

CHAPTER 1

Overview of Thai Animal Health System and Livestock and Poultry Production in 2011

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Thailand strengthens and maintains its high quality and standard of animal health controls for animal populations and veterinary public health controls for consumers through cooperative and consultative approaches and partnerships among the livestock industries, all levels of government agencies, and other stakeholders. This report describes animal health system, status of animal health, surveillance activities, and specific disease control programs that protect animal health and consumer health in Thailand, and also highlights the major developments on animal health aspects of 2011.

Organization of the animal health system in Thailand

The national veterinary services in Thailand are provided by the central government and local administrative authorities in collaboration with academic institutions, private veterinarians and livestock industries. Consultative and participatory approaches ensure the good collaboration and partnership of works with livestock industries, farmers, and government agencies to provide an integrated national animal health system technically and administratively sound.

The Royal Thai Government by the Department of Livestock Development (DLD), Ministry of Agriculture and Cooperatives is responsible for animal health, animal production and livestock extension, safety of animal-derived products, and international animal health matters.

The DLD oversees the national system of animal health services throughout the country in cooperation and coordination with the Ministry of Public Health in regard to emerging and zoonotic diseases and with the Ministry of Natural Resources and Environment in regard to wildlife diseases. DLD facilitates and manages national animal health programs and develops sustainable partnerships among all stakeholders.

Animal disease control and surveillance programs

In 2011, national-based programs, guided by nationally agreed strategic plans, continued to effectively control the animal diseases in Thailand. During last few years, major developments in Thailand's approach to managing Highly Pathogenic Avian Influenza in the poultry industries have been successfully implemented to contain the outbreaks. The *National Strategic Plan for Avian Influenza* was endorsed by the government, the poultry industries, and other relevant stakeholders. Thailand remains free of notifiable highly pathogenic avian influenza since November 2008 by maintaining stringent control measures and comprehensive surveillance programs.

Additionally, DLD initiated discussion and implementation with all stakeholders to plan and establish the free zone for Foot-and-Mouth Disease (FMD). Currently, the FMD free zone program in eastern region of Thailand continued to demonstrate Thailand's freedom from foot-and-mouth disease.

The national Brucellosis, Tuberculosis, and Paratuberculosis (Johne's Disease) Eradication Program continued to control and eradicate the disease from cattle herds in Thailand. The national surveillance program on bovine spongiform encephalopathy (BSE) in cattle and Nipah virus infection in pig population have been conducted, and Thailand remains free of bovine spongiform encephalopathy in cattle populations and of Nipah virus infection in pig population.

Animal disease reporting system and status of animal diseases

Thailand continued to meet international reporting obligations and requirements by supplying the World Organisation for Animal Health (OIE) and the Food and Agriculture Organisation of the United Nations (FAO) with information on its status of the OIE listed diseases and other important diseases. The National Animal Health Information and Reporting System (NAHIRS) was instituted to better data collection from and to provide information to central, regional, provincial, and district government agencies, private sectors, international agencies, and other stakeholders.

Animal disease emergency preparedness

Thailand prepared to respond effectively to such an outbreak of emergency animal disease, and is well-positioned to respond to emergency animal disease incidents, through its whole-of-government support and through national coordination in all levels of government agencies, livestock industries, and other stakeholders.

To increase preparedness for an emergency animal disease, various contingency plan manuals were developed or distributed to all levels. Table-top exercises and various trainings for an emergency animal disease were introduced and conducted during the year.

Animal movement management

DLD, by the Bureau of Disease Control and Veterinary Services and the Animal Quarantine Stations (AQS) maintains Thailand's animal health status by managing the pest and disease threats posed by imports and expanding the country's access to export market. DLD developed science-based policy and provides technical advice to ensure that importation of animals and animal products is safe. AQSs provide quarantine and inspection services for the arrival of international passengers, cargo, animals and their products. The services also provide inspection and certification for a range of animals and animal products exported from Thailand.

A framework for the animal health risk analysis used by the DLD was introduced and implemented to assess the risks to animal health. The risk analysis process beginning with hazard identification, includes a risk assessment of each hazard, and concludes with risk management and risk communication was employed.

E-movement is the electronic services system recently developed by DLD for the purpose to support the convenient and rapid services as well as user friendly for traders and public who require the electronic approach on the various kinds of application forms for animals and animal products movement, import, transit, and export of animal and animal products.

In addition, the National Livestock Identification and Registration System (NID) continued to identify and trace animal movement and allows animals (i.e. cattle and pigs) to be identified either individually or by herd. The DLD is responsible for legislation that governs animal movements for the purpose of animal disease and safety controls. NID is implemented and regulated by the DLD's Bureau of Disease Control and Veterinary Services. Thailand has also

established and coordinated the national approach for poultry traceability scheme. In addition, DLD has also developed the traceability system for pork and beef products.

Consumer protection

Settings of the standards based on the international standards for food, through the Codex Alimentarius Commission (Codex) were adopted and modified to be used as guidelines for the food industries and animal farms in Thailand. In 2011, the Monitoring Program for Veterinary Drug Residue and Antimicrobial Resistance Surveillance in Thailand was conducted in animals and food of animal origins. The program focuses on pigs and poultry. In addition, animal feed and feed mills were also monitored to assure quality and safety of feed at source. The National Residue Survey continues to monitor chemical, veterinary drug residue, biological, and environmental contaminants in products of participating industries, such as food of animal origin, meat and honey industries, as well as pet feed and their products.

International animal health cooperation

Thailand continued to cooperate with international organizations i.e. the World Organisation for Animal Health (OIE), the Food and Agriculture Organization of the United Nations (FAO), JICA, AusAID, USAID, USCDC, and other international agencies. Thailand' cooperation and partnership initiatives to improve the animal health and to exchange the expertise among neighboring countries has been enhanced and funded by the Thailand International Cooperation Agency (TICA) and the DLD. The focus is on countries in the Asia-Pacific region. Control of foot-and-mouth disease (FMD) and avian influenza in the region remained to be priorities in 2011.

The OIE Sub-Regional Representation for Southeast Asia is located in the DLD compound in Bangkok. Several international and regional trainings were organized for participants from Asia-Pacific countries in 2011. Recently, Field Epidemiology Training Program for Veterinarians (FETPV) was initiated by DLD with support of FAO, USAID, and USCDC. In addition, bilateral meetings with neighboring countries, sharing the border with Thailand i.e. Cambodia, Lao PDR, and Malaysia, are organized once a year.

Available statistics of livestock and poultry in 2011

The livestock sector in Thailand has gone through major changes in the last two decades. Before 1960, almost none of the Thai farmers specialized in livestock production. Most farmers raised animals in their backyards and let the animals graze on their own or fed them with by-products from the farm or even food waste.

With a well-developed infrastructure and strong export of agricultural products, the livestock and poultry sectors have also become more industrialized and specialized, involving a smaller number of farms, each with more animals than in the past. Certain livestock sub-sectors become more capitally intensive. For example the poultry industry in Thailand has successfully transformed itself into a leading export industry in the world market. Although other sub-sectors have been less successful in export, a substantial development has been achieved particularly pig, dairy and feed industries. Available statistics of livestock and poultry populations in 2011 are shown in the following tables.

Summary table of animal populations of Thailand in 2011

Table 1-1. Number of animal populations by region in Thailand, 2011

Region	Cattle*	Buffalo	Sheep	Goat	Pig	Poultry	Equine	Others**
Region 1	592,979	33,940	5,017	56,940	1,098,703	93,420,382	910	2,678
Region 2	233,826	54,558	1,363	8,830	1,821,213	73,390,783	487	2,750
Region 3	2,190,899	558,754	1,487	12,223	1,084,503	55,835,767	2,524	7,315
Region 4	1,248,826	342,876	683	4,097	583,957	22,723,013	1,413	5,334
Region 5	702,383	124,935	1,090	12,238	1,067,507	20,470,236	1,573	2,225
Region 6	568,894	77,417	3,538	30,564	666,768	29,343,717	672	2,906
Region 7	866,563	8,821	8,647	79,747	2,253,536	33,305,072	961	2,914
Region 8	286,977	13,343	780	53,001	541,521	14,010,904	461	1,421
Region 9	452,418	19,535	29,130	169,927	564,066	15,717,627	572	880
Total	7,143,765	1,234,179	51,735	427,567	9,681,774	358,217,501	9,573	28,423

* Including native, beef and dairy cattle

**Including elephants, farmed deer, camels and, farmed wild boars

Cattle and buffalo populations

There were 4.6 million heads of native cattle, 1.9 million heads of beef cattle and 0.56 million heads of dairy cattle in Thailand in 2011 (Table 1-2). It was found that distribution of beef cattle was mostly concentrated in northeastern and northern Thailand. Dairy cattle were mostly found in the central and western Thailand.

Approximately 1.2 million heads of buffaloes were mostly distributed in the northeast of Thailand.

Table 1-2. Number of cattle and buffaloes by region in Thailand, 2011

Region	Native cattle	Breeders and cross-bred cattle	Fattening beef cattle	Dairy cattle	Buffalo	Total
Region 1	207,393	195,574	16,723	173,289	33,940	626,919
Region 2	128,258	60,954	2,451	42,163	54,558	288,384
Region 3	1,599,677	479,724	7,882	103,616	558,754	2,749,653
Region 4	791,811	420,758	7,931	28,326	342,876	1,591,702
Region 5	536,379	108,735	3,996	53,273	124,935	827,318
Region 6	369,910	184,090	7,133	7,761	77,417	646,311
Region 7	388,447	278,928	51,647	147,541	8,821	875,384
Region 8	220,170	61,305	3,711	1,791	13,343	300,320
Region 9	407,611	40,050	1,858	2,899	19,535	471,953
Total	4,649,656	1,830,118	103,332	560,659	1,234,179	8,377,944

Pig population

In 2011, there were 9.7 million heads of pigs throughout the country - 0.71 million heads of native pigs, almost 1 million heads of breeding sows, and 6.1 million heads of fattening pigs (Table 1-3). The native pigs and breeding pigs were mostly found in the northern and the lower part of northeastern Thailand. The fattening pigs were mostly raised in the western, eastern and central Thailand (Table 1-3).

Table 1-3. Number of cattle and buffaloes by region in Thailand, 2011

Region	Native pigs	Breeding boars	Breeding sows	Breeding piglets	Fattening pigs	Total
Region 1	29,854	8,280	95,822	189,881	774,866	1,098,703
Region 2	17,813	9,747	159,018	312,489	1,322,146	1,821,213
Region 3	143,104	29,076	117,559	211,036	583,728	1,084,503
Region 4	91,037	23,037	55,585	143,118	271,180	583,957
Region 5	204,221	19,354	115,274	207,184	521,474	1,067,507
Region 6	88,331	33,285	76,284	120,678	348,190	666,768
Region 7	51,942	12,801	223,059	385,084	1,580,650	2,253,536
Region 8	57,201	9,667	46,520	99,691	328,442	541,521
Region 9	28,440	8,477	53,465	112,121	361,563	564,066
Total	711,943	153,724	942,586	1,781,282	6,092,239	9,681,774

Poultry population

In Thailand, there were approximately 174 million chicken broilers, 76 million native chickens, 49 million layer chickens and 17 million breeders (Table 1-4). Additionally, 6 million muscovy ducks, 9 million meat ducks, 8 million layer ducks and 9 million free-grazing ducks were raised nationwide in 2011 (Table 1-5).

Geographically, the native chickens were distributed throughout Thailand. Boiler chickens, layer chickens, ducks, quails and geese were predominately distributed in central and eastern Thailand (Table 1-6).

Table 1-4. Number of chickens by region in Thailand, 2011

Region	Native chickens	Broilers	Layer chickens	Broiler breeders	Layer breeders	Total
Region 1	4,705,410	62,973,248	6,349,248	4,553,009	103,882	78,684,797
Region 2	3,080,295	40,212,153	23,287,327	2,430,887	565,602	69,576,264
Region 3	20,069,065	22,721,092	2,756,441	4,908,192	140,747	50,595,537
Region 4	13,109,128	1,871,833	4,025,662	643,140	540,223	20,189,986
Region 5	13,046,172	2,911,590	3,112,251	531,535	219,172	19,820,720
Region 6	9,274,908	11,755,358	1,377,807	601,220	579,028	23,588,321
Region 7	2,415,474	21,793,523	5,061,904	450,732	54,883	29,776,516
Region 8	4,782,164	4,833,414	2,112,610	332,426	86,651	12,147,265
Region 9	5,672,814	4,796,871	1,320,122	286,296	80,855	12,156,958
Total	76,155,430	173,869,082	49,403,372	14,737,437	2,371,043	316,536,364

Table 1-5. Number of ducks by region in Thailand, 2011

Region	Muscovy ducks	Meat ducks	Layer ducks	Free-grazing ducks	Total
Region 1	237,163	1,995,799	2,601,012	3,493,948	8,327,922
Region 2	154,778	2,914,462	358,971	147,322	3,575,533
Region 3	1,630,922	1,816,084	959,162	120,666	4,526,834
Region 4	1,540,253	258,813	467,482	100,049	2,366,597
Region 5	295,279	39,949	131,423	8,884	475,535
Region 6	299,644	187,960	940,104	4,178,333	5,606,041
Region 7	90,734	1,384,106	1,019,855	534,407	3,029,102
Region 8	504,631	74,602	772,293	146,532	1,498,058
Region 9	1,338,731	277,232	924,686	232,956	2,773,605
Total	6,092,135	8,949,007	8,174,988	8,963,097	32,179,227

Table 1-6. Number of other poultry species by region in Thailand, 2011

Region	Geese	Turkeys	Quails	Ostrich
Region 1	56,340	1,925	6,164,992	16,651
Region 2	14,359	1,825	189,819	153
Region 3	19,541	14,239	578,447	405
Region 4	17,408	24,261	101,807	193
Region 5	4,719	2,327	107,169	123
Region 6	4,170	2,492	73,335	2,942
Region 7	78,727	454	383,966	445
Region 8	10,514	15,633	203,186	1,247
Region 9	10,996	1,565	576,355	149
Total	216,774	64,721	8,379,076	22,308

Goat and sheep population

Sheep and goat are scarcely raised in Thailand. More than 50% percent of goat population are raised in the South of Thailand (Regions 8 and 9) while the highest figure of sheep is found in Region 9, the utmost southern area (Table 1-7).

Table 1-7. Number of buffalo, goat, sheep, horse and elephant by region in Thailand, 2011

Region	Sheep	Meat goat	Dairy goat	Total goat
Region 1	5,017	46,328	10,612	56,940
Region 2	1,363	7,872	958	8,830
Region 3	1,487	11,262	961	12,223
Region 4	683	3,720	377	4,097
Region 5	1,090	10,500	1,738	12,238
Region 6	3,538	28,897	1,667	30,564
Region 7	8,647	70,914	8,833	79,747
Region 8	780	50,732	2,269	53,001
Region 9	29,130	163,979	5,948	169,927
Total	51,735	394,204	33,363	427,567

Horse and elephant population

There were 6,503 heads of horses and 2,238 heads of domesticated elephants in Thailand in 2011. Most of the populations were found in the north and the west of Thailand (Table 1-8).

Table 1-8. Number of horses, elephants and other species by region in Thailand, 2011

Region	Donkey	Mule	Horses	Domesticated elephants	Deer	Camels	Wild boars
Region 1	90	4	816	3	1,176	40	1,459
Region 2	56	13	418	144	1,237	-	1,369
Region 3	1,258	58	1,208	714	1,577	52	4,972
Region 4	610	365	438	356	332	622	4,024
Region 5	60	179	1,334	262	708	81	1,174
Region 6	23	24	625	202	185	7	2,512
Region 7	71	10	880	174	1,742	14	984
Region 8	11	9	441	319	282	4	816
Region 9	218	11	343	64	327	2	487
Total	2,397	673	6,503	2,238	7,566	822	17,797

Companion animal population

Dog populations in Thailand in 2009 were about 6.1 millions which were divided to be 5.5 million owned dogs and 0.6 million stray dogs (Table 1-9). Cat populations were 1.87 million separated to 1.6 million owned cats and 0.27 million stray cats.

Table 1-9: Number of dog and cat in each region in Thailand, 2009

Region	Number of owned dogs	Number of stray dogs (est.)	Number of owned cats	Number of stray cats (est.)
Region 1	1,029,666	208,978	182,765	58,883
Region 2	465,914	95,793	165,451	43,297
Region 3	1,124,874	52,873	342,944	38,416
Region 4	829,906	37,291	105,781	22,884
Region 5	579,413	25,984	208,873	4,651
Region 6	632,355	57,016	197,820	31,756
Region 7	442,261	69,849	143,379	32,513
Region 8	270,025	32,200	145,771	16,246
Region 9	125,192	20,912	114,141	20,593
Total	5,499,606	600,896	1,606,925	269,239