for research development of concerned technical issues;</li> <li>• Develop partnership with relevant agencies and private sectors for supports</li> </ul>	

Objectives	Outcomes
<p>Objective # 5: Improve institutional and human resource development in the field of animal health and animal production.</p>	<ul style="list-style-type: none"> <li>• Staff at DAHP, OAHPs and District Vets levels have improved their role responsibilities at field practice;</li> <li>• Potential staff of DAHP have involved in formal education at both National and International Universities.</li> </ul>
<p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Strengthening capacity of stakeholders at all levels in animal health and production, value chains and agri-business management</li> <li>• Supporting formal education in veterinary medicine and animal science</li> <li>• Strengthen management capacity of DAHP, OAHPs and District Veterinarians</li> </ul>	
<p>Objective # 6: Promote partnership between the public and private sectors in the field of animal health and animal production.</p>	<ul style="list-style-type: none"> <li>• Network and communication system concerning livestock development have been developed;</li> <li>• Animal health issues and animal production technologies have been learned and shared among public and private sectors;</li> </ul>
<p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Support private sector initiatives in the field of animal health and production.</li> <li>• Facilitate consultation and cooperation with the private sector, civil society organizations and community.</li> <li>• Strengthen information sharing and collaboration between government and private institutions</li> </ul>	
<p>Objective # 7: Strengthen the extension services on animal health and animal production and marketing development.</p>	<ul style="list-style-type: none"> <li>• Adequate resources of information materials, equipment's and facilities for extension services have been developed</li> <li>• The stakeholders at all levels have improved their awareness and field practices on livestock and marketing and related social developments</li> </ul>
<p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Develop information and communication system and technology materials (leaflet, brochures and magazines etc.) for public education campaigns</li> <li>• Support media events of public and private sectors related to animal health and production and marketing.</li> <li>• Organize extension campaign field visit and demonstration</li> <li>• Organize talent award competition for best practitioners on improved livestock management</li> </ul>	

Objectives	Outcomes
Objective # 8: Strengthen National and International economic and technical cooperation in animal health and production	<ul style="list-style-type: none"> <li>• Animal health issues and livestock development have been shared and consulted at national, ASEAN and international levels;</li> <li>• Collaboration with neighboring countries to monitor animal health trends and risks management has been improved</li> </ul>
<b>Activity</b> <ul style="list-style-type: none"> <li>• Organize and participate in conferences on animal health and production at national, ASEAN and international levels.</li> <li>• Create economic and technical partnership cooperation at national, ASEAN and international levels and strengthen relationships with bi-lateral and multi-lateral organizations on issues related to animal health and production.</li> </ul>	

## 9. Mainstreaming Cross Cutting Issues

DAHP will provide consistent leadership and sustained commitment to ensure that cross cutting issues will be integrated into the programming of the strategic plan. Two committees will be established; the Gender Committee and the Climate Change Committee. The committee members will come from government and private sectors. The committees will be responsible for flagging specific issues to the sector they represent. The committee will also be responsible to formulate indicators to adequately reflect the integration of the particular cross cutting issue. They will provide technical support to DAHP in developing mainstreaming plan and in monitoring their implementation.

### 9.1 Gender Mainstreaming

Gender mainstreaming activities will ensure that gender perspectives and attention to the goal of gender equality are central to all activities planned and implemented which including policy development, research, legislation, resource allocation, planning, implementation and program monitoring. The gender mainstreaming activities will provide equitable opportunities for men and women to influence participation in and benefit from livestock development. Gender assessment and analysis will be integrated into the planning process at the DAHP and field level to identify the implications of all livestock development. Women association will be encouraged to be involved in this development process in compliance to the government's national policy framework on gender. As plan, 30% of women will be encouraged to involve and benefit during this strategic framework implementation.

## 9.2 Mainstreaming Climate Change

Mainstreaming climate change means the integration of climate change adaptation and mitigation into the livestock development process and activities. DAHP, with technical support from climate change experts will develop strategies for climate change adaptation and mitigation using local resources, expertise and technology to promote resilience in animal production. In addition, enhancing animal waste management and climate change emission mitigation will be implemented where appropriate. Support will also be provided on the improvement of animal breed, animal feed and animal health to adapt to climate change. DAHP will follow national policy framework on climate change adaptation and mitigation. Climate change lens and other analytical and assessment tools will be used in the planning and monitoring of the livestock development activities for implementation. During the planning stage, interventions will include adaptation and mitigation activities. In allocating resources, an assessment will be conducted whether the activity implemented will include climate change risks. Monitoring and evaluation activities will be integrated in the implementation activities to track down the impact of the adaptation and mitigation measures implemented.

## 9.3 Mainstreaming of Migration Issues

Mainstreaming migration issues will be implemented through community awareness raising on the causes of migration and inclusion of activities in project planning at the community level to reduce the impact of migration livestock production activities. The activities planned will be gender sensitive in terms of participation and intended benefits. Field staff will be provided with education on migration and in establishing networks with other civil society organizations to collectively respond to the causes and impact of migration especially for those involved in the livestock sector.

## 10. Implementation Strategy

The strategic plan supports the development of gender, environmental considerations and social aspects in the development of livestock programs over the coming ten years. The eight strategic objectives of the “Strategic Planning Framework for Livestock Development: 2016 – 2025” aims to promote and ensure food security, food safety, profitable trade and poverty alleviation. Each of these objectives includes strategies and activities that provide a more effective and efficient program impact. DAHP, OAHP and District Vets Offices will play key roles in implementing the strategy.

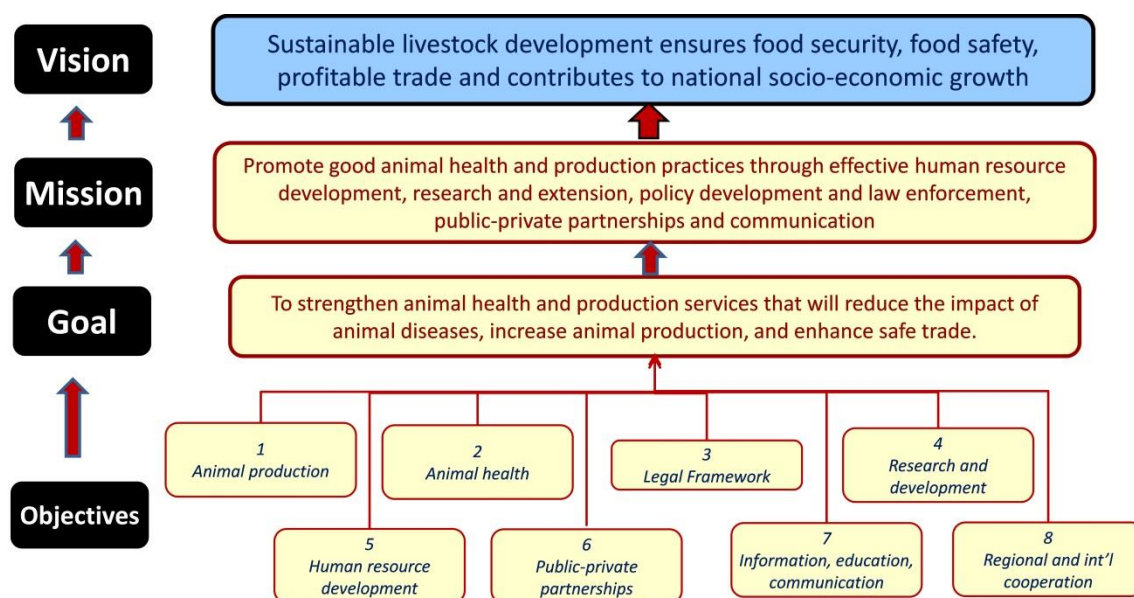
Generally, the livestock development strategy aims to conserve the natural resource base, raise productivity through better utilization of available resources: capital (animals), land and labor, expand production where there is a sufficient demand and resources can be utilized at reasonable cost to the environment and optimize the allocation of development resources through rational administration and management.

The implementation strategy guides the design of activities and sub-activities of the eight (8) strategic objectives towards enhancing existing animal health and production

programs taking into account technical, social, economic and ethical considerations. The implementation strategy requires strengthening of systems for animal health and production; develop and implement national and regional plans for priority animal diseases; improve food safety and animal/human welfare; establish measures to facilitate trade; develop a plan for more effective communication, fully implement animal health and production and veterinary legislation; and integrate research where needed.

To be responsible for implementation of the strategic planning framework, a technical advisory committee will be established to coordinate the implementation of the strategic plan framework, budget management, monitoring and evaluation as well as to update a 5 year rolling plan with full participation of the concerned parties and coordination from seniors of MAFF. The implementation of the framework will be formulated projection sub-activities in SMART to enhance animal production and animal health in compliance to a long term strategic planning framework as well as the first 5 year rolling plan (2016-2020) for livestock development.

**Figure 7 Strategic Planning Frameworks for Livestock Development: 2016 – 2025**



## 11. Risks and Mitigation

The potential risk factors that will greatly affect the livestock in Cambodia are the outbreaks of animal and zoonotic diseases that could hurt the livestock value chain systems. The changes in disease strains and virulence could also cause negative impact on the livestock industry. The mitigating factor is continued disease outbreak surveillance and reporting to prevent or reduce the extent of damage inflicted to the health of the animals.

The onslaught of drought and flooding exacerbated by climate change could also affect the nutrition and health of the livestock which in turn could weaken their resistance to common diseases and could lead to increased morbidity and mortality. This problem could be addressed mitigated with the development of coping strategies related disaster risk management included in the implementation strategy. The participation and capacity of the private sector will also play an important role in the development of the livestock sub-sector in Cambodia.

Current local livestock high production cost make it difficult for smallholder producers to compete against imports from neighboring countries. Continued government support in price monitoring and dialogues with the private sector is important to address this need.

## **12. Budget**

The main financial resources for the promotion of animal health and production would be obtained from the national budget and external assistances. To realize the implementation of a 5year Rolling Strategic Plan, 2016-2020, the DAHP has proposed the priority operation with estimated budget allocation to support the implementation with the total amount of 229,951,653,653 Riels (57,488.000 US\$). It is therefore necessary at this stage to seek for long term sustainable funding sources towards effective implementation of the first five years Rolling Operational Plan as well as the whole ten year Strategic Planning Framework for Livestock Development (2016-2025).

Technical working group will coordinate DAHP's line officers to prepare a detail budget plan fit to a 5 year rolling operation plan (2016-2020) for funding supports from both Government and Development partners. As the investment cost is primarily provided by international development partners, DAHP will continue to seek avenues for long term financial sustainability.

## **13. Monitoring and Evaluation**

A monitoring and evaluation plan will be developed with simple and reliable performance indicators to measure progress towards the strategy's goals, guide policy, and inform priorities, target resources and focus discussions. The M & E systems will be formulated in consultation with stakeholders and improved over time as more precise data on animal health and production become available.

DAHP will use MAFF and donor guidelines for conducting all monitoring and evaluation activities while adjusting them to the local context. Appropriate digital technology will be explored and adopted to enhance efficiency of data collection and management. Data needs for project/program monitoring and management at various levels will be identified.

Baseline surveys will be conducted at the beginning of the project/program. DAHP's M&E staff and field program teams will be responsible for completing project progress reports every 3 months. Internal review with key technical line officers and Management Team will be annually conducted to reflect and to update Operational Investment Plan for the coming year. Mid-term (mid of 2020) and final evaluations (end of 2025) will be completed by external evaluators in collaboration with DAHP.

## Logical Framework

**MINISTRY OF AGRICULTURE, FORESTRY AND FISHERIES (MAFF)  
DEPARTMENT OF ANIMAL HEALTH AND PRODUCTION (DAHP)  
Rolling Strategic Planning Framework for Livestock Development: 2016 - 2020**

Objectives and Outcomes	Timeline (2016-2020)					Indicators	Means of Verification	Responsible	
	Year I (2016)	Year II (2017)	Year III (2018)	Year IV (2019)	Year IV (2020)				
<b>Objective # 1: To strengthen animal production, including the promotion of animal management and breeding</b>									
<b>1.1</b>	The stakeholders have improved their livestock production with GAHP adaptation	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	GAHP were applied in animal production farms  Increased number of pigs (2%), poultry (4%) and cows/buffaloes (1%) per year  Increased animal waste management including installation of 1,000 biogas digesters	Database information Impact and strategic plan evaluation	<b>APO</b>
<b>1.2</b>	The households have increased incomes from sale of livestock	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	Households at all levels increased annual incomes from sale of livestock by 2% each year	Database information Impact and strategic plan evaluation	<b>APO</b>

1.3	The food security of small households have been increased	x	x	x	x	x	Reduced food shortage of small households by 3% every year	Database information Impact and strategic plan evaluation	<b>APO</b>
<b>Objective # 2: Strengthen animal health, veterinary public health and animal welfare.</b>									
2.1	Incidence of animal disease outbreaks, zoonoses and human diseases have been reduced	x	x	x	x	x	Increased coverage of animal vaccination (FMD:70,000 heads and HS (1,750,000 heads)  Animal mortality was reduced by 5% (in accordance with ASDP:2014-2018)	Progress report and Mid-term evaluation report;	<b>VPHO NaVRI AHO EO</b>
2.2	Animal movements and animal products have been effectively managed with biosecurity and safety standards	x	x	x	x	x	Increased compliance on animal movements and biosecurity;  Improved quality of quarantine stations, slaughterhouses and meat processing facilities	Progress report and Observation of inspection officers	<b>AHO</b>
2.3	Both private sectors and communities have applied local production of veterinary medicines and vaccines	x	x	x	x	x	Increased better use of local available medicines and vaccines at private sector and community level	Progress report and Impact strategic plan evaluation	<b>AHO</b>

<b>Objective # 3: To promote law dissemination and law enforcement and policies</b>									
<b>3.1</b>	Law enforcement and policies on animal health and production have been developed and implemented	x	x	x	x	x	Law on animal health & production passed and implemented;  Improve standards and enforcement on production and procurement of medicines, feeds, and additives.	Supporting legal documents endorsed by MAFF and Progress reports	<b>LCRO VPHO</b>
<b>3.2</b>	Standards of veterinary profession, facilities and animal sanitary services have been improved.			x	x	x	The Veterinary Statutory Body established and functioned effectively	Progress report and Impact strategic plan evaluation	<b>LCRO VPHO</b>
<b>Objective # 4: Promote research and development on animal health and animal production</b>									
<b>4.1</b>	Database information system on animal health and animal production have been established and effectively functioned	x	x	x	x	x	Research Committee was established with clear assignment tasks (TOR);  Animal identification and database system established	TOR of research committees and Progress report	<b>APRI NaVRI EO APO AHO</b>
<b>4.2</b>	Progressive situation on animal health, production & welfare, human health and outbreak investigations have been updated and published	x	x	x	x	x	Critical issues on animal health, animal production and their impacts was learned and recognized by the stakeholders at all levels	Website, Newsletters, magazine, media records and manuals etc.	<b>APRI NaVRI EO APO AHO</b>

<b>Objective # 5: Improve human resource development in the field of animal health and animal production</b>									
<b>5.1</b>	Staff at DAHP, OAHP and District Vets level have improved their role responsibilities at field practice	x	x	x	x	x	Improved staff skills on GAHP and other related technical skills;  Improved high accountability of DAHP staff at all levels	Observation from the site visits and Annual internal reflection record	<b>AO, PAO LCRO</b>
<b>5.2</b>	Potential staff of DAHP have involved in formal education at both National and International Universities	x	x	x	x	x	Increased involvement of DAHP staff in the universities;  Increased investment in services, facilities and equipment	Training facilities/ reports and attendance list of volunteer students with DAHP	<b>AO, PAO LCRO</b>
<b>Objective # 6: Promote partnership between the public and private sectors in the field of animal health and animal production</b>									
<b>6.1</b>	Network and communication system concerning livestock development have been developed	x	x	x	x	x	Increased partnership, collaboration & cooperation between public and private sectors;  Meeting, workshop and conference fully participated by relevant agencies	Attendance list of meeting, workshop and conference with others	<b>AO, EO, NaVRI, VPHO</b>
<b>6.2</b>	Animal health issues and animal production technologies have been learned and shared among public and private sectors	x	x	x	x	x	Increased mobilization of information shared and resources within and between the public and private sector	Progress reports and Impact strategic plan evaluation	<b>APRI, NaVRI, EO</b>

<b>Objective # 7: Strengthen extension services on animal health and animal production and marketing development</b>									
<b>7.1</b>	Adequate resources of information materials, equipment and facilities for extension services have been developed	x	x	x	x	x	50,000 copies per year of livestock, the related agriculture development and social issues are published  Critical impacts on livestock, related agriculture and socio-ecological issues are propagated	Extension materials, Case studies, Video spots, and Broadcasting schedule	<b>EO, APO, AO</b>
<b>7.2</b>	The stakeholders at all levels have improved their awareness and field practices on livestock and marketing and related social developments;		x	x	x	x	10 best practitioners on animal health and production received golden talent awards every year	Annual reflection record and List of the award winners	<b>EO, APO, AO</b>
<b>Objective # 8: Strengthen National and International economic and technical cooperation in animal health and production</b>									
<b>8.1</b>	Animal health issues and livestock development have been shared and consulted at national, ASEAN and international levels	x	x	x	x	x	Increased partnership, communication and network at national, ASEAN and international levels	Attendance list of meetings, workshops and conferences	<b>APO, APRI, NaVRI, AHO, VPHO</b>

8.2	Collaboration with neighboring countries to monitor animal health trends and risks management has been improved	x	x	x	x	x	Increased collaboration with neighboring countries to monitor animal health trends and risks management	Communication between DAHP and neighboring countries, Progress report	<b>APO, APRI, NaVRI, AHO, LCRO, VPHO</b>
<b>Cross Cutting Issues</b>									
1	<b>Gender</b>								
	Gender equality and rural women's rights have mainstreamed into the livestock sub-sector policies, plans and intervention activities.	x	x	x	x	x	Women's needs & rights was integrated into the project design and planning process  30% of women participated in project decision making, planning and accessed to project benefits	Mid-term review and Impact strategic plan evaluation	<b>DAHP- Gender Committee</b>
2	<b>Climate Change Adaptation and Mitigation</b>								
	Various adaptation and mitigation approaches have developed to restore impacted loss on animal production	x	x	x	x	x	Significant effect of the established climate Change Committee  Technology on climate change resisted animal breed, animal feed and animal health	TOR, guidelines and technical manuals for Climate Change Committee  Mid-term review and Impact evaluation report	<b>DAHP- Climate Change Committee</b>

3	Migration							
	Awareness on the causes and effect of migration and implement activities have been developed for reducing migration	x	x	x	x	x	Improved participation of the rural communities in development projects and livestock production;  Reduced incidence of rural migration	Number of development projects developed and supported  Impact evaluation report  <b>EO, AO, LCRO</b>

