




















Establishing Real-Time ASEAN Food Security Information System and Developing Human Resources

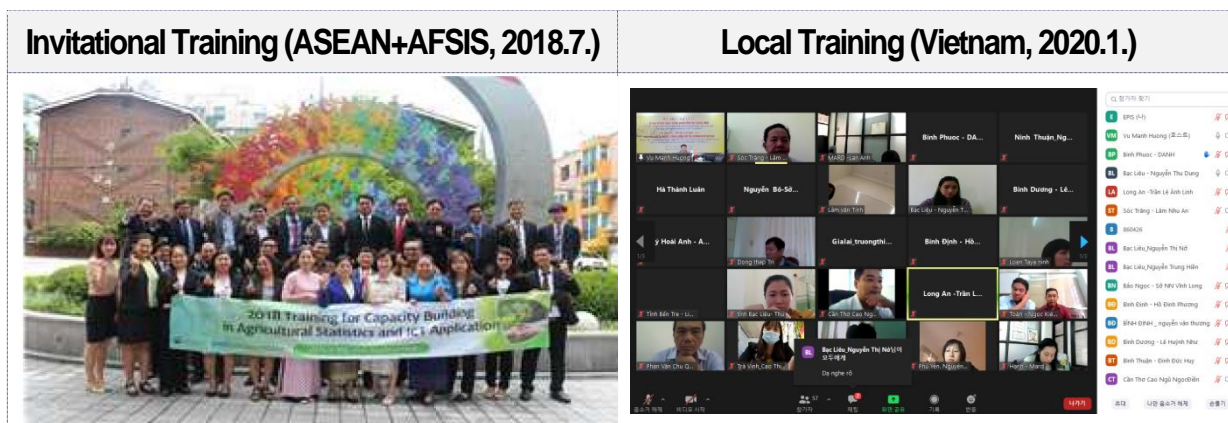
Category	Description
Project title	▶ Establishing Real-Time ASEAN Food Security Information System and Developing Human Resources
Period	▶ 2014~2027 (p) * 3-phased projects
Budget	▶ KRW 10,030,000,000 (Phase 1 & 2 : KRW 4,630,000,000)
Objective	▶ Establishing environment for online agricultural data collection and capacity building for enhancing food security in the ASEAN region
Components	▶ National master plan development, National Agricultural Information System development, Agricultural ICT capacity building
Partners	▶ National cooperation: 6 countries (Vietnam, Indonesia, Laos, Philippines, Cambodia, Myanmar) ▶ ASEAN cooperation : AFSIS Secretariat
Implementing Organization	▶ Korea Agency of Education, Promotion and Informative Service in Agriculture, Forestry and Fisheries (EPIS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), Republic of Korea

In regard to the official request of AFSIS secretariat to establish agricultural data collection and sharing in ASEAN region for enhancing food security (April, 2013), the Government of Korea approved international cooperation project titled 'ASEAN+3 Food Security Information System (AFSIS) Cooperation' and has been implemented since 2014.

The project includes National Agricultural Information System (NAIS) development for on-line agricultural production and distribution data collection and pilot Food Security Forecasting Model (FSFM) using remote sensing and satellite images on specific crop items.

Category	Phase 1 (Production)				Phase 2 (Distribution)				Phase 3 (Forecasting/EWI)	
	'14	'15	'16	17	'18	'19	'20	'21p	'22p	'22p-'27p
Target Country	 LAOS	 CAMBODIA  PHILIPPINES	 VIETNAM  INDONESIA	 MYANMAR	 PHILIPPINES  LAOS	 VIETNAM  CAMBODIA	 VIETNAM  INDONESIA	 MYANMAR	 LAOS  INDONESIA	 VIETNAM  CAMBODIA  PHILIPPINES  MYANMAR
Components	Establishing environment for online agricultural production data collection (production, yield, production and cultivation area)				Establishing environment for online agricultural distribution data collection (stock, price, export & import etc.)				FSFM (pilot) development using remote sensing technology (production forecasting, monitoring, early warning system)	

It also provides human capacity building program to 6 ASEAN member countries and AFSIS secretariat, which is composed of local training and invitational training in Korea, targeting to focus on policy decision-making and work performance increase on food security and agricultural ICT area. Through the seven years of capacity building program operation, 1,574 local government officials are successfully participated to enhance work competency in their workplace.



Further the on-line agricultural data collection, it also develops master plan for establishing Food Security Forecasting Model (FSFM) and implements pilot FSFM in Indonesia for its national strategic crop, sugarcane. The pilot is to develop spatial data registration and management system on visual and production forecasting model in West Java, Pasaleman, Indonesia.



In overall analysis of the project implementation, an ICT-based agricultural data management system, “NAIS”, creates a new work process on agricultural data collection which directly contributes work efficiency and cost reduction. As the existing method of manual data collection has transformed to ICT system that enables paperless data collection, the data collection time has reduced up to 27% after Phase 1 and 40% after Phase 2 on average. Furthermore, the local government budget for data collection has reduced up to 27% after Phase 1 and 30% after Phase 2 on average.

Country / Phase		Data Collection Time(Representative Data Set)				Data Collection Time Saving
		Representative Data Set	Before NAIS (days)	After NAIS (days)	Change (%)	
Laos	Phase 1	Crop and Livestock Production	180	120	33.3%	1-10%
	Phase 2	Farm-gate price	-*	120	-	41-50%
Myanmar	Phase 1	-	30	6	80.0%	11-20%
Vietnam	Phase 1	Production, Harvest area	15	10	33.3%	11-20%
	Phase 2	Wholesale price	3-5	2	50.0%	21-30%
Indonesia	Phase 1	Production area, Harvest area, Production, Sucrose, Stock	30	7	76.7%	71-80%
	Phase 2		30	7	76.7%	71-80%
Cambodia	Phase 1	Production, Harvest area	7	2	71.4%	21-30%
	Phase 2	-	-	-	-	51-60%
Philippines	Phase 1	-	-	-	-	Non-respond
	Phase 2	Private commercial rice/corn stock	30	30	0.0%	
Average	Phase 1				58.9%	27.0%
	Phase 2				42.2%	40.0%

The click rate of the NAIS system indicated 299,466 in 2020, which is increased of 2,116% compared to the last year. Also the number of data input showed 8,545, which is increased of 214% during the same period. More trained government officials responsible for agricultural data collection with enhanced knowledge are to be fostered through the future human capacity building program, the utilization and usage of the NAIS system is expected to keep growing in the future, that would ultimately enable prompt and timeliness food security response in the region.

Country	Click Rate			Data Input		
	2019	2020	Increase(%)	2019	2020	Increase(%)
Laos	2,103	282,096	13314.0%	96	146	52.1%
Philippines	1,548	4,488	189.9%	158	252	59.5%
Cambodia	1,456	2,912	100.0%	241	345	43.2%
Vietnam	396	1,384	249.5%	1,664	3,974	138.8%
Indonesia	576	1,152	100.0%	156	3,420	2,092.3%
Myanmar	7,434	7,434	0.0%	408	408	0.0%
Total/Average	13,513	299,466	2,116.1%	2,723	8,545	213.8%



In phase 3, it will develop Food Security Forecasting Model (FSFM) based on remote sensing technology (Pilot) and information sharing on production forecasting of national strategic crops such as rice, sugarcane and soybean.

Components	AFSIS Cooperation Project (Phase 3)	Requirements
Master Plan	<ul style="list-style-type: none"> - National mid- and long-term road map development, action plan development 	<ul style="list-style-type: none"> - Political implementation support
FSFM on Strategic Crops (Pilot)	<ul style="list-style-type: none"> - Establishing remote sensing information, crop growth indicators, agricultural statistics data collection and management, visualization, Database in pilot area - NAIS system development and operation 	<ul style="list-style-type: none"> - Initial model verification - Diffusion model development
Information Sharing for Capacity Building	<ul style="list-style-type: none"> - Invitational training, workshop and local training - Sharing of project outcomes - Experts dispatch on agricultural statistics, remote sensing and system operation 	<ul style="list-style-type: none"> - Advanced technology extension - Knowledge sharing

1. NAIS System Development (Phase 1 ~ 2)

Country	Phase	Year	Description
Laos	1	2014	Establishing on-line production data collection for 85 crops in 18 provinces
	2	2018	Establishing on-line farmgate price data collection and system development
Cambodia	1	2015	Establishing on-line production data collection for 32 crops in 25 provinces
	2	2019	Linked to Agricultural Market Information System (AMIS), distribution data collection and contents development, public service launching
Philippines	1	2015	Establishing on-line production data collection for 33 crops in 20 provinces
	2	2018	Improving on-line rice stock data collection and system development
Vietnam	1	2016	Establishing on-line production data collection for 32 crops in 25 provinces
	2	2019~2020	Strategic crop value chain information system development and public service launching, linked to food safety information system
Indonesia	1	2016	Establishing sugarcane production and distribution system in 63 public stock factories in 34 provinces
	2	2020	Developing the scope of production and distribution data collection (9 commercial stock factories), enables to check stock condition
Myanmar	1	2017	Establishing on-line production data collection between central and local governments
	2	2021	Establishing environment for online farmer DB management (temporarily suspended)

2. Satisfactory Survey Results (%)

KPI		KPI Goal and Result					
		'14	'15	'16	'17	'18	'19
NAIS System Satisfactory Level	Goal	85	87	89	91	93	95
	Result	855	872	852	72	936	952
	Achievement (%)	1006	1002	957	791	1006	1002
Capacity Building Satisfactory Level	Goal	90	92	94	96	96	96
	Result	90135	8860	9080	9128	9506	8761
	Achievement (%)	1002	963	966	951	990	913

3. Agricultural ICT Human Capacity Building

KPI		KPI Goal and Result							Total
		'14	'15	'16	'17	'18	'19	'20	
Invitational Training (155)	Workshop (Managing-level)	6	5	5	5	6	6	7	40
	Training (Working-level)	20	19	17	8	21	14	16	115
Local Training (1,419)	Laos	53	30	-	-	213	-	-	296
	Myanmar	-	-	-	-	78	-	-	78
	Indonesia	-	-	192	-	-	-	147	339
	Cambodia	-	85	-	-	-	146	-	231
	Philippines	-	65	-	-	85	-	-	150
	Vietnam	-	-	117	-	-	112	96	325