

**Kingdom of Cambodia
Nation Religion King**

Ministry of Agriculture, Forestry and Fisheries



Agricultural Sector Strategic Development Plan 2014-2018

(First draft for discussion only)

January 2015

PREFACE

The Royal Government of Cambodia (RGC) has fully made more efforts to accelerate the implementation of “*Rectangular Strategy Phase-II*” and has successfully achieved fruitful results, under the strong and ideal leadership of **Samdech Akka Moha Sena Padei Techo HUN SEN, Prime Minister of the Kingdom of Cambodia**. In this fifth mandate, the RGC promulgated the “*Rectangular Strategy Phase-III*” and “*National Strategic Development Plan 2014-2018*” and still considered the agricultural sector as the priority sector by identifying clearly that the enhancement of agricultural productivity, diversification and commercialization, the land reforming, the sustainable management of natural resources, notably forestry and fisheries resources; are the fundamental areas to accelerate the economic growth and poverty reduction of the Cambodian population.

Therefore, in order to achieve the vision for agricultural sector development in this fifth mandate, the Ministry of Agriculture, Forestry and Fisheries (MAFF) defined a strategic policy goal which intends to “increase the agricultural growth around 5% per annum through the enhancement of agricultural productivity, diversification and commercialization, the promotion of livestock farming and aquaculture, with high consideration of sustainable forestry and fisheries resource management”.

To implement and achieve the defined RGC’s policy goal and direction, the Ministry of Agriculture, Forestry and Fisheries prepared the Agricultural Sector Strategic Development Plan (ASDP) 2014-2018 which is considered as an important milestone in giving the MAFF’s direction and actions for medium-term implementation to accelerate the agricultural sector development. This document has been identified and examined the prioritized areas of agricultural sector development which will represent the MAFF development goals, objectives, outcomes, outputs and activities to be implemented during a 5-years period, 2014-2018.

It is noted that, the Agricultural Sector Strategic Development Plan 2014-2018 was prepared in accordance with the RGC’s policy goals as defined in Rectangular Strategy Phase-III and the National Strategic Development Plan (NSDP), 2014-2018 which will contribute and enable to achieve the economic development policy goal and aligns with the development policy and framework in the fifth mandate of the Royal Government of Cambodia.

Furthermore, the Agricultural Sector Strategic Development Plan 2014-2018 was also prepared basically in line with the RGC’s Policy Paper on “*The promotion of paddy production and rice export*” which was promulgated on 17th August, 2010 by the Royal Government of Cambodia and relevant documents for the agricultural sector development, in the aim of transforming Cambodia to be a leading rice exporting country in the region.

To realize all the policy goals as mentioned above, the relevant and necessary actions will have to be implemented and achieved. All technical line departments and agencies under MAFF involved in sub-sector development were requested to actively implement the activities set in this Agricultural Sector Strategic Development Plan 2014-2018.

The Ministry of Agriculture, Forestry and Fisheries strongly committed to implement the Rectangular Strategy Phase-III and National Strategic Development Plan 2014-2018 through executing its defined actions stipulated in the Agricultural Sector Strategic Development Plan. With the increase of domestic financial support and the external assistance from development partners, as well as the involvement of concerned stakeholders in speeding up the implementation of this Strategic Plan, the fruitful results will be made with efficient and effective manners.

On behalf of the Ministry of Agriculture, Forestry and Fisheries, I would like to convey to all relevant and concerned Ministries and institutions at all levels to participate and cooperate in the implementation of this Plan, and also appeal to international communities to provide further supports, both financial and technical assistance, for successful and efficient implementation of the Agricultural Sector Strategic Development Plan 2014-2018.

I would also like to sincerely thank to the management of Ministry of Agriculture, Forestry and Fisheries, all staffs at all levels and concerned stakeholders who actively involved in the formulation process and committed to fully implement the Agricultural Sector Strategic Development Plan, 2014-2018 for achieving the poverty reduction and development of future Cambodia.

Phnom Penh, 2015

Minister

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PART- I

ACHIEVEMENTS AND CHALLENGES IN THE IMPLEMENTATION OF AGRICULTURAL SECTOR STRATEGIC DEVELOPMENT PLAN (2009-2013)

I- INTRODUCTION

Cambodia is an agrarian country with its economic foundation largely depends on agricultural sector in which about 80% of the population lives in rural areas and the majority of them make their livings in agriculture. In such socio-economic condition, the Royal Government of Cambodia (RGC) has regarded agriculture as high priority in its national development agenda.

The progress of the agricultural sector development is notably a key factor that led to fasten the process of poverty reduction, and this will accelerate the increase of Gross Domestic Product (GDP) and stabilize macro-economy in the country. Presently, the agricultural sector has been supported for development and stabilization through the improvement of irrigation, new technology adoption and other endeavors, especially agricultural research and development to adopt on climate change. In this connection, the RGC has strengthened the cooperation with development partners in order to mobilize fund and increase more resources for promoting and enhancing the agricultural productivity.

The Royal Government of Cambodia has formulated and continuously implemented the strategies and national development plan by focusing on the maintaining of agricultural sector and rural development, and poverty reduction through the enhancement of agricultural productivity, food security improvement, job creation and generating household's incomes. It is noted that this sector has also made the surplus of agricultural products serving for export. With such strong efforts, the implementation of the Agricultural Sector Strategic Development Plan 2009-2013 responded very well to the RGC's policy direction, especially the Rectangular Strategy Phase-II.

In addition, policy agenda in the Rectangular Strategy Phase-III of the RGC still continued to promote the enhancement of agricultural productivity, diversification and commercialization, enhancement of livestock farming and aquaculture, land reform and sustainable management of natural resources, which are the dynamic policy approaches to accelerate the economic growth and poverty reduction. Moreover, after having promulgated the Policy Paper on "The Promotion of Paddy Production and Rice Export" of the RGC, the rice exportation has progressively increased to the international market, and Cambodian rice namely Phkar Romduol is considered as the best rice quality in the world.

The Agricultural Sector Strategic Development Plan (ASDP), 2014-2018 is considered as the main sector strategic policy for medium-term strategy and roadmap to provide guidance on how to achieve the policy goal and objectives, indication of development outcomes, expected output indicators and activities of the MAFF for a 5 years period of implementation, from 2014 to 2018. This document does reflect the RGC's policy direction stipulated in the Rectangular Strategy Phase-III and also aligns with the National Strategic Development Plan (NSDP), 2014-2018 which intend to contribute to the economic growth and poverty reduction through the enhancement of agricultural productivity, diversification and commercialization.

The Agricultural Sector Strategic Development Plan, 2014-2018 was established to be implemented in order to reduce poverty, assure food security and safety through Cambodian agricultural modernization as fasten speed and new scope approaches, in the purpose of promoting the development of agricultural economic and exportation of agricultural product, along with the natural resources conservation in a sustainable manner.

II- ACHIEVEMENTS AND MAIN CHALLENGES IN THE IMPLEMENTATION OF AGRICULTURAL SECTOR STRATEGIC DEVELOPMENT PLAN (2009-2013)

A. GENERAL SITUATION

It is generally acknowledged that the agricultural sector is fully considered as a crucial sector, which contributes to the economic acceleration and this sector will continue to provide food for daily living condition, raw materials for agro-industry, and also a main source for national revenue generated from agricultural production and exportation to the international market. This is the most important key verifying that the agricultural sector has a main role in developing the national economy.

The enhancement of the agricultural sector is a significant rectangle as the dynamic element for accelerating the economic growth. In fact, the agricultural productivity and diversification, land reform and landmine clearance, forestry and fisheries reform programs are the fundamental base to accelerate the economic growth and poverty reduction of Cambodian people.

With supports from the RGC, the Ministry of Agriculture, Forestry and Fisheries (MAFF), concerned ministries and institutions, local authorities and development partners, and with the farmers' own efforts and the change of farmers' attitude towards modern agricultural practices, the agricultural production obtained progressive and successful results which could overcome many challenges and difficulties, specifically the negative natural impacts such as the water shortage due to drought occurrence in mid-dry season and flooding condition that happened every year.

MAFF has promoted all forms of agricultural production, especially the strategic crops such as rice, rubber, subsidiary crops and agro-industrial crops, animal husbandry and aquaculture. As a result, the agricultural products were made available, not only to meet local food demand, but also to obtain a surplus for export. At the time that the world food crisis and economic downturn persisted, Cambodia was putting more of its efforts in and was able to increase the food crop production to overcome the challenges, as Cambodia has large potential for increasing food production. Moreover, rice crop production has been a major crop that can be expanded for domestic consumption as well as for export and this contributed to increase local farmers' livelihoods and accelerate the pace of poverty reduction.

In the past 5 years, Cambodian people across the country have been actively and competitively doing their agri-businesses in the context of agricultural commercialization. These reflected that the agricultural sector remains the most active and important sector to support the social livelihoods and national economy with the increasing support from the RGC in terms of policy direction as well as investment and financing in agriculture.

The progress in agricultural sector is considerably a key factor leading to fasten the process of poverty reduction and this sector will increase the GDP growth and stabilize macro-economy in the country. The overall management of this sector, including land use management and equitable distribution, actions related to resolve the problems in production, prevention of illegal land encroachment etc. has considerably made improvement. In relation to this, the RGC has strengthened the cooperation with development partners who assisted in agricultural development under the Strategy of Agriculture and Water (SAW) in order to improve the agricultural productivity, ensuring food security and better quality of products for domestic use and surplus for export to overseas markets. Moreover, because of the potential and the importance of agricultural sector, the local and international investors are keen on increasing their investment in agriculture contributing in the increase of the national economy.

The agricultural sector contributed about 31.60% (current price) of GDP in 2013. Besides, Industry contributed about 24.10% and Services shared about 38.50%. The fluctuation of the share of agricultural sector in the GDP is based on the development of other two important economic sectors (Industry & Construction, and Services). It is noted that the contribution of agricultural sector decreased from 33.90% to 31.60% in the period of 2010-2013 since the industrial sector, construction and services have been developed after the end of the world economic crisis.

The gross value added (GVA) for agriculture would be explained that the value increased from 5,596 billion Riels in 2004 up to 7,174 billion Riels in 2007 (increased around 28%) and further increasing to 9,087 billion Riels in 2013 (Constant 2000 price).

In general, the growth rate (%) for agricultural sector has been considered increasing with an average of 3% - 4% (2009-2013) and it varied in accordance with the climate condition of each year. It is recognized that the agricultural production is highly dependent on the natural condition which can affect the agricultural output. In 2009, the growth for agricultural sector was reported at about 5.4% and 4% in 2010. However, because of the flood, the growth decreased about 3.1% in 2011, and in 2013, the growth was about 1.7% only.

It is noted that crop production highly increased and crop composition contributed to about 52.9% in 2009, and increased to 54.8% in 2012, and in 2013, it was down a little bit to 54.2% because of the natural disaster and the price fluctuation. The composition of this crop production increased about 2.46% if we compare to what of 2009. The fisheries composition in agriculture increased from 25.2% in 2009 to 26.45% in 2013. Concerning the trend of the share (%) for forestry and logging activity, the composition unceasingly decreased from 6.6% in 2009 to 5.7% in 2012; and to 5.49% in 2013. For livestock production, the composition always fluctuated if we analyze the data of the last 5 years (from 15.5% in 2009 to 12.8% in 2010, 15% in 2011, 14.1% in 2012, and 13.87% in 2013).

B. ACHIEVEMENTS AND AGRICULTURAL DEVELOPMENT BY SUB-SECTOR

The achievements of agricultural sector in the last 5 years (2009-2013) could be evaluated as very satisfactory results. The details of the development of each sub-sector are shown as follows:

1. ENHANCEMENT OF AGRICULTURAL PRODUCTIVITY AND DIVERSIFICATION

1.1. Rice Production

In 2009, the paddy cultivated areas reached 2.72 million hectares and increased up to around 3.05 million hectares in 2013 (increased over 2009 12.26%). The harvested area increased from 2.67 million hectares in 2009 to nearly 2.97 million hectares in 2013. The average rice yield achieved in 2013 was at 3.163 ton/ha, around 11.52% increase over 2009 (rice yield in 2009 reached by 2.836 ton/ha). Normally, the rice crop has been affected by the natural disasters, especially the occurrence of flooding from the Mekong River, floods caused by heavy rains, drought and insect destruction.

However, the Cambodian paddy rice production obtained 9.38 million tons in 2013 which increased by 23.78% if compared to 2009 (7.58 million tons in 2009). Therefore, Cambodia had about 3.09 million tons of milled rice surplus (or 4.82 million tons of paddy surplus); around 37.68% increase over 2009 (3.5 million tons of paddy surplus in 2009).

Table-1: Rice production, 2009-2013

| Description | 2009 | 2010 | 2011 | 2012 | 2013 | Change (%) 2013/2009 |
|------------------------------------|------------------|------------------|------------------|------------------|------------------|-------------------------|
| Cultivated Area (ha) | 2,719,080 | 2,795,892 | 2,968,529 | 3,007,545 | 3,052,420 | 12.26% |
| Harvested Area (ha) | 2,674,603 | 2,777,323 | 2,766,617 | 2,980,297 | 2,968,967 | 11.01% |
| Yield (Ton/ha) | 2.836 | 2.97 | 3.173 | 3.117 | 3.163 | 11.52% |
| Production (Ton) | 7,585,870 | 8,249,452 | 8,779,365 | 9,290,940 | 9,389,961 | 23.78% |
| Rice Surplus (Million Ton) | 2,244,598 | 2,516,752 | 2,780,328 | 3,031,017 | 3,090,452 | 37.68% |
| Paddy Surplus (Million Ton) | 3,507,185 | 3,932,425 | 4,344,263 | 4,735,964 | 4,828,832 | 37.68% |

Based on the achievements mentioned above, the rice crop production tends to increase from year to year, along with the increase of cultivated areas, rice output and rice yield. If we compare the achievements with the indicators defined in the National Strategic Development Plan (NSDP), the cultivated areas exceeded the annual plan of each year. In fact, in 2009, the rice cultivated areas reached to 103% of the plan, and in 2013, it increased up to 115%. Concerning the rice output, it tends to increase and achieved more than what had been planned in the National Strategic Development Plan (achieved 102% of the 2009's plan, and 105% in 2013). Regarding the rice yield, it also tends to increase and exceed the expectations (achieved 104% of the 2009's plan, and 118% in 2013).

Table-2: Achievement VS Plan in Rice Production

| Description | 2009 | | | 2010 | | | 2011 | | | 2012 | | | 2013 | | |
|----------------------------|-------|----------|-----|-------|----------|-----|-------|----------|-----|-------|----------|-----|-------|----------|-----|
| | Plan | Achieved | % |
| Cultivated Area ('000 ton) | 2,630 | 2,719 | 103 | 2,650 | 2,796 | 106 | 2,650 | 2,968 | 112 | 2,650 | 3,007 | 113 | 2,650 | 3,052 | 115 |
| Yield (Ton/ha) | 2.77 | 2.836 | 102 | 2.80 | 2.97 | 106 | 2.83 | 3.173 | 112 | 2.87 | 3.117 | 109 | 3.00 | 3.163 | 105 |
| Production ('000 Ton) | 7,280 | 7,586 | 104 | 7,420 | 8,249 | 111 | 7,500 | 8,779 | 117 | 7,600 | 9,291 | 122 | 7,950 | 9,390 | 118 |

In general, the rice crop production has been progressively developed. This is resulted from the strong supports from the Royal Government of Cambodia, concerned ministries and institutions, development partners, national and international organizations, local authorities, farmers' own efforts, and especially the policy paper launched in 2010, on "The Promotion of Paddy Production and Rice Export".

The increase of rice productivity is associated with many important elements such as the application of high yielding rice seed, the appropriate technical extension to farmers, the effective extension of System for Rice Intensification-"SRI" method, the technical management and improvement of soil fertility, the strengthening of the research and

development on the appropriated rice seeds for the adaptation of soil and climate conditions, the identification of the rice seeds which highly demanded by the market, the increase of 10 rice seed production and utilization, and the capacity building to the farmers in using production materials and other agricultural inputs.

1.2. Subsidiary and Industrial Crops

The production of subsidiary and industrial crops such as maize, cassava, mung bean, soya bean is fluctuated in according to each crop condition, price and market demand. The cultivated areas of subsidiary and industrial crops reached to 941 thousand hectares in 2013 (+40% compared to 2009). The total production is also shown increasing from 5.4 million tons in 2009 to 10.5 million tons in 2013 (+94% compared to 2009).

Table-3: Achievement for Subsidiary and Industrial Crop Production

| Subsidiary and Industrial Crop | 2009 | 2010 | 2011 | 2012 | 2013 | (%) 2009/2013 |
|--------------------------------|------------------|------------------|------------------|-------------------|-------------------|---------------|
| Maize | 221,287 | 213,622 | 174,257 | 216,330 | 239,748 | 8 |
| Cassava | 160,326 | 206,226 | 391,714 | 361,854 | 421,375 | 163 |
| Sweet Potatoes | 9,283 | 11,452 | 8,204 | 10,428 | 7,432 | -20 |
| Vegetable | 50,278 | 52,732 | 52,830 | 76,495 | 52,449 | 4 |
| Mung Bean | 49,599 | 69,206 | 68,111 | 66,850 | 54,312 | 10 |
| Peanut | 16,474 | 20,041 | 16,287 | 18,048 | 19,954 | 21 |
| Soy Bean | 96,388 | 103,198 | 70,584 | 71,337 | 80,688 | -16 |
| Sesame | 43,206 | 48,299 | 42,599 | 36,722 | 34,136 | -21 |
| Sugar Cane | 13,533 | 17,207 | 22,614 | 48,586 | 23,810 | 76 |
| Jute | 347 | 594 | 342 | 286 | 243 | -30 |
| Tobacco | 9,269 | 10,062 | 8,318 | 5,947 | 6,881 | -26 |
| Total Area (ha) | 669,990 | 752,639 | 855,860 | 912,883 | 941,028 | 40 |
| Total Production (Ton) | 5,425,310 | 5,728,175 | 6,138,532 | 10,859,806 | 10,536,742 | 94 |

It is observed that during the last 5 year period (2009-2013), the fruit crops such as banana, coconut, longan, mango, sapodilla, durian, jack fruit, custard apple, orange, rambutan, guava, pineapple and permanent crops (cashew, oil palm, pepper...etc.) were remarkably grown. In certainly, the total cultivated areas for fruit and permanent crops achieved around 183 thousand hectares in 2013, increased by 5% compared to 2009 (achieved 174 thousand hectares in 2009).

Therefore, the total areas of rice production, subsidiary & industrial crops and permanent crops achieved around about 4.12 million hectares in 2013 (3 million hectares for rice production, 0.94 million hectares for subsidiary and industrial crops, and 0.18 million hectares for fruit and permanent crops).

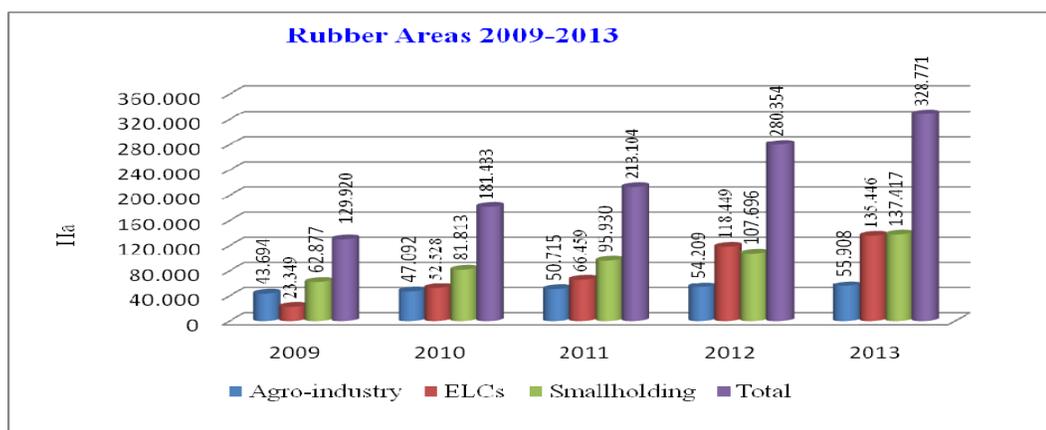
2. RUBBER PRODUCTION

2.1. Rubber Development:

Rubber is a long term agro-industrial crop that has played a major role in supporting the national society and economic development, and it actively helps to protect our environment by forming and creating green forest cover, ensuring natural balance and preventing land erosion.

In 2013, the total of Cambodian rubber plantation covered on 328,770 hectares, an increase of 153% if compared to what of 2009 (129,920 hectares of rubber plantation in 2009). The rubber plantation areas include 55,908 hectares of Rubber Estates (the former Rubber State Own Enterprises), 135,446 hectares developed by economic land concessionaires, and 137,417 hectares of household rubber plantation.

Graph-1: Rubber Production, 2009-2013



In Cambodia, the cultivated areas of rubber plantation have been gradually increased due to its increasing rubber price together with stable policy and security, especially the potential of suitable soils, economic liberalization policy on domestic household rubber trade. Moreover, the participation of the private sector in the form of investment in economic land concession and household rubber plantation, led to a rapid expansion of rubber cultivated areas and production.

The rubber plantation areas increased from 130 thousand hectares in 2009 to 328.77 thousand hectares in 2013 increased 153% in last 5 years period. The smallholder rubber plantation has considerably grown from 63 thousand hectares in 2009 to 137 thousand hectares in 2013 increased 117% in last 5 years period. The private rubber plantation developed by economic

land concessionaires increased from 23 thousand hectares in 2009 to 135 thousand hectares in 2013. All of this indicated that it has been rapidly grown during the last five years. For the areas of Rubber Estates (the former Rubber State Own Enterprise), it has not made any remarkable change. Actually, the Rubber Estates have been clearing the old rubber trees and only replanted on existing areas, about 28% increase if compared to 2009 (increase from 43.70 thousand hectares in 2009 to 55.90 thousand hectares in 2013).

To sum up, comparing these achievements with the indicators defined in the National Strategic Development Plan, it shown that the rubber plantation exactly reached the 2009's plan, about 128 thousand hectares (achieved 100% of what had been planned). Moreover, in 2010, it achieved 27% over the result expectation, and it also happened in the following years: achieved over 35% in 2011, over 62% in 2012, and over 75% in 2013.

Table-4: Plan VS Achievement for Rubber Production, 2009-2013

| Description | 2009 | | | 2010 | | | 2011 | | | 2012 | | | 2013 | | |
|--------------------------------|-------|----------|-----|-------|----------|-----|-------|----------|-----|-------|----------|-----|-------|----------|-----|
| | Plan | Achieved | % |
| Rubber Cultivated Area (ha) | 128.4 | 129.9 | 101 | 143.4 | 181.4 | 127 | 158.4 | 213.1 | 135 | 173.4 | 280.4 | 162 | 188.4 | 328.8 | 175 |
| Rubber Tapping Area ('000 ton) | 38.5 | 34.1 | 89 | 49.5 | 38.4 | 78 | 63 | 45.1 | 72 | 78 | 55.4 | 71 | 97.5 | 78.5 | 81 |

2.2. Rubber Production:

- Tapping area in 2013: 78,493 hectares in which 52,516 hectares of household rubber plantation;
- Production of dry rubber in 2013: 85,244 tons in which 54,984 tons of household rubber products;
- Production of dry rubber has increased by 128% if compared from the last 5 years period (increased from 37,380 tons in 2009 to 85,288 tons in 2013);
- Exportation of dry rubber in 2013: 86,052 tons in which 54,984 tons of household rubber products. During the last 5 years, the exportation of dry rubber has satisfactorily increased from 36 thousand tons in 2009 to 86 thousand tons in 2013 (increased around 135%).

3. ANIMAL HEALTH AND PRODUCTION

Generally, household and commercial livestock production in Cambodia, especially cattle, pig and poultries is remarkably developed in terms of population and production to ensure the domestic demand and exports.

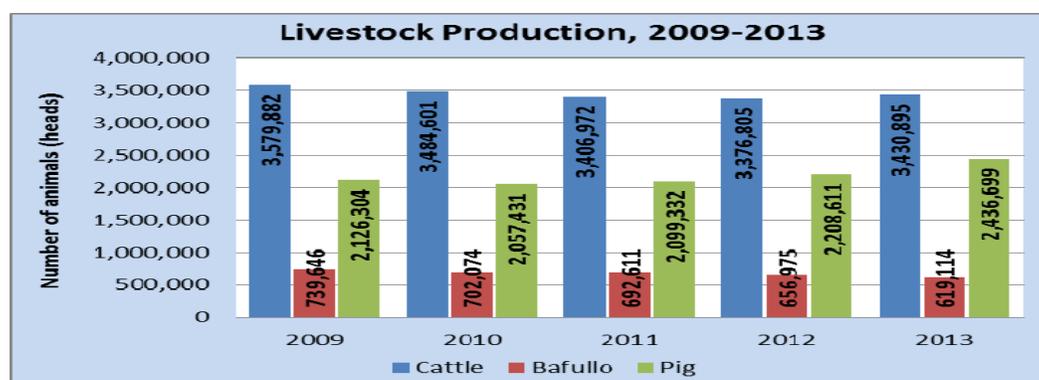
Within the last five years from 2009-2013, the cow production decreased from 3.60 million heads in 2009 to 3.40 million heads in 2013, a decrease about 4.20%. For the buffalo production, it also decreased from 740 thousand heads in 2009 to 619 thousand heads in 2013, a decrease about 16.40%. The decrease of cattle production is the decrease of draft animal due to a lot of farmers dropped the plowing by using draft animal and now use tractors and machineries (70% of paddy production areas was plowed by machines), and they stop feeding the cattle due to the lack of labor force in rural areas (due to migration). Furthermore, farmers have also difficulties in finding water and grass areas for feeding their cattle. At the time of decreasing of draft animal, the farmer change their activities to fattening cattle production and the investment by private sector for fattening cattle production increased rapidly.

The pig production has trended to increase within the last 5 years; from 2.10 million heads in 2009 to 2.40 million heads in 2013 increased around 15% due to the investment and establishment of medium and large scale animal production farm. The animal feed production has been increased due to the investment and establishment of animal feed factory for domestic supply and farmers have actively participated in producing animal feed and pastures, and they have been aware of using animal feed and fodder.

The poultry production (chicken and duck) has remarkably increased by 35.28% by which the household poultry production in the last 5 years from 2009 to 2013, has increased from 20.19 million heads in 2009 to 27.32 million heads in 2013. In 2013, the poultry production increased about 18.26% if compared to what of 2012. This implied that the farmers have gradually been aware of production techniques and prevention of infectious diseases.

The breeding improvement has gradually developed because most of farmers are more aware on selection of animal breed as one of the critical inputs for high yield, fast growing, resistant to disease and this implication would lead to high income of the farmers.

Graph-2: Livestock Production, 2009-2013



What's more, the technical dissemination and transferring among the farmers was successfully and effectively applied. As a result, the number of poultry has increased and secured local

supply for meat and egg, and the number of private farms operating this business has also gradually increased.

Beside the animal production and development, the management of animal residual is also focused through the awareness campaign, training and demonstration on good animal production practices, construction of bio-digester at animal production farm and at household. The construction of national bio-digester has been actively carried out; so far 20,338 bio-digesters had been constructed.

The prevention and protection of human and animal safety has implemented with good achievement as a result of low mortality rate, bird flu prevented and inspection of animal sanitation and meat product conducted by starting from farm and from slaughterhouse to market, particularly the sanitary inspection for export, import, transit of meat products.

4. FISHERIES PRODUCTION AND REFORM

Fish plays the important role in provision of food, nutrition and income of millions of Cambodians. Fish meat has provided about 80% of the protein for Cambodian population; and around 4.5 million people are directly involved in fisheries' activities. Based on fishery statistics, total fish production has increased from year to year, particularly, the main increase is coming from rice field capture and aquaculture production. The in-depth reform of the fisheries sector has been actively and effectively implemented. This reform has greatly contributed to the development of fisheries sector in Cambodia.

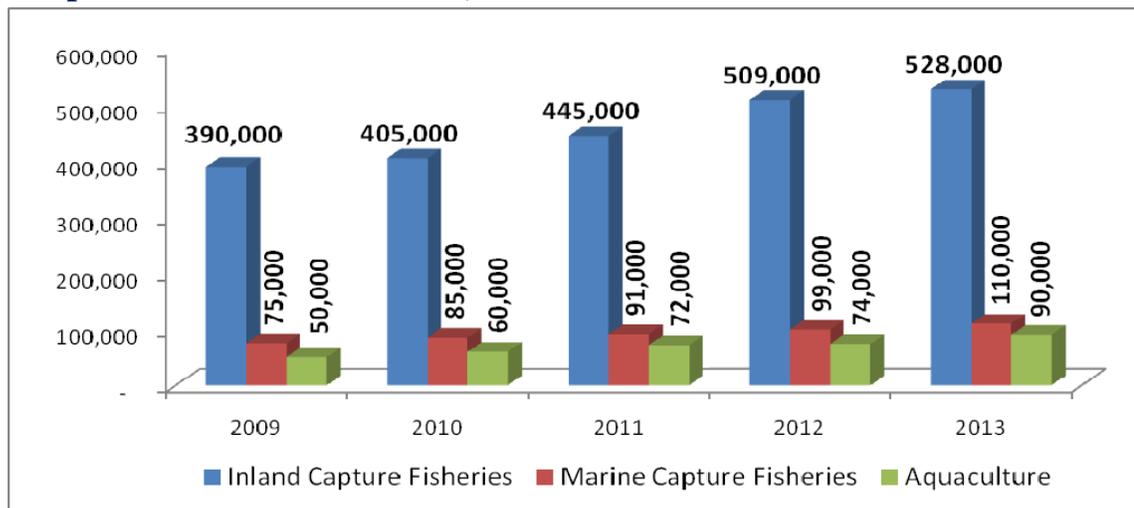
During the last 5 years, 2009-2013, MAFF has fulfilled its obligations to obtain achievements in the fisheries sector such as the preparation of regulatory legal instruments, strengthening of community fisheries, establishment and management of fisheries conservation areas, suppression of illegal fishing practices, aquaculture development, establishment of community fish refuge ponds, research and fisheries extension works...etc. All of this was successfully implemented and could ensure the effective management of the fisheries sector. Correspondingly, the cooperation with development partners have been increased, especially in law and regulation preparation and dissemination, technical capacity building, community fisheries development, technical extension on the aquaculture development, and fishery resources conservation.

Through the in-depth reform on fisheries sector - Phase II, the RGC decided to eliminate all the fisheries lots and kept them for household fisheries exploitation, and some have been converted to fisheries conservation areas. This has produced positive results as benefitted to the whole population, and household fisheries production has progressively augmented. During the last 5 years (2009-2013), many achievements were made and are reported as follows:

- Inland Fisheries: 528,000 tons in 2013. It increased about 3.73% compared to 2012, and increased about 35% compared to last 5 year (2009-2013), from 390,000 tons in 2009 to 528,000 tons in 2013.

- Marine Fisheries: 110,000 tons in 2013. It increased about 46,67% compared to 2012, and increased about 47% compared to last 5 years (2009-2013), from 75,000 tons in 2009 to 110,000 tons in 2013.
- Aquaculture Development: The production of all kinds of cultured fish and shrimp increased to 90,000 tons in 2013, about 22% if compared to what of 2012. It increased about 80% compared to last 5 years (2009-2013), from 50,000 tons in 2009 to 90,000 tons in 2013. The production of crocodile farming was 320 thousand heads in 2013 and brood stock hatchery was 150 million heads. Together with this, the 305 fish hatcheries have been established nationwide of which 292 are farmer-operated hatcheries that receive technical support from the Fisheries Administration; and 775 Community Fish Refuge Ponds (CFRP) have been established. Furthermore, the rice field fisheries production increased by 4 to 6 times on average. This proved that the farmers and fish folk have accepted and adopted the aquaculture techniques disseminated by the ministry.
- Community Fisheries Development: The community fisheries have been highly considered and strengthened. Up to 2013, 516 community fisheries have been created, in which 477 are inland community fisheries, and other 39 are marine community fisheries. Among those communities, 360 community fisheries have been officially registered with MAFF; and 32 crab banks have been established.
- Fisheries Conservation: The fisheries conservation was implemented, both in inland and marine such as coral reef, sea-grass, and boundary demarcation of flooded forest, mangrove forest and fish brood stock. In particularly, the freshwater prawn, fingerlings and fish brood-stock have been released every year.
- Suppression of Illegal Fishing: In the past 5 years, the suppression of illegal fishing has actively been carried out for protection of sustainable fisheries resources. In particular, there were 3,826 cases of illegal fishing that have been suppressed in 2013 (inland 3,724 cases and marine 102 cases).

Graph-3: Fisheries Production, 2009-2013



To conclude, the achievements of the fisheries sector were made through the cooperation with development partners, better relationship with local authorities, involved institutions and organizations. The established community fisheries have received many fruitful results, especially their living standard improvement.

5. FORESTRY REFORM

The RGC strongly focused on implementation of Forestry Reform Program with an attempt to improve technical capacity aiming to high effective management and strictly inspected on forest exploitation in order to prevent and ensure sustainable forestry resource management. The Forestry Law is an important instrument to implement for national forestry management.

National Forestry Program (NFP) was formulated and adopted by RGC in October, 2010 and was fully implemented towards achieving Cambodian Millennium Development Goals (CMDG) that set to maintain 60% forest cover in 2015. The National Forestry Program focused on forestry law enforcement and governance, forestry boundary demarcation, enhancement of sustainable forestry management, wildlife conservation, promotion of community forestry development, increase of reforestation and tree plantation, capacity building of institutions, human resources development, and research and extension programme for forestry sustainable management.

The policy goal of the development in the forestry reform is to manage and use forestry resources in a sustainable way aiming to take the maximum advantages from its contribution in poverty reduction and social-economic growth. During the last 5 years (2009-2013), MAFF has carried out many measures in the process of management, protection, monitoring and eradication of illegal encroachments in using these valuable resources. The major achievements were done and are listed as follows:

Commercial logging activities from forest concession were banned. The reforestation was increasingly implemented and the RGC has also released the Sub-Degree on the use of state land for reforestation that resulted in the increase of participation and encouragement to communities and private sector who take part of reforestation activities.

Actually, in the 5 years period from 2009-2013, the total reforestation was made about 87,028 hectares including 3,388 hectares done by Forestry Administration; 845 hectares done by companies in collaboration with Forestry Administration; 4,082 hectares done by farmer's households, 359 hectares made by Forest Day Celebrations, and 78,354 hectares done by private companies. Moreover, tree seed plantation produced in forestry stations was reported to achieve around 8 million trees every year for distributing of saplings to the people for household plantation and public gardens.

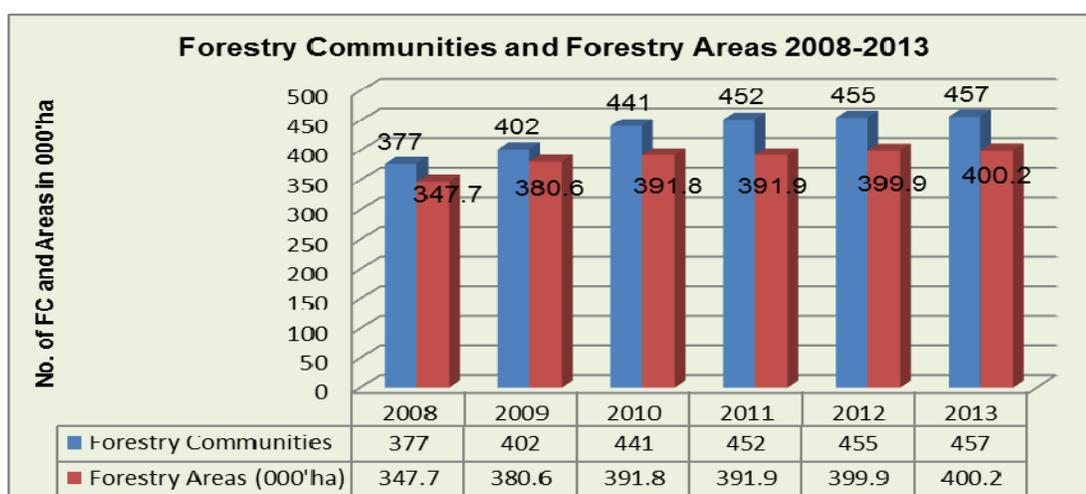
Table-5: Achievement for Reforestation, 2009-2013

| Year \ Reforestation Area (ha) | 2009 | 2010 | 2011 | 2012 | 2013 | TOTAL (ha) |
|--------------------------------|---------------|---------------|--------------|---------------|---------------|---------------|
| Forestry Administration | 1,000 | 1,020 | 530 | 488 | 350 | 3,388 |
| Companies in collaboration | 0 | 0 | 0 | 0 | 845 | 845 |
| Household | 0 | 974 | 315 | 2,793 | 0 | 4,082 |
| Forestry Day | 69 | 66 | 68 | 84 | 72 | 359 |
| Private Companies | 17,924 | 26,775 | 3,590 | 13,400 | 16,665 | 78,354 |
| TOTAL (ha) | 18,993 | 28,835 | 4,503 | 16,765 | 17,932 | 87,028 |

The community forestry was promoted to establish in accordance with the Prakas on guideline for community forestry that has been adopted in 2006. As a result, the community forestry in countrywide has increased from 402 communities in 2009 to 457 communities in 2013, covering on 400 thousand hectares of forest areas.

The implementation of National Community Forestry Program has been done by cooperating closely with development partners, and concerned local authorities in the country. The development of action plan and proposals was actively carried out in order to seek for the financial and technical supports for implementation to accelerate the management and development of forestry sector, especially through the technical working group on forestry and environment.

Graphic-4: Forestry Communities Development, 2009-2013



Forestry Administration who is responsible to the sale of carbon in Cambodia, has been conducting the study and research works which focused on the global situation in forestry development, opportunity for carbon credit that international communities have focused on to address the climate change and global warming. The protection of forest is our main task and this could be carried out through the abolishment of commercial loggings for export by replacing the concept of carbon credit program and the income generation will be used for the

forest protection and poverty reduction in the community forestry. Lately, the reforestation has been promoted and strongly developed in open forest areas, degraded mountainous areas and watershed areas that are strongly affected by the soil erosion. Moreover, Forestry Administration has cooperated with development partners and national & international organizations in order to create the carbon credit programs in forest areas managed by the community forestry.

Clean Development Mechanism and the greenhouse heat reduction activities have been strongly supported and promoted during the past five years. Additionally, the cooperation with local authorities was established for implementing the border demarcation process of the permanent forest reserve. In 2013, 817 poles were put in the length of 97 kilometers.

Furthermore, in every year, with the collaboration of involved institutions, local authorities and armed forces, the Forestry Administration has prevented and vanquished so many forest and wildlife crimes, and has classified those crimes according to their type. The preventing and combating of illegal loggings, wood processing as well as wildlife criminal activities has been gradually suppressed. What's more, the measures in terms of demolishment, destruction, cease and seize of illegal sawing machines were successfully implemented during the last five years.

6. SUPPORTING SERVICES

With positive achievements described above, there have been other services and supports which were implemented in order to improve agricultural production. Public and private sectors investment as well as the interest from development partners including national and international organizations have been actively made toward to achieve the policy of the Royal Government of Cambodia, especially the actions responding to implement the Policy on the Promotion of Paddy Production and Rice Export, food security insurance and poverty reduction. Moreover, the development of agriculture sector addressing to climate change adoption in the context of globalization was highly considered in the implementation.

The preparation of strategic plan for agricultural development, the legal frameworks, regulations and other relevant laws have been actively processed. In addition, The Agricultural Sector Strategic Development Plan 2014-2018 has been formulated in line with sector development policies, as stated in the National Strategic Development Plan 2014-2018 and the Rectangular Strategy - Phase III of the RGC.

The RGC has set the strategic directions for reforming the budget management system of Cambodia in 2013-2020. In order to implement this reform successfully, the government has to do it step by step, by changing from the emphasis on input and centralization to a new budget management system which rather emphasizes on result/outcome and decentralization. Based on the direction of this reform program, MAFF is one of the 10 ministries that are allowed to implement the complete Program Budgeting (PB), by considering the budget

allocation to match the real need and power delegation on the budget expenditure to Budget Entities (BE) that will be created in the near future. The three-year rolling Budget Strategic Plan (BSP) of MAFF has been prepared in line with the RGC's circular. To enhance the effectiveness of the reform in public financial management system and budget planning, MAFF has modified the composition of two working groups: (1) Budgeting Working Group and (2) Public Financial Management Reform Working Group based in the Ministry.

The work on international cooperation, bilateral and multilateral cooperation, ASEAN framework, and other cooperation projects has been fulfilled with many fruitful results such as the organization of the 35th ASEAN Ministerial Meeting on Agriculture and Forestry; the Agreements on Project Implementation with international organizations and diverse development partners in bilateral, multilateral and in ASEAN framework; the Memorandum of Understanding; and the Agreement on Purchase & Sale, Product Exchange & Commercial Services in Cambodia-Vietnam borders. Moreover, Cambodia has hosted many ASEAN meetings including the 10th Meeting of the Task Force on ASEAN Standards for Horticultural Products and other Food Crops, the 16th Meeting of the ASEAN Expert Group, the 21st meeting of the ASEAN Sectoral Working Group on Crops, the 17th ASEAN Senior Officials on Forestry (ASOF) Meeting, and the exchange visit among ASEAN senior officers and agricultural community officers as well.

The management and human resources development have played a very important role in increasing job creation, equity and efficiency. Being a part of the Rectangular Strategy of the RGC, this is the main task for strengthening human resources capacity in harmony with the technical and scientific development. During the last 5 years, MAFF has paid much attention to enforce management and human resources development; especially the management of civil servants, the work on nominating government officers to their position, the preparation of organizational structures, payroll, social security fund, job promotion, and retirement procedure that align with laws and other related regulations.

Up to date, agricultural production has developed in conformity with the concept of free market economy. Therefore, role and responsibilities structures of each technical line departments must be improved in accordance with the real situation. In fact, the agricultural sector development can be achieved through the clear management structure, and the strong human resources capacity in all the units under MAFF.

The Royal University of Agriculture (RUA) has done many major achievements including education and human resources development, scientific research, agricultural extension, national and international cooperation on agricultural education. The number of students in 2013 was 5,973 students in which 1,403 are female (23% of the total). There are different kinds of graduation such as Bachelor, Master and Doctoral Degree on the 10 specialties: Agronomy Science, Animal Science and Veterinary Medicine, Forestry Science, Agricultural Engineering, Fisheries Science, Agro-Industry, Agricultural Economics and Rural Development, Land Management and Land Administration, and Rubber Science. Other two

national schools also offer the agricultural education and they have achieved a very satisfying result.

C. ASSESSMENT AND CONCLUSION

1. STENGTHS, CONSTRAINS AND CHALLENGES

1.1. Strengths and Opportunities

- The agricultural production still has a large potential to develop. In fact, soil and water resources are still available and could be further improved, while the labor force in rural areas could be also participated. These are the fundamental factors that guarantee the growth of agricultural production.
- The farmers have tried to change their habit from “subsistent farming” to “commercial farming”, which is a good change that contributes to agricultural sector development. The increase of crop productivity and the use of agricultural inputs and machinery are the exact evidences.
- The RGC’s policies and strategies related to agricultural sector development have been clearly defined. It is noted that all the involved institutions including development partners, non-governmental organizations, private sector and farmers have strongly committed and recognized the importance of agriculture.
- The RGC has paid much attention to develop agriculture by increasing the investments in agricultural infrastructure (especially the irrigation system and rural roads etc.), capacity building, technical extension services, appropriate input use, agricultural land management, rural credit, farmer community development and agricultural market.
- The agribusiness has been emerging developed, as it could respond to the market demand and could take the opportunity to supply the agricultural products. In fact, the world demand of agricultural products has trended to increase, which is a great opportunity for Cambodia to increase its production and enter to the market competition.

1.2. Constrains and Challenges

Followings are the constraints and challenges of the sector development:

- The enhancement of agricultural productivity and diversification, especially rice and other crop productions remained some problems and challenges although more activities have been implemented. These required more resources, both technical and financial supports, as well as the participation of all concerned stakeholders in order to promote and increase the accessibility of agricultural extension services, agricultural input supplies and credit supports. The water for irrigation and farming is

- the still an issue to be solved and it requires more investments in order to increase the irrigation in the near future.
- The selected 10 varieties of rice seed for promotion and productivity enhancement have not been extended comprehensively to the farmers. In addition, the quantity of those 10 rice seed is still not sufficient for supplying to the farmers.
 - The vegetable production, especially the unseasonal vegetables are imported from neighboring countries, about 50% while those have potential to be developed in the country.
 - Ensuring the better benefits for farmers through finding secure markets for selling their products is the issue to be continuously solved. Actually, farmers have troubles in seeking the market to sell their products, and difficulties in increasing their market competing ability in the context of free market economy.
 - The farmers' awareness of the technical use of agricultural inputs and materials, and proper soil fertility management remained the challenges, and the activities to cope with these challenges would be to pay attention for continuous and strong implementation. At the same time, with the insufficiency of relevant laws, regulations, and technical capacity for implementing the soil resource and fertility management, it is necessary to have the law on agricultural land use and management to be implemented in the near future.
 - The improvement of post-harvest management is still limited. The promotion of agro-industry development including post-harvest processing, improving quality standard of products are assessed as limited.
 - The establishment of agricultural communities (Agricultural Cooperatives) aiming to empower the bargaining ability, the accessibility of technical and credit services, and the effective use of resources has been carried out. Yet, it is recognized as insufficient and needs to be improved. The rubber farmers' communities have not yet been established, and this is another important task to fulfill.
 - The encouragement of participation from the private sector in agricultural development is needed in order to increase investments in the sector. It is observed that there have been many companies invested in agro-industrial crops in the form of economic land concession, but there are some constrains slowing down their investment implementation and these needed to be solved. However, some investors have not implemented their investment plan according to the contract/agreement and have left the land without cropping and planting. In this case, these companies are subjected to confiscate the land and cancel the contract. Therefore, the monitoring actions to the contract implementation will be strongly enforced in the near future.
 - Besides, other challenges are needed to be solved such as the establishment of more legal frameworks and law implementation at all level. Also, human resource development, vocational and professional trainings are the tasks to be accelerated, especially, the improvement and development of local agricultural technical capacity for the grass-root level in order to provide agricultural extension services to farmers in rural areas in an effective way. The technical field staff specialized on agriculture, fisheries and forestry will be more required to work at the grass-roots level.

- The growth of livestock production has slowly increased due to the problems encountered and challenges occurred in the past including the infectious diseases, the lack of facilities for prevention and elimination of disease, and the competition of meat markets due to the high cost of production and the costly animal feeds and medicines.
- The flooded forest has been faced to destruction, and this requires effective measures to be implemented. The human and financial resources in fishery offense elimination are still limited, in both fresh and sea water. The flooded forest demarcation and the fishery offense elimination are still the issues that will be addressed. The capacity of community fisheries is also limited since most of them did not get enough supports. Moreover, Fishery demarcation and concrete pole establishment are also facing the difficulties.
- In the forestry sector, the increase of the forest cover to 60% in 2015 is a huge duty needed to be highly considered. The decrease of the forest cover in the last period of time is a remarkable decrease resulting from the increase of agricultural land use in parallel with the population growth and the development of agricultural economic sector. The collaboration and participation from local authorities and relevant institutions are also needed to increase, especially in the work related to controlling and cracking down on the forestry offense. Forest land demarcation is also facing the difficulties, notably the conflict with the offenders who are always trying to destroy the boundary poles planted. Furthermore, people who live in and near forest areas still rely on forestry, and the improper management on the immigration of those people could lead to heavy pressure on the forestry resources.

2. ASSESSMENT AND CONCLUSION

Based on the achievements of the agricultural sector during the past 5 years, 2009-2013, an assessment is made that the overall results of the agricultural production are satisfactorily achieved and get noticeable improvement, even though rice and others crops production had still remained depending on weather conditions and encountered subsequent natural disasters such as flood, water shortages in mid raining season. All of this can be done with the strong efforts of MAFF, under the effective guidance and support from the RGC and with the active participation from all relevant ministries and institutions, local authorities, and farmers in the whole country, and also with the contribution from the development partners.

In the past 5 years, 2009-2013, the achievement in rice production is seen obtaining a great result. The rice production reached 9.38 million tons and remained rice surplus of around 3.09 million tons (or 4.82 million tons in paddy surplus) in 2013. This is surely an excellent result and great success for Cambodian. Referring to this output achievement, an assessment can be made that the overall results of agricultural production, especially the rice production, would increase through two major factors: (1) the expansion of cultivated areas, including the increase of seasonal production; (2) rising rice yield (from 2.83 ton/ha in 2009 to 3.16

ton/ha); as the result from effective research and development, dissemination of high yielding seed application, and cultivating techniques and crop management.

The subsidiary, industry crops and the permanent crop production were also in progress, in the forms of smallholders, medium and large scale investment. The rubber plantation areas have considerably increased, in which the development of smallholder rubber plantation was at a remarkable point.

In addition, the cow, buffalo, pig and poultry production has noticeably developed. By comparing the livestock production from 2009 to 2013, it is noticed that the cow production decreased about 4.16% while the buffalo production decreased about 5.76%. This is resulted from the migration and the use of agricultural machinery instead of using the cow and buffalo as a labor force in agricultural production. In fact, the use of cattle force in ploughing has been done in 0.96 million hectares (30%) while the use of tractors and machinery has been applied in 2.31 million hectares (70%). From 2009 to 2013, the poultry production has strongly increased from 20.19 million heads to 27.32 million heads. To conclude, the conduct of research and dissemination on breed, the vaccination for infection, and the technical capacity and knowledge enhancement have been extended and effectively implemented in the past 5 years.

The natural resources management, including forestry and fisheries, is being a challenge which addresses to the balance between “Development” and “Conservation”. This needs to be carefully discussed to reach a common consensus for the sustainable development and consideration of natural resource conservation, with strong enforcement of related laws and regulations.

Finally, the supporting services and intervention of the MAFF also made better achievements aligned with the RGC’s policy and targets. However, this is just the beginning of the long route to accomplish our big ambition, aiming to reach an agricultural sector development which is fully modernized and more effectively developed.

PART- II

AGRICULTURAL SECTOR STRATEGIC DEVELOPMENT PLAN, 2014 - 2018

III- AGRICULTURAL SECTOR STRATEGIC DEVELOPMENT PLAN, 2014-2018

A- BACKGROUND

The Rectangular Strategy-III of the Royal Government of Cambodia (RGC), under the strong and intelligent leadership of **Samdech Akka Moha Sena Padei Techo HUN SEN, Prime Minister of the Kingdom of Cambodia**, clearly defined the enhancement of agricultural sector as the dynamic element for accelerating the economic growth and poverty reduction by focusing on the improvement of agricultural productivity, diversification and commercialization, land reform and forestry & fisheries reform programme.

The four Rectangles for accelerating economic growth have been defined as: (i) Enhancement of Agricultural Sector, (ii) Further Rehabilitation and Construction of Physical Infrastructure, (iii) Private Sector Development and Employment, (iv) Capacity Building and Human Resource Development.

Recognizing that continuing implementation of the “**Rectangular Strategy-Phase III**” represents an important step forward for Cambodia in moving to a higher level of development i.e. transitioning from a low income country to a lower-middle income country, while building the foundations to realize its long-term vision of becoming an upper-middle income country by 2030 and high income country by 2050.

Keeping these considerations in view, the Royal Government has set out “**Four Strategic Objectives**” and “**Four Priority Areas**” to reaffirm its commitment to continue implementing the “Rectangular Strategy”.

The Four Strategic Objectives include:

1. Ensuring an average annual economic growth of 7%. This growth should be sustainable, inclusive, equitable and resilient to shocks through diversifying the economic base to achieve a more broad-based and competitive structure with low and manageable inflation, stable exchange rate and steady growth in international reserves.
2. Creating more jobs for people especially the youth through further improvement in Cambodia’s competitiveness to attract and encourage both domestic and foreign investments.

3. Achieving more than 1 percentage point reduction in poverty incidence annually, including the realization of other CMDG targets, while placing higher priority on the development of human resources and sustainable management and use of environmental and natural resources.
4. Further strengthening institutional capacity and governance, at both national and sub-national levels, and ensuring the effectiveness and efficiency of public services to better serve people.

The “**Enhancement of Agricultural Sector**” included (i) Agricultural Productivity Improvement, Diversification and Commercialization, (ii) Livestock and Aquaculture Farming, (iii) Land Reform and Clearing of Land Mines, (iv) Sustainable Natural Resource Management (Fisheries Reform and Forestry Reform).

The agricultural policy of the RGC aims to promote the agriculture sector as a dynamic force for economic growth and this will be contributing to the poverty reduction. In this direction, the RGC will increase domestic resources, plus technical & financial supports from development partners, for implementing the agricultural development through its intensification by coping with the issues of agricultural technology, rural infrastructure including rural roads, irrigation, energy/electricity, agricultural credit, marketing and processing etc. in order to ensure the sustainability of economic growth, job creation, increase of rural income as well as ensuring food security, improving nutrition and increasing commodity export.

In this connection, the Royal Government of the Fifth Legislature focused on four priority areas, in which the third priority involved in agricultural development:

- Further development of and increasing value added in agriculture, in particular through: (1) Enhancing value added of milled rice production and export, especially fragrant and organic rice and other high value agricultural products including rubber, cashew nuts, corn, mung bean, soy bean, sesame, pepper, silk, fruits, coffee, vegetables and flowers; (2) Promoting livestock production and aquaculture to meet market demand such as meat, fish and dairy products; (3) Encouraging investments in agro-industry; and (4) Enhancing agricultural productivity, modernization and commercialization.

The Agricultural Sector Strategic Development Plan (ASDP), 2014-2018 was prepared based on and responded to the policy direction of the RGC especially the policy measures set in Rectangular Strategy-III of the RGC. This Agricultural Sector Strategic Development Plan, 2014-2018 was also formulated in harmonization and in line with the National Strategic Development Plan (NSDP), 2014-2018, which considerably contributed to the economic growth as well as accelerated the poverty reduction through the enhancement of agricultural sector.

B- VISION

Cambodia's agriculture continues to play an important role in supporting economic growth, ensuring equity, securing food security, and promoting development of the rural economy. The Royal Government's vision is to modernize Cambodia's agriculture, based on a new approach and with changed scope and pace, to transform this sector from extensive stage of development, i.e. primarily depending on expanded use of available resources (such as land and other natural resources) and traditional agricultural inputs, into an intensive stage of development that primarily depends on the application of techniques, new technologies, R&D, mechanization and increased capacity of irrigation to improve productivity, and diversify into high value crops and other agricultural products including livestock farming and aquaculture while taking into account the need to ensure efficient management of land and sustainability of environment and natural resources. Moreover, further promotion of commercialization and agro-industry development will increase added-value of agricultural products and income of people.

The long-term vision of the Ministry of Agriculture, Forestry and Fisheries is:

“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”.

C- MISSION

The mission of the Ministry of Agriculture, Forestry and Fisheries is to:

“Support the economic growth of Cambodia by providing high quality services which result in a secure safe food supply, increased agricultural outputs and add value on a sustainable and cost effective basis to agricultural, fishery and forestry based sectors”.

D. POLICY GOAL FOR AGRICULTURAL DEVELOPMENT

(1) Overall Policy Goal:

The overall goal of the policy will be to “Increase agricultural growth around 5% per annum through enhancement of the agricultural productivity, diversification and commercialization and livestock and aquaculture farming with high consideration of sustainable forestry and fisheries resource management”.

To achieve this vision and policy goal, the supporting activities for the development will have to be implemented by providing high quality supporting services and ensuring the availability of enough & safe food, especially increasing the agricultural production & gross value added

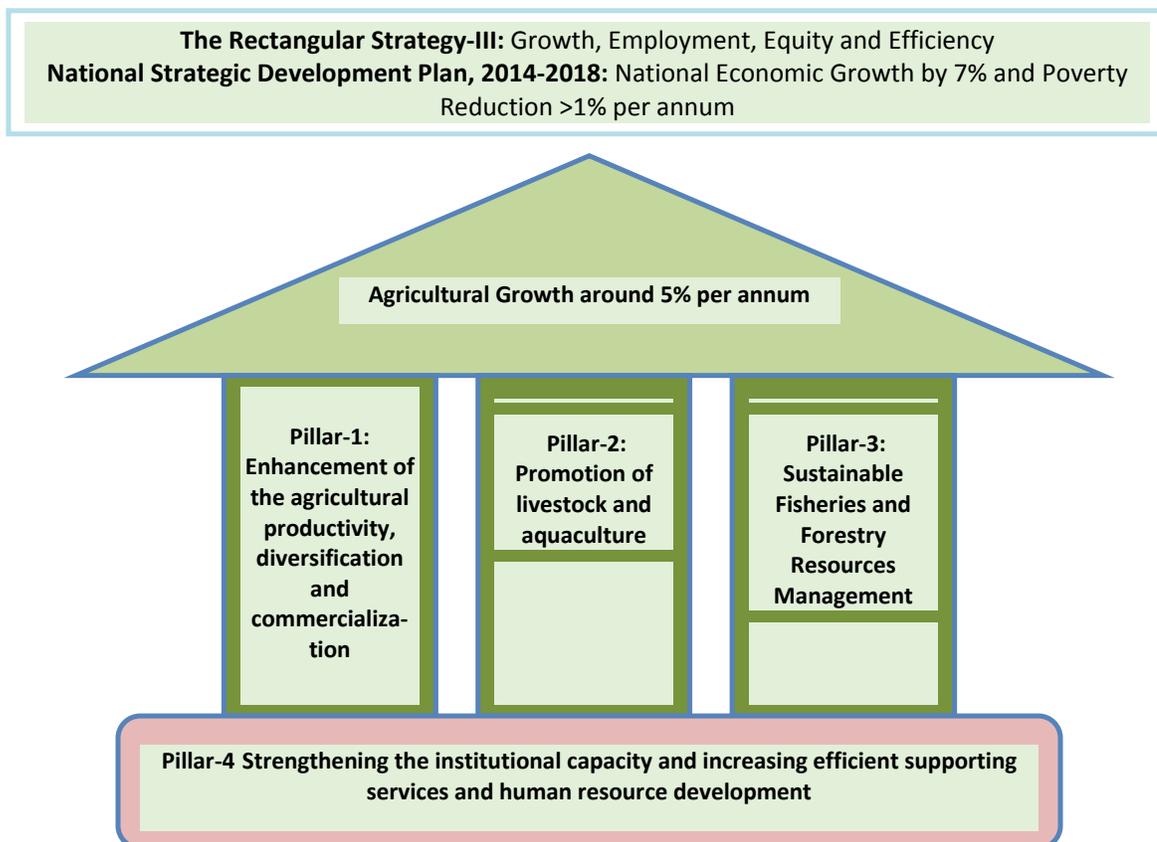
on a sustainable and cost effective basis to agricultural sector. In normal condition, the agricultural growth would be maintained around 3-5% per annum.

(2) Four Basic Pillars:

To achieve the overall policy goal of the Ministry as well as NSDP, 2014-2018, the Ministry of Agriculture, Forestry and Fisheries defined its 04 "Basic Pillars" for the development of agricultural sector as follows:

- Pillar-1:** *Enhancement of the agricultural productivity, diversification and commercialization;*
- Pillar-2:** *Promotion of livestock and aquaculture;*
- Pillar-3:** *Sustainable Fisheries and Forestry Resources Management;*
- Pillar-4:** *Strengthening the institutional capacity and increasing efficient supporting services and human resource development.*

The Pillar-1 to 3 are the fundamental basics for accelerating the agricultural growth which to be achieved around 5% per annum. On the other hand, the Pillar-4 is a foundation supporting the three main Pillars above that this is related to the increase strength of institutions as well as efficiency of the supporting services, especially human resource development in agriculture sector.

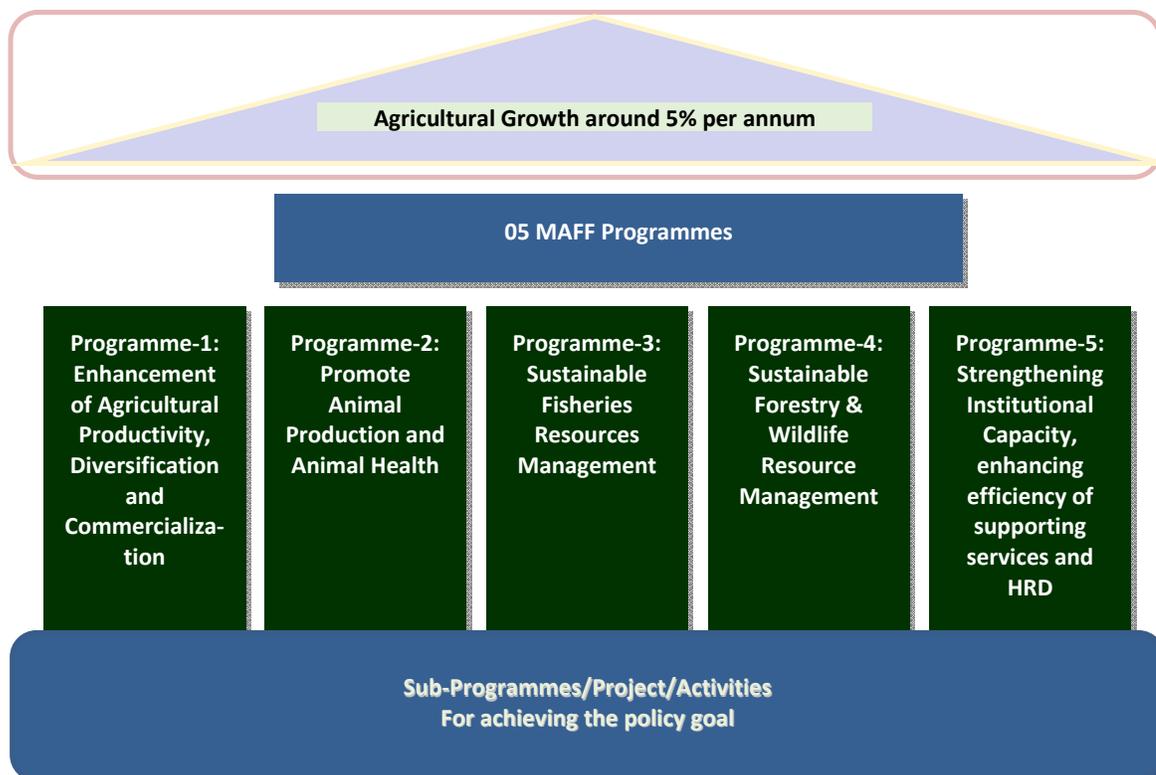


F. Five Programs for MAFF:

In order to achieve the main policy goals, the Ministry of Agriculture, Forestry and Fisheries formulated its 5 priority programs which are part of Public Financial Reform Program of the RGC and on the other hand, these will be strengthened the implementation of Program Budgeting (PB) of MAFF by using the domestic financial resource with contribution of the external technical & financial resources from development partners. The 5 priority programs are defined as follows:

- | | |
|---------------------|---|
| Programme-1: | Enhancement of Agricultural Productivity, Diversification and Commercialization |
| Programme-2: | Promote Animal Production and Animal Health |
| Programme-3: | Sustainable Fisheries Resources Management |
| Programme-4: | Sustainable Forestry & Wildlife Resource Management |
| Programme-5: | Strengthening Institutional Capacity, enhancing efficiency of supporting services and Human Resource Development |

The Programme Structure in ASDP, 2014-2018



Programme-1: Enhancement of Agricultural Productivity, Diversification and Commercialization

The enhancement of Agricultural Productivity, Diversification and Commercialization is the main strategic goal for promoting growth in agricultural sector.

Objective of the Programme-1: To promote the growth of all kind of crops by 10% per year through the increase of agricultural research and extension aiming to increase crop yield, enhance the product quality, strengthening capacity of agricultural cooperatives in connection with contract farming system and improving sustainable agricultural land management and utilization.

To reach this objective, the Ministry of Agriculture, Forestry and Fisheries will focus on the following strategic approaches:

- Increase productivity for rice and other commercial crops through the expansion of effective and efficient agricultural extension service by providing more focus on increasing technical capacity to the extension staff/workers at grass-root level (especially district agricultural offices and commune agricultural centers) and linking this system to other concerned stakeholders, enhancing research and development (R&D) for productivity improvement with consideration of climate change adaptation, improving seed quality which responding to market demand, better post-harvest technology, formulating and adjusting the legal framework for seed and other input management, implementing the "Contract Farming System", agricultural land improvement and human resource management in agricultural production.
- Enhance and promote agricultural diversification through improved research and development and extension activities for commercial and potential cash crops for domestic consumption as well as for export. The creation for enabling environment to increase the involvement of private sector will be strongly focused, especially in the area of R&D, distribution, processing and export. On the other hand, the technology transferring related to "Good Agricultural Practices" will be strongly accelerated and more consideration to be made in the increase of technical application and use of agricultural machinery.
- Enhance the agricultural commercialization through the implementation of laws, regulations and procedures and strengthen the institutional mechanism for increasing agricultural business and export, increase technical capacity for agricultural processing, further improve trade facilitation which included "One Window Service", improve product quality and standards, increase agricultural financing and increase the partnership between Agricultural

Cooperatives and Traders and larger scale agro-industry and farmers through the implementation of the Contract farming System.

- Strengthening of laboratory analysis capacity for the National Agricultural Laboratory through staff capacity development and mobilization of national budget and supports from development partners for installing sufficient necessary sophisticated facilities and equipment for the conduct of laboratory testing and analysis, and fumigation on agricultural products and packaging materials in order to ensure both public health and quality & safety of agricultural products for exports.
- Rehabilitation and building of infrastructures of state farms, research stations and agricultural development centers to serve for all forms of crop-related research & development and appropriate technology transfer activities, particularly rice, in order to contribute to gradually achieving target set in the Policy on the Promotion of Paddy Production and Rice Export adopted by the Royal Government of Cambodia.
- Implement the Strategy and Action Plan for Climate Change Adaptation and Mitigation on agriculture which included: appropriate agricultural intensification and diversification, strengthening technical capacity for research activities related to new technology and innovation for low greenhouse gas emission, technical capacity to carry out intervention for natural disaster and the improvement of human resource capacity for gender and childhood development and protection.
- Promote rubber production including the existing rubber estate, private investment as well as small holder rubber production. The increase of technical cooperation with international rubber research institutes for experience & technology exchanges for improving rubber research and development will be strongly focused and implemented. More consideration will be made for the increasing of external financing and technical assistance to increase small holder rubber development.
- Implement the strategic actions to response climate change impact on rubber production by focusing more application of rubber clones which adopted to the climate change, research for new rubber clones, and increase technical capacity for staff to develop resilient rubber production and increase the Good Agricultural Practices (GAP) in rubber development.
- Formulate the laws and related regulations as tools for accelerating implementation and meeting the emerging needs for the development of this sector such as: Laws on "Plant Protection and Quarantine", "Law on Agricultural Land Use and Management", Sub-Law and regulations under "Agricultural Cooperative Law", Sub-Law and regulations under Law on "the Management of Agro-Chemical and Fertilizer, Draft National Policy for Agricultural Cooperative Development, Sub-Decrees and Prakas under the Law on "Seed Management and Breeders' Rights", other Prakas related to "Fees for Plant Quarantine Inspection and Pest Control", Prakas on

"Designation of Appointment as Juridical Police for Plant Quarantine Officers", and Amendment of Prakas on "Uniform, Symbol and Seal for Plant Quarantine Officers" etc.

- Promote private investment in agriculture, accelerate the efficient use of agricultural land in order to sustainable socio-economic development and carry out the monitoring activities to assess the progress of Economic Land Concession and cancel the contract for the concessionaires who failed to implement the investment contracts.

Indicators for Programme-1:

| Indicator | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---------------------|----------------------------|--------------|--------------|--------------|--------------|--------------|
| 1. Production of all kind of crops | Million Tons | 22.85 | 25.13 | 27.64 | 30.41 | 33.45 | 36.80 |
| 2. Rice Yield | Ton/ha | 3.16 | 3.17 | 3.18 | 3.21 | 3.23 | 3.25 |
| 3. Paddy Surplus | Million Tons | 4.82 | 5.24 | 5.41 | 5.60 | 5.79 | 6.00 |

Programme-2: Promote Animal Production and Animal Health

The Royal Government of the fifth legislature wishes to promote broader livestock farming through introduction of a policy framework based on value chain principle to remove all barriers to the development of this sector, taking into account issues of food safety standards and market regulation, especially sanitary and phyto-sanitary standards.

Objective of the Programme-2: To increase the growth rate of animal production by 3% per year based on the effectiveness of research and extension; improving capacity of animal disease and zoonosis prevention, ensuring the supply of animal and meat with sanitary and safety, and increasing potential of exportation.

To reach this objective, the Ministry of Agriculture, Forestry and Fisheries will focus on the following strategic approaches:

- 1- Promoting the development and implementation of livestock farming policy and strategy.
- 2- Enhancing the research and development on breeding, animal health, feeding production and livestock farming system.
- 3- Implementing the strategic measures to response to climate change impact in livestock production, taking into accounts of animal scientific development and techniques for capacity strengthening and extension programme, implementation

of intervention measures, animal waste management, strengthening the law implementation and other principles.

- 4- Promoting the adoption and implementing the law on animal health and production to provide the basic for the institutional arrangement and management of this sector, aimed at strengthening the enforcement of sanitary standards for animal products, and strengthening and enforcing animal sanitary and phyto-saniatry measures to prevent and combat the outbreak of animal diseases, and to protect public health.
- 5- Encouraging investments in medium and large-scale animal feed production to support livestock farming, along with improvements in the extension services system, animal breeding, credit and market access for farmers, incentive for private investment in processing of livestock, establishment of modern slaughterhouses as well as facilitation of trade in livestock and meat products.

Indicators for Programme-2:

| Indicator | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-------------------------------|--------------------|--------------|--------------|--------------|--------------|--------------|
| 1. Livestock Production (All kind) | Million Heads | 34.81 | 35.86 | 36.93 | 38.03 | 39.17 | 40.34 |
| 2. Ratio of Animal Vaccinated | % | - | 10 | 12 | 15 | 17 | 20 |
| 3. Slaughter House implemented GAP | No. of Slaughter House | - | 25 | 50 | 75 | 100 | 125 |

Programme-3: Sustainable Fisheries Resources Management

The Royal Government of Cambodia (RGC) focused on fisheries reform aimed at livelihood improvement, addressing the food security and nutrition needs of the population and preserving fishery resources through organizing fishery communities, conservation of flooded forests, combating illegal fishing, and promotion of aquaculture for contributing to national economic growth and poverty reduction.

The RGC has deepened fisheries reform by cancelling all the fishing lots and making them available for artisanal fishing, strengthening and expanding fisheries communities and fisheries conservation zones, and implementing measures to protect inundated forest, especially in the areas surrounding Tonle Sap Lake which is an essential breeding habitat of many aquatic species.

To reach the objectives in the Agricultural Sector Strategic Development Plan 2014-2018, The Ministry of Agriculture, Forestry and Fisheries (MAFF), has defined 3 mains targeted measures as follows:

- Achieve the 5 years targets (2014-2018) as also stated in the 10 years Strategic Planning Framework for Fisheries, 2010-2019.
- Continue to prepare and implement a complete strategy for the regional cooperation, by defining internationally-related challenges for the fisheries in Cambodia including climate change, hydro-electric power plants, and environmental degradation.
- Ensure the annual per capita fish consumption at 52.4kg for the Cambodian population.

Objective of the Programme-3: “To increase the fisheries resources protection and conservation efforts by eliminating all types of illegal fishing activities, strengthening fisheries management capacity for 100 Fisheries' Communities annually and promoting the aquaculture development by 15% per annum for ensuing the sustainable fisheries resources and to improve the quality and safety of fishery products for domestic uses and export”.

To reach this objective, the Ministry of Agriculture, Forestry and Fisheries will focus on the following strategic approaches:

- Further implementing Strategic Planning Framework for Fisheries 2010-2019 with the aim of boosting fish production to serve domestic consumption and export markets by relying on three pillars: (1) sustainable management of freshwater and marine-based natural fisheries; (2) promotion and development of freshwater and marine aquaculture; and (3) facilitation of processing and trade for local consumption and exportation.
- Further strengthening the sustainable management and preservation of fishery resources according with the “Strategic Planning Framework for Fisheries 2010-2019” and “Policy Statement for Fisheries”. This can be done by the combat against all forms of illegal fishing, the strengthening of the management of fishing tools, the elimination of over-fishing, the development of human resources of fishery communities (management, use, and preserve fishery resources), the protection of biodiversity and aquatic animal habitat, the quality control of freshwater and seawater by minimizing poisonous substances, the conservation of flooded forests and mangrove forest, the demarcation of flooded forests and fishery conservative areas; and the capacity building of institutions, human resources development, research and extension.
- The promotion of aquaculture is essential for increasing fish for consumption, along with the supports to be provided to aquaculture farms in terms of techniques, fish breeding, credits and market access. The improvement of law implementation through the use of existing mechanisms is the priority for protecting the fishery resources.

Indicators for Programme-3:

| Indicator | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------|--------------------|------|------|------|------|------|
| 1. Aquaculture Production | 000' Ton | 90 | 98 | 113 | 130 | 150 | 172 |
| 2. Capture Fisheries Production (Inland and Marine) | 000' Ton | 638 | 700 | 720 | 750 | 800 | 850 |
| 3. Rate of processor improved quality and safety fishery products | % | 2 | 5 | 10 | 15 | 20 | 25 |

Programme-4: Sustainable Forestry & Wildlife Resource Management

The strategic objective of the Royal Government focused on the management and conservation of natural resources to ensure the sustainability of economic growth and improvement in livelihoods of rural population by further implementing “National Forest Programme”, monitoring forest exploitation, enforcing the Law on Forestry and strict measures against forest offenses; strengthening the management of protected areas, and deepening the reform of forestry sector.

the Royal Government of the Fifth Legislature will reinforce and broaden the management of natural resources to strike a “**balance between development and conservation**”, in particular, increase the contribution of natural resources to the development of agriculture sector by ensuring: (1) green cover, forest and wildlife conservation; and (2) the sustainability of the eco-system, so that the quality of land and sustainability of water sources could be improved by focusing on the protection of biodiversity, wetlands and coastal areas. Referring to this process, The Ministry of Agriculture, Forestry and Fisheries will take action with priority on:

Objective of the Programme-4: “To strengthen the sustainable management of forestry and wildlife through law enforcement, promoting reforestation at least 20,000 ha per year; create the protected forest and wildlife conservation with 50,000 ha per year; and establish 32 forestry communities per year”.

To reach this objective, the Ministry of Agriculture, Forestry and Fisheries will focus on the following strategic approaches:

- Further managing forest and wildlife resources in a sustainable and equitable manner, in accordance with the **“National Forest Program”**, in particular through better law enforcement and governance, demarcation, classification and registration of forest, effective management and exploitation of state and private forests.
- Implementation of measures for improving the livelihoods of economic efficiency and promoting participation from forest-dependent communities, enhancement of management and effectiveness of conservation measures, reduction of deforestation and degradation of forests.
- Intensified tree planting and forest rehabilitation, strengthening the conservation of wildlife and wildlife sanctuaries, development of institutional and human capacity, and promotion of research studies and their dissemination.
- Intensifying the implementation of necessary measures to ensure the sustainability of the ecosystem, aimed at ensuring the quality of soil, and surface and underground water for serving the agriculture sector and the livelihood of Cambodian people by promoting the preparation and effective implementation of policies and regulations, as well as related action plans and programs for the management of protected natural areas such as national parks, wildlife sanctuaries, protected landscape areas, natural heritage conservation areas.
- Stepping up cooperation with relevant development stakeholders under the framework of the **“National Policy on Green Development”** and the **“National Strategic Plan on Green Development 2013-2030”** through the development of regulatory frameworks and mechanisms for carbon trading, strengthening the capability, preparation and implementation of climate change adaptation measures.

Indicators for Programme-4:

| Indicator | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-------------------------|--------------------|---------------|---------------|---------------|---------------|---------------|
| 1. Protected Areas and Wildlife Conservation Areas | Million ha | 1.50 | 1.55 | 1.60 | 1.65 | 1.70 | 1.75 |
| 2. Reforestation | ha | 17,950 | 20,280 | 22,300 | 24,500 | 27,000 | 29,700 |
| 3. Forestry Communities established and strengthened | No. of Community | 457 | 489 | 520 | 550 | 570 | 600 |

Programme-5: Strengthening Institutional Capacity, enhancing efficiency of supporting services and Human Resource Development

In order to promote the agricultural sector, the strengthening of institutional capacity, the enhancing of efficiency of supporting services and human resource development are a priority action to be implemented.

Objective of the Programme-5: “To increase the effectiveness of institutional management, service delivery, and strengthen the capacity for agricultural education and training for the sustainable agricultural development”.

To reach this objective, the Ministry of Agriculture, Forestry and Fisheries will focus on the following strategic approaches:

- Strengthening Institutional Capacity: promote technical departments under MAFF to have enough capacity in implementing the policies for sustainable agricultural sector development.
- Enhancing Efficiency of Supporting Services: increase capacity in building and implementing the strategic plan; strengthen agricultural information and marketing system, management of public and private investment, improve the effectiveness and the efficiency for implementing the programme budgeting, inspection, auditing, international cooperation and other supporting services.
- Human Resource Development in Agricultural Sector: improve the knowledge on techniques and other agricultural skills, conduct research on new technologies aiming to strengthen human resources in agricultural sector in order to respond to the labor market need and the agricultural development.

Indicators for Programme-5:

| Indicator | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------------------|----------------------------|--------------|--------------|--------------|--------------|--------------|
| 1. Ratio of Activities achieved in Programme Budgeting | % | 91 | 93 | 94 | 95 | 95 | 95 |
| 2. Students completed study | No. of Student | 1,920 | 1,950 | 1,950 | 2,000 | 2,000 | 2,000 |
| 3. Staff obtained local and oversea training | No. of Staff | 280 | 290 | 300 | 310 | 320 | 350 |

F. Sub-Programs and Action Plans by Sub-Sectors

To achieve the main goal of the Ministry of Agriculture, Forestry and Fisheries, as well as the RGC's National Strategic Development Plan, the Ministry of Agriculture, Forestry and Fisheries has clearly defined **5 “Programs”** supported by “**Sub-Programs**” for implementing this strategic plan. The Sub-Programs and Activities to be carried out are mentioned below:

Programme-1: Enhancement of Agricultural Productivity, Diversification, and Commercialization

1.1. Sub-Program 1.1: Technical facilitation and increase institutional capacity

Objective: “To enhance capacity in formulating and implementing development plan for agricultural production and supporting services with efficient manner”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------------------------|--------------------|------|------|------|------|------|
| 1. Efficiency rate of budget implementation | % | 95 | 96 | 96.5 | 97 | 97.5 | 98 |
| 2. Agricultural stations, development centers and farms to be developed | No. of Agricultural stations | 1 | 2 | 4 | 6 | 8 | 10 |

Activities:

1. Effective implement of General Directorate of Agriculture's framework through capacity building to prepare work plan and budget and programme budgeting monitoring and evaluation and management of state property.
2. Expanding the restoration and construction of physical infrastructure at agriculture farm, agriculture station and agriculture center for the purpose of seed production, on farm trial and research and transfer technology for crop production to all farmers and producers.
3. Implement gender policy and strategy in agriculture through gender awareness and gender mainstreaming in agricultural production and encourage women's participation in leadership and management of agricultural cooperative.
4. Increase the spirit of competition, recognition, innovation, exchange visit and experiences among farmers for agricultural development through annual farmer congress forum.

1.2. Sub-Program 1.2: Promote sustainable management of agricultural land resources

Objective: “To improve soil fertility, land use zoning and classification for effective agricultural land use, and reduce soil degradation and adapt to climate change.”

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------------------------|--------------------|------|------|-------|-------|-------|
| 1. Map of the soil classification and the agricultural land use to be determined and developed | No. of map by district | 18 | 27 | 38 | 51 | 66 | 83 |
| 2. Areas of cultivated land to be improved | Hectares | 420 | 630 | 855 | 1,090 | 1,340 | 1,615 |

Activities:

1. Maintenance and improvement of soil fertility as the basic element for sustainable crop intensification through the increasing technical knowledge on soil fertility management, particularly encouragement for use of organic fertilizer and proper use of chemical fertilizer following the technical standard.
2. Assessment and collection of baseline data for evaluation of agriculture land deficiency, cropping zone, soil classification for rice production in order for preparation of agriculture land use to improve intensification and diversification in a sustainable way.
3. Strengthen the capacity for climate change adaptation into the agricultural production system through the upgrading of climate change adaptive research activities for agricultural production system, identification of vulnerable areas caused by natural disaster such as flood, drought and salt water penetrating area as the critical element for preparation of strategic plan and work plan for risk mitigation in agriculture sector/
4. Speed up the drafting of law on agriculture land use and management and related regulation and technical documents as guiding tool to ensure sustainable use of agriculture land.

1.3. Sub-Program 1.3: Promote rice production development

Objective: “To increase rice productivity to ensure food security and rice exportation through the development and utilization of good quality rice seed and proper techniques with the efficient manner”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------|--------------------|------|------|------|------|------|
| 1. Rate of farmers household using pure rice seed | % | 25 | 30 | 35 | 40 | 45 | 50 |
| 2. Rice yield | Ton/ha | 3.16 | 3.17 | 3.18 | 3.21 | 3.23 | 3.25 |

Activities:

1. Conduct research, development, production and extension of potential and high quality rice seed adaptive climate change and market needs.
2. Conduct research and development of technology for rice production responsive to geographical agro-ecology system in order to stipulate the production, upgrade quality of product and economic efficiency.
3. Develop technical documents and provide training to technical staff at national and sub-national level on rice production technology and post harvesting technology in order to strengthen the capacity of production and increase yield in an economic efficient way and high quality of product responsive to market demand and high returns.
4. Develop policy, strategy and regulation in order to promote the rice production and quality control compliant to national and international standard and requirement.
5. Conduct survey, data analysis and organize forum for exchanging of technical experiences, challenges and solutions relevant to production and evaluation of results achieved.

1.4. Sub-Program 1.4: Promote horticultural and subsidiary crops development

Objective: “To increase horticultural crop productivity and production for local demand and export through improving research and development on horticultural production techniques with providing high yield, resistant to pest composition, and climate change adaptation”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|-------------------|--------------------|------|------|------|------|------|
| 1. Cultivated areas of vegetable crops | Thousand hectares | 52 | 55 | 58 | 61 | 64 | 67 |
| 2. Vegetable Production | Thousand tons | 423 | 444 | 466 | 489 | 513 | 539 |

| | | | | | | | |
|---|--------------------------|-----------|-----------|-----------|-----------|-----------|------------|
| 3. Cultivated areas of fruit crops | Thousand hectares | 79 | 83 | 87 | 91 | 96 | 101 |
|---|--------------------------|-----------|-----------|-----------|-----------|-----------|------------|

Activities:

1. Conduct research, development, production and extension of potential and high quality horticultural seed and secondary crop seed adaptive to climate change and market needs.
2. Conduct research and development of technology for horticultural and secondary crop production responsive to geographical agro-ecology system in order to intensify and diversify, upgrade quality of product and economic efficiency.
3. Develop technical documents and provide training to technical staff at national and sub-national level on horticultural and secondary crop production technology and training farmers on production technology, secondary crop seed production, good agriculture practices and post-harvest technology in order to modernize horticultural and secondary crop production in an economic efficient way and high quality of agricultural product to ensure quality standard and safety.
4. Develop and disseminate legal and technical documents as tools and guidelines for the horticultural and secondary crop development.

1.5. Sub-Program 1.5: Promote industrial crops development

Objective: “To increase productivity of industrial crops in order to support local processing activities and exportation through conducting research, development and dissemination on production techniques”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------------------------|----------------------------|--------------|--------------|--------------|--------------|--------------|
| 1. Cultivated areas for industrial crops | Thousand hectares | 832 | 857 | 881 | 905 | 229 | 954 |
| 2. Industrial crop production | Million tons | 9.80 | 10.20 | 10.50 | 10.90 | 11.30 | 11.70 |

Activities:

1. Conduct research, development, production and extension of potential and high quality agro-industrial crop seed adaptive to climate change and market needs.
2. Conduct research and development of technology for agro-industrial crop production responsive to geographical agro-ecology system in order to intensify and diversify, upgrade quality of product and economic efficiency

3. Develop technical documents and provide training to technical staff at national and sub-national level on agro-industrial crop production technology and training farmers on production technology, agro-industrial crop post harvest management, and good agriculture practices in order to modernize agro-industrial crop production in an economic efficient way and high quality of agricultural product to ensure quality standard and safety.
4. Develop and disseminate legal and technical documents as tools and guidelines for the agro-industrial crop development.

1.6. Sub-Program 1.6: Strengthen the development and utilization of agricultural machinery and equipment

Objective: “To increase the utilization of agricultural machinery and equipment effectively in order to contribute to poverty reduction, ensure food security and adapt to climate change.”

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------|--------------------|------|------|------|------|------|
| 1. Land Preparation by using agricultural machinery | % | 60 | 65 | 70 | 75 | 80 | 85 |
| 2. Rice harvest by using agricultural machinery | % | 7 | 10 | 15 | 20 | 25 | 30 |

Activities:

1. Conduct research, creating, experiment and improvement of agricultural machinery and tool supporting to agricultural production chains and agricultural product processing which will suitable for different kind of crops, soil condition, geographical area and affordable by the users.
2. Conduct technical training and dissemination on operation and maintenance of agricultural machinery and tool to government staff at national and sub-national level and farmer through provision of training course, demonstration and agricultural machinery supporting activities.
3. Improvement of cultivation land and on farm irrigation system following technical norm in order to increase productivity and profit and resilient to climate change.
4. Develop and disseminate relevant legal and technical documents for development and management of agricultural machinery.

1.7. Sub-Program 1.7: Enhance plant protection, sanitary and phyto-sanitary measure

Objective: “To reduce production loss, and assure quality and safety of agricultural products for domestic consumption and exportation”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|---------------|--------------------|-------|-------|-------|-------|-------|
| 1. Pest rescue rate | % | 50 | 70 | 75 | 80 | 85 | 90 |
| 2. Agricultural products accepted in the international markets | Thousand tons | 2,900 | 3,190 | 3,480 | 3,770 | 4,060 | 4,350 |

Activities:

1. Conduct research, prepare list and take measure to eliminate pest composition on crop and storage conditions
2. Conduct technical training on crop protection and sanitation to government staff at national and provincial level and farmers through provision of training course, demonstration and other intervention activities.
3. Improve agricultural productivity, quality and safety through capacity building on good agricultural practices (GAP) and monitoring & evaluation of potential risk.
4. Risk prevention on pest composition within Cambodia through the acceleration of monitoring and evaluation on importation of goods and agricultural product which is the subject matter phy-tosanitary inspection in conformity with standard phy-tosanitary measure in force.
5. Develop and disseminate legal and technical document as guidance for development, management and protection of plant and phy-tosanitary.

1.8. Sub-Program 1.8: Strengthen and improve agricultural extension services

Objective: “To improve the agricultural extension system and services, and increase the growth of effective implementation by the farmers”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|--------|--------------------|--------|--------|--------|--------|--------|
| 1. Rate of farmers household receiving agricultural extension services | % | 28 | 32 | 35 | 38 | 40 | 42 |
| 2. Number of trained extension workers | Person | 10,500 | 11,100 | 11,700 | 12,300 | 12,900 | 13,500 |

Activities:

1. Strengthen agricultural extension system through institutional and legal framework strengthening for agricultural extension, monitoring and evaluation of agricultural extension service and effectiveness of adoption of agricultural extension service and database of agro-ecosystem analysis (AEA) and farmer household livelihood.
2. Human resource strengthening and developing at national and sub-national level in order to increase the outreach of agricultural extension service to production community in the whole country through the development of guideline and guidebook for agricultural technical extension and training to staff at national and sub-national level, particularly commune extension worker and village agriculture extension workers.
3. Increase the scope of accessing agricultural technical information and relevant services through the development and compilation of agricultural technical package, publication and dissemination of agricultural technical document, training activity, demonstration and dissemination through public media.

1.9. Sub-Program 1.9: Promote agricultural communities development

Objective: “Establish and strengthen capacity of agricultural communities to increase the effectiveness of the value chain system in agricultural production and marketing.”

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------------|--------------------|-------|-------|-------|-------|--------|
| 1. Communities established and registered | No. of community | 480 | 550 | 580 | 600 | 620 | 640 |
| 2. Leaders and members of community trained | Person | 1,756 | 3,847 | 5,597 | 7,472 | 9,672 | 12,072 |
| 3. Communities capable to run business activities | No. of community | 2 | 4 | 6 | 8 | 10 | 12 |

Activities:

1. Facilitate the establishment and registration of agricultural cooperative in order to enable integrated agricultural development in partnership with private sector in light of accessing new technology and credit and ensure stable supply of product to local and international market.

2. Develop agricultural cooperative to become the rural agricultural enterprise by enable members of the cooperative to access capacity building on the leadership and management, business plan preparation, annual report and accounting report preparation and agricultural marketing through participation in training course, workshop and other national and international forum.
3. Facilitate the development of business activities of the agricultural cooperative through the organization of business forum, learning and experience exchange workshop and study tour, etc. in order to enable agricultural cooperatives to find out business partners and increase market price negotiation power which will lead to increasing of household income.
4. Conduct dissemination of agricultural cooperative law and develop legal framework, legal document and mechanism in order to enforce the full implementation of agricultural cooperative law.

1.10. Sub-Program 1.10: Strengthen and develop capacity of National Agricultural Laboratory (NAL)

Objective: “To strengthen the technical capacity in analytical works and quality control on soil, fertilizer, water, pesticides, agricultural chemical residues, and technology in order to increase agricultural productivity, quality, and safety of agricultural products for domestic consumption and exportation.”

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---------------|--------------------|------|------|------|------|------|
| 1. Samples to be tested | No. of sample | 550 | 605 | 665 | 731 | 804 | 884 |
| 2. Methodologies / procedures to be developed | Document | 34 | 37 | 40 | 43 | 46 | 49 |

Activities:

1. Strengthening and building capacity of laboratory services for relevant experiments by compiling technical protocol in conformity with international standard as basic scientific experiment and staff training.
2. Provide public support service for quality testing on agricultural inputs to make sure proper use of inputs for agricultural production.
3. Survey and quality control on fertilizer and agriculture medicine and risk of agriculture medicine on vegetable and fruit.
4. Develop legal and technical document for management of national agricultural laboratory.

1.11. Sub-Program 1.11: Promote the investment and development of rubber production with high efficiency and in a sustainable manner

Objective: “To enhance the capacity in rubber production development aiming to increase both quantity and quality of rubber, strengthen capacity of household rubber producer communities, and increase the efficiency and effectiveness of sustainable rubber land use and management”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------------------|--------------------|--------|--------|--------|--------|--------|
| 1. Rubber plantation areas | Thousand hectares | 328.77 | 334.35 | 362.35 | 384.35 | 404.35 | 422.35 |
| 2. Rubber tapping areas | Thousand hectares | 78.49 | 110.05 | 141.60 | 183.60 | 220.50 | 280.50 |
| 3. Rubber production | Thousand tons | 86.24 | 121.53 | 157.10 | 206.50 | 262.50 | 333.07 |

Activities:

1. Conduct training courses on rubber tapping skill to small holder rubber producers.
2. Conduct the technical extension programmes for dissemination on rubber production techniques to small holder rubber producers.
3. Conduct field surveys for data collection on rubber production and geographical identification of the production areas for small holder rubber plantations.
4. Conduct Training of Trainers (TOT) on rubber production techniques.
5. Strengthen and establish associations or household rubber producer communities.
6. Conduct technical extension programmes on rubber production techniques via TV.
7. Conduct assessment surveys on suitable soil for rubber crop and rubber zonification.
8. Conduct study and assessment on the result and the effectiveness of workshops and trainings.
9. Conduct study on the profile of the small holder rubber plantations.
10. Produce and disseminate technical papers on rubber.

1.12. Sub-Program 12: Promote rubber value chain

Objective: “Strengthen and promote the technical extension program and dissemination on rubber market in order to increase the incomes of household rubber producers, contributing to poverty reduction”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|--------|--------------------|------|------|------|------|------|
| 1. Rate of incomes received by household rubber producers | % | 70 | 72 | 74 | 76 | 80 | 80 |
| 2. Number of household rubber producers trained on rubber market | Person | 90 | 180 | 200 | 250 | 300 | 350 |

Activities:

1. Conduct training and disseminate on rubber market to household rubber producers, and encourage them to establish a rubber business center.
2. Disseminate information on rubber supply, demand, and price information to rubber producers.
3. Create a website on rubber information.

1.13. Sub-Program 13: Improvement of rubber quality

Objective: “Strengthen rubber processing techniques aiming to increase quantity and quality of rubber products in accordance with the standard requirements”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------|--------------------|------|------|------|------|------|
| 1. Rubber operators receiving training on processing techniques | Person | - | 40 | 240 | 370 | 420 | 470 |
| 2. Growth of rubber product quality | % | 71 | 73 | 75 | 76 | 78 | 80 |

Activities:

1. Carry out data collection on rubber processing factories and rubber processing enterprises.
2. Conduct dissemination on rubber sheet processing techniques (USS) to household rubber processors.
3. Conduct dissemination and training on rubber sheet processing to household rubber communities.
4. Establish rubber sheet processing (USS) center.

1.14. Sub-Program 1.14: Strengthen the management and human resource development in rubber sector

Objective: “Increase the effectiveness in the implementation of laws and regulations relating to the rubber development and increase technical capacity for rubber operators”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|--------|--------------------|------|------|------|------|------|
| 1. Rubber operators aware of regulations related to rubber development | Person | 200 | 300 | 350 | 400 | 450 | 500 |
| 2. Rubber operators receive training and increase their skills | Person | - | - | 20 | 20 | 20 | 20 |

Activities:

1. Facilitate between agro-industrial rubber plantation owners to support household rubber plantation.
2. Prepare the draft law on rubber and related regulations under the laws.
3. Conduct dissemination on the regulations related to rubber development.
4. Conduct trainings to develop technical skill and capacity for rubber operators.
5. Conduct study on the requirement of human resources and labor force in rubber sector.
6. Conduct assessment on the result and effectiveness of implementation on the regulations related to rubber development.

1.15. Sub-Program 1.15: Strengthen administration and governance in rubber sector

Objective: “Increase the effective management and good governance in rubber sector”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|----------------|--------------------|------|------|------|------|------|
| 1. Effectiveness of budget implementation | % | 89 | 90 | 92 | 93 | 94 | 95 |
| 2. Staff training on Management & Governance | No. of courses | - | 01 | 02 | 02 | 02 | 02 |

Activities:

1. Improve the efficiency in budget implementation.
2. Conduct training on the organization and management of sub-programs.
3. Conduct annual meeting.
4. Follow up the implementation of planning activities on rubber investments and conduct assessment on the results.
5. Administrative support and coordination.
6. Follow up and monitor the operations of the offices collecting rubber resin from household rubber producers.
7. Conduct investigation on the profile of agro-industry rubber plantations.

1.16. Sub-Program 1.16: Enhance quality of new rubber seeds and improve quality of Cambodian rubber products

Objective: “To increase the effectiveness in using new rubber seeds adapted to climate change and improve rubber products with high competitive quality and high price on the international market”.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---------------|-------------|-------------|-------------|-------------|--------------|
| 1. Ratio (%) of certificate on rubber seed granted | % | 10 | 20 | 30 | 40 | 50 |
| 2. Registration Rate of CSR | % | 10 | 15 | 20 | 25 | 30 |
| 3. Farmers received training | Person | 200 | 400 | 600 | 800 | 1.000 |

Activities:

1. Create new rubber seed nursery, seed maintaining and seed breeding.
2. Establish 2 larger scale field experiments for rubber clone.
3. Follow up the progress and conduct data collection on rubber field experiments for 5 regions.
4. Maintain experiment field, rubber seed nursery at the rubber research stations.
5. Management and maintenance of immature rubber plantations and rubber matured plantations.
6. Conduct research on fertilizer application on rubber production in immature rubber plantations and rubber matured plantations.
7. Create and implement research programs on rubber field experiments.
8. Conduct dissemination on new rubber production techniques: planting, cloning and maintaining of rubber trees.

9. Conduct experiment and research on soil quality for rubber production development.
10. Follow up rubber taping system at the station.
11. Conduct analysis on rubber resin organs, and field experiments in the station on TSC, Inorganic, Sucros and Thiol.
12. Conduct training on rubber tar harvesting techniques.
13. Conduct testing on rubber quality in the inter-laboratory with IRA.
14. Conduct testing on rubber quality with local laboratories.
15. Conduct monitor on factories CSR and Lab CSR.
16. Carry out the internal and external audit by international standard audit firm ISO/IEC17025.
17. The overall expenses for research and experiment process.
18. Contribution to IRRDB and sending resin sampling.

1.17. Sub-Program 17: Promote and enhance agro-industry development

Objective: “To promote the market access of agricultural product thought increasing technical capacity on agro-industry, market connection and enhancement of quality and safety of agricultural products by considering the effects on public health and environment”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------|--------------------|-------|-------|-------|-------|-------|
| 1. Farmers and related stakeholders received training on agro-industry techniques | Person | 1,110 | 1,110 | 1,300 | 1,500 | 1,700 | 1,900 |
| 2. Rate of adopting agro-industry technology | % | 70 | 70 | 70 | 70 | 70 | 70 |
| 3. Growth of business operation on processing and agro-industry investment | % | 3 | 5 | 10 | 10 | 10 | 10 |

Activities:

1. Conduct training on processing techniques of agricultural products.
2. Conduct training on safety and quality standard of agricultural products.
3. Conduct training on contract farming system and legal framework.
4. Conduct training on post-harvesting techniques and good agricultural practices (GAP) on the techniques: harvesting, transportation, drying, storage and packaging.

5. Facilitate the implementation of contract farming between producers (farmers) and buyers (companies).
6. Strengthen the connection between social land concession and economic land concession through the mechanism of contract farming.
7. Strengthen the technical follow up, control and monitoring for granting certificate of quality and safety of agricultural products.
8. Establish training center on agro-industry techniques.
9. Update the data collection on agro-industry enterprises.
10. Formulate laws on quality and safety of agricultural products.

1.18. Sub-Program 1.18: Strengthen the research and development for increasing the productivity of agricultural production

Objective: “To promote the conservation and utilization of high yielding crop seed, adaptable to climate change, good quality and respond to the market needs; and the research on new technologies in using agricultural inputs for enhancing agricultural productivity”.

Indicators:

| Indicators | Unit | 2012 (Achieved) | 2013 Estimated | Forecast | | | | |
|-----------------------------------|------------------|--------------------|-------------------|----------|------|------|------|------|
| | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| 1. Number of crop seeds collected | No. of sample | 6,171 | 200 | 100 | 100 | 100 | 100 | 100 |
| 2. New crop seeds disseminated | Quantity of seed | 50 | 1 | 2 | 1 | 2 | 1 | 3 |
| 3. New techniques developed | Quantity | 32 | 9 | 7 | 6 | 7 | 10 | 9 |

Activities:

1. Conduct collection, conservation (Gene bank), evaluation and utilization of Plant Genetic Resources for food and agriculture.
2. Develop lowland rice variety, which is resistant to unfavorable conditions: of Biotic stresses and Abiotic stresses, and which can provide high yield with good quality.
3. Develop early rice seed variety providing high yield, good rice quality and resistant to brown plant hopper and the heat.
4. Develop crop variety of beans, sesame, maize, mango and other crops providing high yield and good quality.
5. Conduct study, research and development on technology and knowledge on sustainable land management techniques and define nutrient needs for rice production system and cassava.

6. Conduct study, research and development on technology and knowledge on water management techniques with high efficiency and environmental sustainability.
7. Conduct study, research and development on technology and knowledge on pest management.
8. Conduct study, research and development on technology and knowledge on pre harvesting technologies which respond to the context of using agricultural machinery through the development of crop drying machine for rice production.
9. Conduct study and research on timing and harvesting techniques on rice production and maize by combined harvester.
10. Conduct study and research on the effects on primary packaging techniques and transportation for Chinese kale, cabbage and banana by ensuring both quality and safety.
11. Conduct study, research and development on threshing machines on paddy and beans.
12. Conduct study and assessment on rural community's capacity in adopting and using new technology developed by CARDI in the context of climate change.
13. Conduct study and assessment on the effects of adopting and using new technology developed by CARDI on rural social-economy.

1.19. Sub-Program 1.19: Strengthen the research in order to enhance agricultural diversification and agricultural technical extension

Objective: “To enhance the development of Technical Implementation Procedure on rice based diversification in accordance with growing conditions and socio-economic conditions of farmers; and promote agricultural technical extension and application of new potential crop seeds for production and export”.

Indicators:

| Indicators | Unit | 2012 (Achieved) | 2013 Estimated | Forecast | | | | |
|---|----------|--------------------|-------------------|----------|------|------|------|------|
| | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| 1. Technical Implementation Procedure on rice based diversification | Quantity | 3 | 0 | 2 | 1 | 1 | 1 | 1 |
| 2. Growth of cultivated areas using rice seed and new techniques developed by CARDI | % | 30 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3. Quantity of pure and high quality crop seeds | Ton | 46 | 50 | 50 | 55 | 55 | 60 | 60 |

Activities:

1. Develop Technical Implementation Procedure on rice production system with economic and environmental friendly practices for low land rice zones, fully irrigated areas and coastal areas.

2. Conduct study and research on Conservation Agriculture for Cambodian conditions.
3. Promote the access of technology developed by CARDI, especially the rice seed produced by contract farming of fragrant rice seeds: Phkar Rumduol, Phkar Romeat, and Sen Pidor.
4. Promote production system and utilization of crop seeds developed by CARDI.
5. Improve Information and Communication Technology (ICT) to increase public awareness through publications, website and other dissemination means.

1.20. Sub-program 1.20: Strengthen institutions, increase the effectiveness of supporting services and develop human resources in the field of experiment and research

Objective: “To enhance capacity and skills of the managers, researchers, improve quality of supporting services and develop physical infrastructures that support technological improvement”.

Indicators:

| Indicators | Unit | 2012 (Achieved) | 2013 Estimated | Forecast | | | | |
|--|--------------|--------------------|-------------------|----------|------|------|------|------|
| | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| 1. Number of graduate staff received training | No. of staff | 128 | 132 | 105 | 105 | 105 | 105 | 105 |
| 2. Internationally published scientific papers | No. of paper | 150 | 1 | 2 | 3 | 5 | 6 | 7 |
| 3. Growth of effectiveness in providing research services to the economy | % | 100 | 2 | 2 | 2 | 2 | 2 | 2 |

Activities:

- 1) Increase effectiveness in management, governance, human resource development, research services and physical infrastructures to support the development of CARDI.
- 2) Increase capacity and skills of researchers and extension workers through local and overseas trainings.

1.21. Sub-Programme 1.21: Increase agriculture productivity of Municipal/Provincial Department of Agriculture (MDA/PDA)

This Sub-Programme is the consolidation of cluster of all activities for implementation by 25 MDA/PDA which will contribute to achieve the objective and indicator of Programme 1: **“Enhancement of Agricultural Productivity, Diversification and Commercialization”**

2. Programme-2: Promote Animal Health and Production

2.1- Sub-Programme 2.1: Improve animal production and increase animal productivity

Objective: Improve the animal production and increase animal productivity

Indicators:

| Indicators | Unit | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|--------------|-------|-------|-------|-------|-------|-------|
| 1- Number of animal farms compliant with technical guideline | Places | - | - | 30 | 60 | 100 | 200 |
| 2- Number of pig increased 2% per year | Million Head | 2.40 | 2.45 | 2.50 | 2.54 | 2.60 | 2.65 |
| 3- Number of Poultry increased 4% per year | Million Head | 27.31 | 28.39 | 29.52 | 30.70 | 31.90 | 33.20 |

Activities:

- 1- Develop and publish the technical documents related to bio-safety techniques of household and farm animal production following GAHP principles.
- 2- Conduct the dissemination programme on bio-safety techniques of animal production for household and farm following GAHP principles to all stakeholders involved in livestock production.
- 3- Conduct technology transferring on bio-safety techniques for household animal production.
- 4- Conduct demonstration on animal production at farm following GAHP principles
- 5- Strengthen capacity of staff on the techniques of animal production.
- 6- Monitor and evaluate the effectiveness of principle enforcement on GAHP.
- 7- Promote the management of animal waste and establish bio-digesters.
- 8- Establish the management system for animal data, appearances and ID.
- 9- Inspect the animal production management at municipalities and provinces.

2.2- Sub-Programme 2.2: Strengthening of animal health services and infectious disease prevention

Objective: Increase animal disease control to reduce infectious disease spread-out and prevention and improve animal health.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|------|--------------------|------|------|------|------|------|
| 1. Vaccinate FMD (Cow and Buffalo) | % | 2 | 2 | 4 | 6 | 8 | 10 |

| | | | | | | | |
|--|---------|----|-----|-----|-----|-----|-----|
| 2. Vaccinate Salmonellosis (Cow and Buffalo) | % | 40 | 45 | 50 | 55 | 60 | 65 |
| 3. Number of staff trained | Persons | | 250 | 350 | 450 | 550 | 650 |

Activities:

- 1- Research for identification of the risk areas of infectious disease.
- 2- Strengthen staffs' capacity and stakeholders on technique, veterinary rules and animal health management.
- 3- Conduct nationwide animal infectious vaccination campaign.
- 4- Monitor and evaluate nationwide animal infectious vaccination campaign.
- 5- Manage animal health situation, prevent animal infectious disease and implement veterinary rules.
- 6- Support animal health cooperation services to village animal health workers.
- 7- Follow up and assess works related to the animal health, management and infectious disease prevention.

2.3- Sub-Programme 2.3: Strengthening the inspection works and quarantines

Objective: Strengthen the animal sanitation inspection and control the movement of animal products, feeds and livestock medicines.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------|------|------|------|------|------|
| 1- Number of quarantine stations established | Stations | 0 | 0 | 1 | 1 | 1 |
| 2- Number of animal movement inspection | Missions | 50 | 100 | 200 | 300 | 400 |
| 3- Number of depots of animal medicine, feed, and materials inspected | Places | 0 | 50 | 100 | 150 | 200 |

Activities:

- 1- Conduct feasibility study to identification of areas for establishment of animal quarantines.
- 2- Establish animal quarantine stations and operating expenses.
- 3- Monitor and manage the movements of animal and meat products.
- 4- Inspect and manage the business depots involved with animal medicine, feed and veterinary equipment.
- 5- Conduct the training programmes for capacity strengthening to the staff and stakeholders on the inspection techniques, veterinary rules/regulations and animal movement management.

- 6- Conduct dissemination to involvers on technical standard related to agricultural sector and animal health.

2.4- Sub-Programme 2.4: Improvement of public health, strengthening slaughterhouse management, and zoonotic disease prevention

Objective: Protect and prevent the infectious diseases and ensure safety meat and meat production for improving public health.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---------|--------------------|------|------|------|------|------|
| 1- Number of slaughterhouses improved techniques | No. | - | - | 25 | 50 | 75 | 100 |
| 2- Number of trained staffs and stakeholders | Persons | - | 450 | 500 | 600 | 700 | 800 |
| 3- Monitoring and evaluation of animal sanitation inspection, meat and products | Times | 18 | 20 | 22 | 25 | 28 | 30 |

Activities:

- 1- Prevention and protection animal disease transmit from human to animal and vice versa and public health.
- 2- Follow up and monitor slaughterhouse management, meat sanitation and meat showroom at market (slaughterhouse and meat showroom follow the technical norm).
- 3- Conduct capacity training to staff and stakeholders on slaughterhouse inspection and meat product.
- 4- Conduct dissemination on regulations and procedure relevant to slaughterhouse management, animal and meat sanitation inspection.

2.5- Sub-Programme 2.5: Disease surveillance and animal diagnosis

Objective: To identify the sources of animal disease, report and timely respond the animal disease.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|--------|-------|-------|--------|--------|--------|
| 1. Number of trained staffs and stakeholders | Person | 200 | 250 | 300 | 350 | 400 |
| 2. Number of monitoring, surveillance of AI, FMD, CSF, PRRS and HS | Time | 15 | 20 | 25 | 30 | 35 |
| 3. Number of Samples to do diagnosis | Sample | 9,222 | 9,683 | 10,167 | 10,675 | 11,208 |

Activities:

- 1- Investigate, and search animal diseases.
- 2- Conduct staff capacity training related to investigation, inspection, and search for animal disease.
- 3- Train and strengthen capacity of lab staff on animal diagnosis.
- 4- Search for disease sources in case of pre and post infectious disease outbreak.
- 5- Equip tools, equipment and materials for the operation of animal disease diagnosis lab.
- 6- Manage and prevent Bird Flu (H5N1) and humans.
- 7- Health guarantee and bio-safety of lab staff.
- 8- Conduct the study on animal infectious disease in Cambodia.
- 9- Establish reporting mechanism of animal disease situation.
- 10- Monitor and evaluate the implementation of animal surveillance, animal disease research and diagnosis.

2.6- Sub-Programme 2.6: Research on animal production, genetic, feed, and breeding

Objective: To improve animal breed and feed quality, and breeding improvement aiming to increase animal production.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------------------|--------|------|------|------|------|-------|
| 1. Number of produced breed piglet | Head | 500 | 750 | 830 | 910 | 1,000 |
| 2. Number of produced semen | Dose | 200 | 200 | 220 | 240 | 260 |
| 3. Number of sample and feed analysis | Sample | - | - | 50 | 55 | 60 |

Activities:

- 1- Develop and publish technical documents and norms, and dissemination.
- 2- Conduct experiment and research on the raw materials, animal feed and composition and other additives.
- 3- Conduct research works for animal breed, genetic and breeding.
- 4- Conduct experiment and research pig breed at Cam-Sino Pig Breeding Demonstration Farm.
- 5- Conduct experiment and research on cattle breed at Phnom Ta Mao Cow Breeding Farm.
- 6- Conduct experiment and research on poultry breed to extend to the farmers.

7- Monitor and value the implementation of investigation, surveillance and diagnosis.

2.7- Sub-Programme 2.7: Strengthen entity capacity, law enforcement and human resources development in animal production.

Objective: To increase entity management through strengthening the capacity of staff, and law and regulation enforcement.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------------|------|------|------|------|------|
| 1. Number of trained staff and stakeholders | Person | - | 120 | 120 | 120 | 140 |
| 2. Number of staff and stakeholders to be aware the law and regulations enforcement | Person | 50 | 120 | 120 | 120 | 140 |
| 3- M&E and dispute solution | No. of Mission | - | 15 | 20 | 30 | 40 |

Activities:

- 1- Develop and publish the regulation related to the animal health and production.
- 2- Enforcement of law and regulations related to animal production and health.
- 3- Strengthen M&E mechanism and conflict solution related to animal production and health.
- 4- Strengthen technical capacity for the staffs and concerned stakeholders on administrative management affairs, law enforcement and technical norms of animal production and health.
- 5- Support administrative coordination affairs to support the development of livestock production.
- 6- Promote the implementation of law and legal documents on animal health and production sub-sector.

2.8- Sub-Programme 2.8: Strengthen the implementation of policy, strategic development plan and budgeting, and increase effectiveness of animal production support services

Objective: Strengthen capacity of formulation and implementation of policy, strategy, development plan and budgeting of animal production and health, and coordinate works to increase effectiveness of supporting service and evaluation.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------|------|------|------|------|------|
| 1. Number of staff and stakeholders trained | Person | - | 120 | 150 | 150 | 150 |
| 2. Number of M&E mission | Time | - | 30 | 35 | 35 | 40 |

| | | | | | | |
|---|---------------|---|-----|-----|-----|-----|
| 3. Number of concerned stakeholders received policy and strategy dissemination | Person | - | 200 | 250 | 300 | 350 |
|---|---------------|---|-----|-----|-----|-----|

Activities:

- 1- Organize meeting and workshop on animal health and production activities participating by government staff at national and provincial level and concerned stakeholders.
- 2- Bilateral meeting on animal health and production
- 3- Monitoring and evaluation on the implementation of policy, program, strategic development plan in animal health and production, projects funded by development partner, projects funded by budgeting programme and the implementation of regulations relating to programme budgeting.
- 4- Implementation of international animal health standard including the contribution by international organization (OIE).
- 5- Operating support, staff salary, staff hire and supply of machinery and equipment

2.9- Sub-Programme 2.9: Promote technical extension for animal husbandry and health

Objective: To increase the technical extension by disseminating the techniques of animal production, preventing animal diseases and information on animal health and production to farmers and animal producers.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|------|-------|-------|-------|-------|
| 1. Number of trained officials and stakeholders | Person | 100 | 200 | 400 | 600 | 800 |
| 2. Number of livestock communities established | Community | - | 1 | 3 | 3 | 2 |
| 3. Percentage of farmers obtained the animal promotion extension services | % | 500 | 1,200 | 1,200 | 1,200 | 1,200 |

Activities:

- 1- Develop and publish technical documents on animal production techniques, animal diseases and information on the animal health and animal production.
- 2- Conduct dissemination on animal production techniques, animal disease controls and animal production information.
- 3- Strengthen capacity of staff on animal production techniques, animal diseases and information on animal health and production.
- 4- Support the publication of technical printing documents on the animal production technique, animal disease and information on animal health and production.

- 5- Support the operation: transportation, machineries, equipment and tools for dissemination, information collection, education and communication (IEC),
- 6- Establish animal production communities and village animal health workers at local levels.
- 7- Conduct propagandas to disseminate animal health and production at the provinces
- 8- Construct training centers for extension works and dissemination on animal health and production.

2.10 Sub-programme 2.10: Support and promote animal health and production activities of Municipal/Provincial Department of Agriculture (MDA/PDA)

This Sub-programme is the consolidation of cluster of all activities for implementation by 25 MDA/PDA which will contribute to achieve the objective and indicator of Programme 2: *“Promote Animal Health and Production”*

3. Programme-3: Sustainable Fisheries Resources Management

3.1 Sub-Programme 3.1: Strengthening the Community Fisheries (CFi) management and development

Objective: Strengthening the participation and improving the CFi capacity on sustainable fisheries management, conservation and development.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|----------------------|--------------------|------|------|------|------|------|
| 1. Community Fisheries registered | No. of CFi | 360 Accumulate | 377 | 427 | 477 | 516 | 516 |
| 2. Registered CFi strengthened effectively | No. of CFi | 100 | 100 | 100 | 100 | 100 | 100 |
| 3. CFi livelihoods improved and income increased | No. of CFi practiced | 10 | 20 | 30 | 40 | 50 | 60 |

Activities:

1. Preparation of boundary demarcation and map, and related legal documents for registration at MAFF.
2. Prepare CFi agreement
3. Prepare and implement CFi Area Management Plans (CFiAMP), including business plans, to become the CFi model, where no illegal fishing activities (including child labor’s elimination, women enhancement and responding to climate changes).
4. Re-election of CFi committees who are expiration mandate.

5. Admentment of related legal framework for CFi management and development.
6. Establish and improve CFi conservation areas/fish sanctuary zones.
7. Strengthening and Improvement of livelihoods of CFi members.
8. Organizing CFi workshop on the progress of CFi implementation.
9. Strengthening CFi capacity and disseminating fisheries law and sub-decredd on Community Fisheries Management.
10. Coordinate and promote the establishment of fisheries eco-tourism at CFi sites.
11. Coordinate and promote exchange visits on sharing experiences and lessons learnt on CFi management and provide training courses.
12. Monitor and evaluate the effectiveness of CFi management.

3.2 Sub Programme 3.2: Fisheries domain management

Objective: Improving and enhancing the effectiveness of management and development of fisheries domain and fisheries exploitation in order to sustain natural fisheries resources and contribute to the national economy.

Indicators:

| icators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------------|--------------------|-------|--------|--------|--------|--------|
| 1. Flooded forest and mangrove effectively protected and managed) | ha | 200 | 450 | 3,500 | 7,500 | 12,000 | 15,000 |
| 2. Fisheries habitat rehabilitated effectively | km | - | - | 5 | 10 | 15 | 20 |
| 3. Fishers followed effectively the regulations and the uses of fishing gears | No. of fishers | 2,750 | 5,750 | 10,750 | 15,750 | 20,750 | 25,750 |

Activities:

1. Identification of the boundaries of flooded forest and mangrove forest
2. Mapping of of flooded forest and mangrove forest
3. Concrete pole Installation of flooded forest and mangrove forest
4. Study and improve fishery domain, including the promotion of climate change's resilience
5. Study and assess the areas that will permit for developments in fishery domain
6. Extension on the proclamaion of fishing gears and the importance of flooded forest
7. Plan of action to combat illegal unreported and unregulated fishing
8. Monitoring and control on fishing vessels registration applying for fishing

9. Fishing vessels census, Dissemination of the proclamation on technical order for fishing vessels management and fishing vessels logbook
10. Monitoring and evaluation of fishing and fishery domain status
11. Develop action plan for management and improvement of fisheries domain and fisheries exploitation

3.3 Sub Programme 3.3. Promoting aquaculture development

Objective: The supply of fish consumption, export and income generation of household to improve people livelihood and food security .

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|---------------|--------------------|------|------|-------|-------|-------|
| 1. Proportion of fish farmers increased | % | 5 | 10 | 15 | 20 | 25 | 30 |
| 2. Quantity seed of aquatic animals increased | Million heads | 150 | 170 | 200 | 220 | 240 | 260 |
| 3. The number of effective community fish refuge increased | No. | 779 | 896 | 962 | 1,028 | 1,094 | 1,160 |

Activities:

1. Dissemination and follow up of fish culture technique
2. Dissemination and follow up of rice field fish culture technique
3. Dissemination and follow up of the technique of good aquaculture practice
4. Dissemination and follow up of fish feed production technique
5. Dissemination and follow up of fish seed production technique
6. Census on fish famers to develop aquaculture action plan
7. Establishment of community fish refuge
8. Strengthening the capacity of community fish refuge
9. Registration of fish farms

3.4 Sub Programme 3.4: Human resource development and law enforcement

Objective: Improvement of management capacity and strengthen law enforcement in combating illegal fishing practice in order to protect and conserve fisheries resource sustainably.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------|--------------------|------|------|------|------|------|
| 1. Proportion of illegal fishing activities decreased | % | 56 | 40 | 30 | 25 | 20 | 10 |
| 2. Proportion of people received the knowledge on the fisheries law and related legal instruments increased | % | 10 | 8 | 10 | 15 | 20 | 25 |
| 3. Proportion of FiA staff capacity strengthened and effectively work performed | % | - | - | 5 | 10 | 15 | 20 |

Activities:

1. Disseminate fisheries law and related legal instruments, and monitoring & evaluation of the stakeholders' knowledge and law enforcement
2. Control and stopping illegal fishing activities
3. Evaluate the effectiveness of stopping illegal fishing activities
4. Prepare and implement the strategic plan for human resources development in fisheries sector 2015-2020 and assess the staff capacity and work performance
5. Prepare and implement the strategic plan for gender mainstreaming and elimination of the worst forms of child labor in fisheries sector, 2015-2020
6. Prepare and implement the strategic plan for responding to the impacts of climate change in fisheries sector, 2015-2020.

3.5 Sub Programme 3.5: Inland fisheries research and development

Objective: Improvement of scientific research in order to promote the sustainable inland fisheries management and development.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------|--------------------|------|------|------|------|------|
| 1 Research reports on inland fisheries published (including the impacts of hydro-power dam) | No. | 12 | 12 | 13 | 15 | 17 | 19 |
| 2. Stakeholders effectively practiced the bio-ecology monitoring | No. | 500 | 500 | 500 | 500 | 500 | 500 |
| 3. The inland fisheries data and information used | No. | 100 | 110 | 120 | 130 | 140 | 150 |

Activities:

1. Analyse the value change of small prolific fish product include the impact of climate change
2. Conduct research of fish larvae
3. Assessment of inland fisheries product
4. Research on types of inland fishing gears and fish species
5. Providing knowledge on the implementation of the inland bio-ecology monitoring and practices by stakeholders
6. Conduct research of impact the hydro-power dam to fisheries sector
7. Improvement of library capacity and management

3.6 Sub Programme 3.6: Research and development for marine fisheries

Objective: Improvement of sustainable marine fisheries resource management and development

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------|--------------------|------|------|------|------|------|
| 1. . Research reports on marine fisheries published | No. | 2 | 1 | 4 | 5 | 5 | 5 |
| 2. Stakeholders effectively practiced the bio-ecology monitoring | No. | 100 | 100 | 100 | 100 | 100 | 100 |
| 3. The marine fisheries data and information used | No. | 10 | 20 | 40 | 60 | 80 | 100 |

Activities:

1. Monitoring on status of marine fisheries production
2. Reviewing and updating on a marine species identification
3. Impact assessment of the crab bank
4. Training course on marine research methods
5. Study the biology of blood cockle and grouper
6. Study the status of sea grass/coral reef and marine biodiversity
7. Study the status of marine ecology, biology and social livelihood of coastal community
8. Study the possibility area of establishing marine fish refuge in Community Fisheries

9. Assessing the potential of marine fisheries resource to contribute to local coastal livelihoods
10. Awareness raising on the implementation of fish bio-ecology monitoring and practices by stakeholders

3.7 Sub Programme 3.7: Research on aquaculture technology

Objective: Research on aquatic animals seeds and fish culture technique and production in order to supply and support the development of aquaculture technology.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---------------|--------------------|-------|-------|-------|-------|-------|
| 1. New fish species and freshwater prawn Technical researched for quality seed production and farming | No. | 2 | 2 | 8 | 8 | 8 | 8 |
| 2. The quality aquatic animal brood-stock produced | kg | 480 | 1,000 | 3,500 | 3,500 | 3,500 | 3,500 |
| 3. The quality fish and freshwater giant prawn seed produced | million heads | - | 10 | 20 | 30 | 40 | 50 |

Activities:

1. Research on nursuring of *H-wyckioides* and *Cyclocheilichthys enoplos* brood-stock
2. Research on nursuring of seabas and grouper
3. Produce a quality of fish and freshwater giant prawn seed
4. Research on feed for the quality production of brood-stock and fish seeds
5. Transfer new technology and distribute fish seed, brood-stock fish and giant prawn to fish farmers and fish seed producers
6. Release fish fingerling/seeds, giant prawn and brood-stock to natural water bodies or CRF
7. Train NARDI officers through in-door and out-door trainings

3.8 Sub Programme 3.8: The improvement of fisheries value chains

Objective: Improvement of quality and safety of fishery product in order to protect public health and promote exportation.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------|--------------------|------|------|------|------|------|
| 1. Processors and stakeholders effectively applied the good hygienic practices (GHP) and good products by | No. | 210 | 250 | 250 | 250 | 250 | 250 |
| 2. Stakeholders received the sufficient information on fish processing technology | No. | 300 | 300 | 300 | 300 | 300 | 300 |
| 3. Number of processing sites registered for certifying the quality and control on GHP and good products | No. | 15 | 15 | 15 | 15 | 15 | 15 |

Activities:

1. Prepare a strategic plan for the fisheries post-harvest management and development
2. Strengthen the institutional capacity on providing service relating to safety, quality and fishery products
3. Construct a laboratory and equip lab materials for analyzing on safety of fisheries products
4. Prepare related legal instruments and strengthen the implementation of management, safety and quality of fisheries products
5. Provide training course on sanitation and good practice of production chain, including climate change
6. Disseminate on safety, sanitation, processing technology, transportation, wrapping and preserve of fishery product
7. Register fish processing sites, where have been applied the good hygienic practices and good fisheries products
8. Inspector and control safety, quality of import and export of fishery product
9. Extend market for fishery products in order to improve the exportation
10. Disseminate and practices on the standard of Prohok, Dried fish, frozen shrimp and main necessary standards by fish processors

3.9 Sub-Programme 3.9: Protection and conservation of fisheries resources

Objective: Ensuring fisheries resources through protection and conservation to contribute for sustainable fisheries utilization and management.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------|--------------------|------|------|------|------|------|
| 1. The quantity of each endangered species increase | % | 3 | 5 | 8 | 10 | 12 | 15 |
| 2. Number of fisheries protected and conservation areas effectively managed | No | 31 | 40 | 50 | 65 | 70 | 75 |
| 3. The quantitative fisheries biology in the replanted flooded forest/mangrove areas increased | % | 3 | 5 | 8 | 10 | 12 | 15 |

Activities:

1. Reforestation of flooded forest and mangrove to increase fisheries resources
2. Public awareness on importance of fisheries habitat and endangered fisheries resources
3. Establishment and improvement of coastal fisheries conservation areas
4. Establishment and improvement of freshwater fisheries conservation areas
5. Protection and conservation of Makong Dolphin and Endangered fisheries resources
6. Research on fisheries biodiversity in the Marine Conservation Area and reforestation areas of flooded forest and mangrove

3.10 Sub-Programme 3.10: Improving the implementation of fisheries strategic development

Objective: To manage, conserve and develop the fisheries sector through promoting the effectiveness of SPF implementation .

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------|--------------------|------|------|------|------|------|
| 1. Proportion of the activities of the SPF implemented successfully | % | 80 | 90 | 90 | 90 | 90 | 90 |
| 2. Proportion of the implemented activities monitored and evaluated | % | 5 | 10 | 20 | 30 | 40 | 50 |

Activities:

1. Prepare the progress report of 3 years' implementation of Strategic Planning Framework (SPF) of the Fisheries sector 2011-2013
2. Update of strategic planning framework for the fisheries sector
3. Prepare the annual fisheries action plan (national and sub-national)
4. Collect data and fisheries statistics through staff capacity building and practices
5. Monitoring and evaluation of the annual action plan's implementation
6. Prepare the related legal instruments for export and import of fisheries production

3.11 Sub-Programme 3.11: Governance and Operation of FiA

Objective: Facilitate to improve the uses of budget and expenditure, particularly on effective necessary supplies.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------|--------------------|------|------|------|------|------|
| Proportion of budget implemented effectively | % | 95 | 98 | 98 | 98 | 98 | 99 |

Activities:

1. Fuel and oil supply, administration cost and cloth expenditure
2. Supporting to the expenditure for food and agricultural production (fish feeding)
3. Facilitate the payment of the minor materials, furniture, logistics, electricity, clean water, maintenance and repairing services
4. Facilitate the payment for research experiment, services and usage rights
5. Facilitate the payment for public communication, extension and information, documentation for disbursement expenses
6. Facilitate the payment for communication services (telephone...)

4. Programme-4: Sustainable Forest Resources and Wildlife Management

4.1- Sub-Programme 4.1: Forest development and management and community forestry

Objective: To manage and develop forest resources through demarcation of permanent forest boundary, secure land registration, increase number of community forestry, and promote livelihoods of community.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------------|--------------------|------|------|------|------|-------|
| 1-Length of permanent forest boundary demarcated | Km | 97 | 350 | 455 | 592 | 769 | 1,000 |
| 2-Number of forestry community established and strengthened | No. of community | 54 | 32 | 32 | 32 | 32 | 32 |

Activities:

- 1- Demarcate permanent forest boundary, classify forest permanent for registration, and classify forest by function,
- 2- Conduct training on Mapping and GIS,
- 3- Conduct training on forest inventory technique for assessment of carbon storage
- 4- Conduct dissemination on guideline on pole concrete of permanent forest boundary, and disseminate the importance of watershed,
- 5- Regulate and establish community forestry, sign agreement, formulate community forestry development plan,
- 6- Conduct law awareness on enforcement and forest governance, strengthen community capacity in community management,
- 7- Conduct training on forestry resources inventory assessment, forestry resource and status assessment for landscape designation,
- 8- Identify potential areas of forest resource for local use,
- 9- Conduct training on data completion of PB-M&E forms and MAR-SFM
- 10- Strengthen capacity on forestry administration for forestry management planning, national forest action plan, and facilitate in planning for MAR,
- 11- Conduct awareness on forest fire protection, publish signboards and administrative letters.

4.2- Sub-Programme 4.2: Develop forest plantation and forest cultivation

Objective: To reforest and restore forest on degraded forest land for economic, social, and environmental benefits.

Indicators:

| Indicator | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------------|--------------------|--------|--------|--------|--------|--------|
| 1. Forest Plantation Areas (State and private partners) | Ha | 17,950 | 20,280 | 22,300 | 24,500 | 27,000 | 29,700 |
| 2. Seedling plants produced | Thousand plants | 8,100 | 10,000 | 10,000 | 10,600 | 10,000 | 10,000 |

Activities:

- 1- Plant new forest and maintain old forest plantations from the first year to the fifth year.
- 2- Produce seedling plants for distribution to local people.
- 3- Organize Forest Day in the whole country.
- 4- Organize and restructure forest nursery.
- 5- Develop genetic resources.
- 6- Implement agro-forestry and maintain demonstrated agro-forestry lots.
- 7- Prepare materials for forest plantations and Mapping forest plantations.

4.3- Sub-Programme 4.3: Wildlife and bio-diversity conservation

Objective: To increase wildlife conservation, forest protected area management, promote public service delivery through natural tourism arrangement.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|--------|--------|--------|--------|--------|--------|
| 1. Protected and conserved areas of wildlife have been strengthened and expanded (1.50 million ha in 2012) | ha | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| 2. Identified Natural tourist areas | Region | 1 | 1 | 1 | 1 | 1 |

Activities:

- 1- Enforce the management of forest protected and wildlife conservation areas.
- 2- Develop action plan for forest protected and wildlife conservation areas management. (Forest protected and wildlife conservation areas have been expanded about 50,000 ha/year).
- 3- Conduct study and research, and identify potential forest areas for natural tourism.
- 4- Conduct study and research on main wildlife species.
- 5- Conduct public awareness on wildlife business prevention and protection.
- 6- Conduct registration of wildlife raising.
- 7- Conduct monitoring on wildlife production farm and animal zoo.
- 8- Protect the forest.
- 9- Conduct training and dissemination on bio-diversity.
- 10- Organize and participate in diverse meetings (local and international) for strengthening wildlife and biodiversity.

4.4- Sub-Programme 4.4: Saving, restoring bio-diversity, breeding, and releasing wildlife

Objectives: To preserve and protect endanger wildlife, forest, and bio-diversity through saving, breeding, educating, and tourist service to ensure the economic, social, and environmental sustainability.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------|--------------------|-------|-------|-------|-------|-------|
| 1. Number of saved and cared wildlife | Head | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| 2. Percentage of saved wildlife released | % | 50 | 30 | 30 | 30 | 30 | 30 |

Activities:

- 1- Develop safety gates of zoo and Tamao Saving Wildlife Center.
- 2- Supply water and transportation.
- 3- Supply animal feed.
- 4- Rescue and take care of wildlife.
- 5- Make biological cage of bird.
- 6- Support operation, supply administrative aid and energy, and provide maintenance.
- 7- Improve wildlife biology and release.
- 8- Conduct public awareness on forestry and wildlife environment.
- 9- Prevent the forest fire.

4.5- Sub-Programme 4.5: Management and development of forest industry, trade, and international cooperation

Objective: To manage and develop forest industry and trade aiming to increase quality of products for compliant with the market demands, and national and international cooperation as well as to increase knowledge of REDD implementation.

Indicators

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|-----------|--------------------|------|------|------|------|-------|
| 1. Number of processing woods and NTB | 000 m3 | 16.50 | 18 | 20 | 22 | 24 | 26.50 |
| 2. Number of meetings and trainings regarding REDD mechanism and international cooperation | Time/year | - | - | 27 | 27 | 27 | 27 |

Activities:

- 1- Develop action plan, budget plan, and strategic plan for management of forest industry and trade, and international cooperation,
- 2- Establish data management system and update forest industry,
- 3- Study and research processing technique of products and NTP, and update,
- 4- Establish data management system and update forest trade,
- 5- Develop logbook and registration of products and NTP for local use, export, and transit,
- 6- Study and update price of timber in local and international markets,
- 7- Disseminate market information for local community, private sector, and producers,
- 8- Coordinate and increase international cooperation with ASEAN and WTO, follow up MOU, agreements, and national convention related to forestry,
- 9- Conduct national and sub-national workshops and training on climate change, and REDD mechanism,
- 10- Produce materials for dissemination and public awareness (Posters, guidebooks on REDD+ and climate change),
- 11- Conduct consultation workshop with stakeholders on REDD+ strategy, and other related policies,
- 12- Conduct monitoring and evaluation on REDD+ implementation with partner organization.

4.6- Sub-Programme 4.6: Strengthening research capacity in forestry sub-sector

Objectives:

- To strengthen research capacity in forest management, rehabilitation, and conservation,
- To increase capacity and train HRD in forestry sub-sector,
- To disseminate and promote public awareness on forest resources benefits.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|----------|--------------------|------|------|------|------|------|
| 1- Number of trained people | Man/year | 120 | 200 | 220 | 240 | 260 | 280 |
| 2- Number of legal norms and forest benefits dissemination | Course | 0 | 1 | 10 | 15 | 20 | 25 |
| 3- Number of forest and bio-diversity research projects | project | 0 | 1 | 2 | 4 | 6 | 8 |

Activities:

- 1- Conduct training on forest management and conservation,
- 2- Replace planting and forest plantation maintenance,
- 3- Create research lots of climate change adapted plants, and pilot planting local forest species adapted climate change,
- 4- Conduct annual technical training to forest staff,
- 5- Establish forest research and rehabilitation stations at forestry cantonments,
- 6- Develop new technology projects and programs related to climate change in forestry sub-sector,
- 7- Collect and conserve tree seeds especially endangered tree seed.

4.7- Sub-Programme 4.7: Strengthen law enforcement to protect the forest in a sustainable manner**Objectives:**

- To increase awareness on forestry law and regulations to people and related stakeholders,
- To prevent and suppress forest and wildlife offenses and forest land encroachment for protecting the forest in a sustainable way,
- To manage properly and effectively the forest and wildlife offenses and forest land encroachment database.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------------------|------|------|------|------|------|
| 1. Strengthen law enforcement to combat the forest offenses | Time (Suppression) | - | 175 | 200 | 225 | 250 |
| 2. Examine and verify forest offense tools registered in the forest land offenses | Case | 200 | 150 | 150 | 100 | 100 |

Activities:

- 1- Prepare, compile and publish the action plan and annual budget plan.
- 2- Conduct meetings (national and provincial).
- 3- Conduct training and dissemination on legal norms and technical documents related to forest.
- 4- Enforce the law implementation at the local level.
- 5- Develop posters, mapping, and demarcate seized forest land boundary.
- 6- Prepare, compile and publish reports and other documents.
- 7- Conduct monitoring and follow up on grabbed forest land.
- 8- Follow up and verify information, and let the local forest administration to take further actions.
- 9- Create non-paid mobile phone and SMS systems to get information from public people.

- 10- Check and verify files and logistics of forest, wildlife, and forest land offenses.
- 11- Develop data and information management system for forest, wildlife, and forest land offenses.
- 12- Conduct filed investigation and taking action on forest offenses.
- 13- Compile and publish legal norms and regulations related to forestry sub-sector.
- 14- Prevent and suppress forest and wildlife offenses and land encroachment at local forestry administration.
- 15- Conduct monitoring and evaluation of PB implementation at local forestry administration.

4.8- Sub-Programme 4.8: Increase effectiveness of plan implementation and budget management of Forestry Administration

Objective: Strengthen accountability and transparency of budget management and the implementation and forestry and wildlife strategic development plan.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------|--------------------|------|------|------|------|------|
| 1- Number of implemented activities by sub-program | % | 50 | 60 | 65 | 70 | 75 | 80 |
| 2- % of budget execution | % | 90 | 94 | 94 | 96 | 97 | 98 |

Activities:

- 1- Conduct public awareness to local communities on forest benefits and policy, and gender mainstreaming to community forestry,
- 2- Manage and file forestry documents through data management system, and conduct dissemination on research and technical documents (www.forestry.gov.kh), update and upload forestry papers into website, and compile forest statistic books,
- 3- Conduct assessment on the implementation of action plan, program budgeting, strategic plan, and annual plan, set priority and formulate program, sub-program, and projects collaboration with line departments of FA,
- 4- Conduct monitoring and evaluation on the implementation of program budgeting,
- 5- Review, analyze, and update M&E data in website, collect and update information for ASEAN website (www.arnk.fpd.org),
- 6- Conduct analysis and assessment on the effectiveness of PB implementation, and design progress report.

5. Programme-5: “Strengthening institutions, improving the efficiency of supporting services and develop human resource in agricultural sector”

5.1. Sub-Program 5.1: Enhancement of policy planning formulation and implementation and increase agricultural investment

Objective: Improve the capacity on policy formulation and implementation, budget plan, strengthen statistical information system, agricultural marketing, PIP management and private investment.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------------------------|--------------------|-------|-------|-------|-------|-------|
| 1. % of activity implementation for PB | Percentage | 92 | 93 | 94 | 95 | 95 | 95 |
| 2. Numbers of sample of paddy crop cutting survey | Thousands of sample | 7.00 | 12.50 | 30.00 | 35.00 | 85.00 | 60.00 |
| 3. Numbers of SMS used for agricultural market information | Thousands of SMS/ year | 18.50 | 21.00 | 22.00 | 23.00 | 24.00 | 25.00 |

Activities:

1. Training on utilization of management system for public investment program (PIP).
2. Training on capacity improvement of PIP management system and maintenance.
3. Strengthen capacity on Economic Land Concession (ELC) data management (17 targeted provinces).
4. Training on GPS & GIS system utilization of ELC (17 targeted provinces).
5. Conduct monitoring on implementation of provincial department of agriculture in target provinces to promote monitoring and evaluation of ELC.
6. Develop ELC mapping and bulletins.
7. Formulate long term master plan for agricultural development (20 years).
8. Formulate agricultural sector strategic development plan 2014-2018.
9. Training on annual budget strategy, Budget Strategic Plan (BSP) and Programme Budgeting (PB) preparation for central staff.
10. Training on annual budget strategy BSP and PB preparation for provincial staff.
11. Conduct monitoring and verification of paddy seed stock at Provincial Departments of Agriculture (PDA).
12. Conduct field monitoring and evaluation of projects and PB implementation.
13. Organize workshops to assess of mid-term result-based PB implementation.
14. Conduct training on PB monitoring and evaluation.
15. Organize workshops on output evaluation of annual PB implementation.
16. Publish annual report of result-based PB implementation.
17. Organize assessment workshops to evaluate the situation agricultural production.

18. Conduct crop-cutting survey (rice yield).
19. Conduct crop-cutting survey (permanent crops).
20. Conduct survey on crop production costs.
21. Training on survey methodology/agricultural statistics.
22. Compile and publish annual agricultural statistics bulletin.
23. Conduct nation-wide agricultural commodity price collection.
24. Compile and publish agricultural market price bulletin.
25. Disseminate agricultural market price bulletins through SMS & Website.
26. Conduct monitoring on agricultural market price information collection.
27. Training workshop on agricultural market price information by using SMS (Short Message Service-through mobile phone).
28. Conduct performance assessment for rice import and export movement.
29. Training workshop on agricultural market information for TOT staff.
30. Training workshop for Farmer Marketing School (FMS).
31. Conduct study on cassava production and market.
32. Conduct study on vegetable supply and demand in Phnom Penh markets.
33. Training on environmental impact assessment.
34. Conduct monitor and evaluation of reserved land area in ECL.

5.2. Sub-Program 5.2: Increase efficiency of budget management and execution

Objective: “Improve efficiency and effectiveness of budget preparation and execution”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------|--------------------|------|------|------|------|------|
| 1. Percentage of computerized financial accounting users | % | 20 | 30 | 40 | 50 | 60 | 70 |
| 2. Percentage of budget execution | % | 93 | 94 | 95 | 96 | 97 | 98 |

Activities:

1. Conduct training on budget preparation, budget execution, procurement legislation and state property management.
2. Organize the training courses for technical staff of Department of Accounting and Finance (DAF) in financial management.
3. Control and strengthen staff capacities on procurement procedure and budget execution for provincial staff.
4. Build capacity of accountant and financial officers at provincial level on cost estimation for supporting budget preparation.
5. Build staff capacity of Provincial Department of Agriculture (PDA) officers on accounting and financial statement preparation.

6. Install IT-financial accounting management program for PDA.
7. Conduct training on IT-financial administration management system for central and provincial staff.
8. Control and strengthen revenue management collected by provincial staff (municipal-provincial departments of agriculture).
9. Monitor and promote budget implementation of line departments under MAFF.
10. Operate financial management IT system.
11. Collect economic land concession revenue.
12. Monitor and check state property inventory of all entities of MAFF.
13. Conduct assessment and clearance of state properties.
14. Monitor, check and collect revenue from entity of MAFF.
15. Monitor and check accounting and financial books by entity of MAFF.
16. Monitor and close annual accounting and financial books by entity of MAFF.
17. Join monitoring and evaluation with individual and inter-ministries, and others.
18. Compile and publish legal documents on accounting and financial management and overhead cost.
19. Identify the new revenue source from entities of MAFF.
20. Cooperate and facilitate project implementation which carried out by line departments under MAFF, supported by development partners.
21. Strengthen financing management and project execution with development partner.

5.3. Sub-Program 5.3: Strengthening institutional management and human resource development

Objective: “To enhance institutional management and human resource development with effective, efficient, transparent and accountable manners”.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|----------|------|------|------|------|------|
| 1. Number of workshops organized for strengthening institution’s capacity | Workshop | | 4 | 4 | 4 | 4 |
| 2. Number of monitoring and evaluation on official management/collecting data of agricultural officials for establishing HRMIS | Times | | 54 | 51 | 51 | 51 |
| 3. Number of officers trained (Domestic and overseas) | Officers | 453 | 425 | 545 | 715 | 735 |

Activities:

1. Organize workshops on functioning review and management of entities.
2. Organize consultative workshops on the discussion of the formulation of human resource management strategy plan.

3. Collect staff data and personnel information for preparation of human resource management information system.
4. Develop human resource management system through IT system.
5. Training on the utilization of human resource management information system (HRMIS).
6. Monitor and evaluate staff management by entities under MAFF.
7. Training on staff capacity building for improving human resource management.
8. Develop and implement HRD cooperation with overseas institutions and nominate staff to participate local and oversea trainings.
9. Formulation of human resource policy and strategic development plan

5.4. Sub-Program 5.4: Improve the efficiency of internal audit affairs

Objective: “Promote auditoriums to be responsible for their duties and work effectiveness through strengthening internal audit system”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------|--------------------|------|------|------|------|------|
| Percentage of auditor’s recommendations implemented by auditorium. | % | 60 | 65 | 67 | 70 | 73 | 75 |

Activities:

1. Conduct internal audit for entity of MAFF.
2. Monitor the recommendation implementation of auditorium.
3. Organize workshop on dissemination of law, roles and responsibilities of internal audit.
4. Conduct training on internal audit technique.

5.5. Sub-Program 5.5: Enhancing capacity and efficiency of international cooperation affairs

Objective: “Enhance the efficient cooperation capacity and management, monitoring and evaluation on international cooperation for sustainable agricultural development”

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------|--------------------|------|------|------|------|------|
| 1. Number of meeting in and outside the country | Meetings | 40 | 70 | 70 | 70 | 70 | 70 |
| 2. Number of training on relevant data system | Courses | 4 | 5 | 7 | 8 | 9 | 9 |
| 3. Monitor the cooperation projects and NGO activity’s implementation | Times | 10 | 25 | 30 | 35 | 35 | 35 |

Activities:

1. Join meetings in the framework of ASEAN, ASEAN plus, FAO and UNCCD, as well as bilateral and multilateral parties.
2. Host a numbers of ASEAN, ASEAN plus, DPs, and NGOs meetings; and organize meeting on agricultural commercialization discussion.
3. Organize workshop and training on the preparation of joining ASEAN economic integration, commercial procedure, technical standard, international relation, and project monitoring and evaluation.
4. Conduct monitoring and evaluation of project implementation under MOU, memorandum protocol, and NGOs projects.
5. Develop project management information system under PDs funding and NGOs operation.
6. Organize World Food Day and World Day.
7. Translate and publish documents related to WTO and bilateral and multilateral cooperation into national language.

5.6. Sub-Program 5.6: Strengthen efficiency of law enforcement of agro-chemical and fertilizer management

Objective: “Ensure sustainable agro-chemical and fertilizer management and enhancement of public awareness in safe management and trade”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|--------------------|----------------------------|-------------|-------------|-------------|-------------|-------------|
| 1. Officers, local authorities, and traders trained in input management | Participant | 500 | 650 | 750 | 850 | 950 | 1000 |
| 2. Depots where sold agricultural input in 15 target provinces are controlled and advised | Depots | 375 | 450 | 600 | 715 | 800 | 875 |

Activities:

1. Conduct inspection of agricultural fertilizers and chemicals Depots and disseminate regulations related to Law on Management of Agricultural Chemical and Fertilizers in 15 provinces.
2. Organize the training workshops for technical staff on the capacity strengthening on legal regulations awareness and Law on Management of Agricultural Chemical and Fertilizers.
3. Conduct the workshops for traders on Law on Management of Agricultural Chemical and Fertilizers and related Sub-Law dissemination.
4. Disseminate through video clips on Law on Management of Agricultural Chemical and Fertilizers.
5. Conduct quality analysis on chemicals sample.

5.7. Sub-Program 5.7: Strengthening administration affairs, gender mainstreaming and childhood development

Objective: “Strengthen administration’ capacity for MAFF staff to execute timely and effectively and promote gender mainstreaming and childhood development in agricultural sector”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------|--------------------|------|------|------|------|------|
| 1. Number of staff received training on general administrative affair | Officers | | | 30 | 40 | 60 | 80 |
| 2. Number of staff, farmers, received training on gender mainstreaming in agricultural production in the province | Officers | 300 | 300 | 300 | 300 | 300 | 300 |

Activities:

1. Facilitate administrative activities of ministry at central level and fundamental entity under ministry and between ministries and government institution.
2. Gather requirement for expenditure, management, building utilization, vehicles, materials of entities attach to ministry.
3. Finalize work report and other activities of ministry.
4. Strengthen capacity of gender work, education and extension, and gender mainstreaming in agricultural sector.
5. Educate and extent children development and protection in agricultural sector.

5.8. Sub-Program 5.8: Improve effectiveness of inspection in agricultural sector

Objective: “Strengthen and improve implementation on law and other legal documents to reduce in inactivity of entities under the supervision of ministry”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------|--------------------|------|------|------|------|------|
| 1. Number of entity monitored | Entity | 24 | 26 | 28 | 30 | 32 | 34 |
| 2. Number of officers trained each year | Officers | | 30 | 32 | 34 | 36 | 40 |
| 3. Entity implemented recommendations | Entity | 5 | 13 | 14 | 15 | 16 | 17 |

Activities:

1. Inspect at entities to be inspected and identify complaints in the framework of agricultural works.
2. Monitor management, legal implementation and other regulations of entity under ministry supervision.
3. Organize regular trainings for inspecting officials.
4. Establish instruction guidelines, regulating and appreciating letter and strengthen the tasks of entities already inspected.
5. Supply administrative service; maintain physical infrastructure, equipment, methods and petroleum for inspection, research instruction and regulation.

5.9. Sub-Program 5.9: Agricultural documentation and information system management

Objective: “Strengthen IT networks for officials studying internet and library management system to extent and manage agricultural documents via electronic system”.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|---------|------|------|------|------|------|
| 1. Network system in ministry compound | system | 0 | 3 | 3 | 3 | 3 |
| 2. Website for entity under ministry supervision and agricultural provincial departments | website | 0 | 6 | 8 | 8 | 8 |

Activities:

1. Establish internet and intranet network and maintenance in ministry compound.
2. Establish website for entity under supervision of Ministry of Agriculture and provincial level.
3. Codify and maintenance documents in the library.
4. Strengthen capacity of national officials and provincial officials on information technologies and website.

5.10 Sub-Program 5.10: Strengthen education quality and human resource training on agricultural techniques at Royal University of Agriculture

Objective: “To strengthen training quality, actual implementation & practices and research of scientific techniques and build educational infrastructure”.

Indicators:

| Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|---------|------|------|------|------|-------|
| 1. Student trainings at all level | Student | 800 | 850 | 900 | 950 | 1,000 |
| 2. Research and scientific development project developed | Project | 10 | 10 | 10 | 10 | 10 |
| 3. Number of infrastructure to be established | Number | 1 | 1 | 1 | 1 | 1 |

Activities:

1. Train students on agricultural technical skill for agriculture development, prepare exchange programs in country and oversea, establish full time senior bachelor degree and doctor degree.
2. Research and extent new innovation to increase agricultural production and enhance rural living and technical education for implementers.
3. Review job situation of students after graduate.
4. Organize scientific workshops, train officers, professors and lecturers.
5. Develop human resource plan, update study program, establish short and long term programs, establish new skills as required by market and increase direct implementation of students at each institutes.
6. Further improve and develop support services, equip tools for research and direct implementation.
7. Establish good environment for student's study through distributing support services and infrastructures (equip computer and internet, increase numbers of book for research in library, strengthen short activities, adjust and equip experiment tools, strengthen health care service, canteen service, construct more rooms and strengthen fire safety....)
8. Establish monitoring and evaluation system for administrative and scientific affairs.
9. Establish and implement associations of former students.
10. Create the advertisement programme for attracting students.
11. Establish scientific extension forums for users and concerned stakeholders.

5.11. Sub-Program 5.11: Strengthen education quality and agricultural training techniques at Prek Leap National School of Agriculture

Objective: “Strengthen human resource training and educational capacity on agricultural, social science sector and other relevant fields, based on university fundamental standard both quantity and quality”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---------|--------------------|-------|-------|-------|-------|-------|
| 1. Number of students trained each year | Student | 1,400 | 1,263 | 1,600 | 1,900 | 2,000 | 2,200 |
| 2. Number of officers trained each year | Officer | 15 | 25 | 30 | 30 | 30 | 30 |
| 3. Research project | Project | 2 | 3 | 3 | 4 | 4 | 4 |

Activities:

1. Implement student training program, choose students in each year, lead students, prepare advertisement to attract students and process evaluation on graduated students.
2. Further improve study program, prepare actual implementation in study program, and prepare evaluation mechanism on study.
3. Organize scientific workshops and establish media campaign.
4. Build up technical capacity of staffs and professors, equip instructing equipment and distribute materials for implementation.
5. Organize cooperation and research works on projects to expand researching affairs and prepare trainings to build up students' capacity.
6. Educate and support sport activities.
7. Research on the requirement of student for developing curriculum responding to the needs.
8. Prepare internal relation network, further improve IT system in National School and prepare internal legal documents.
9. Develop educational plans for utilization in National School.
10. Establish and maintain infrastructure in National School especially further improve water and electricity systems.
11. Construct infrastructure at research station of National School.

5.12. Sub-Program 5.12: Strengthen educational quality system and human resource of Kampong Cham National School of Agriculture

Objective: “Enhance management effectiveness and capacity training in human resource in agricultural sector to responds to training requirement in consistent with agricultural labor”.

Indicators:

| Indicators | Unit | 2013 (Achieved) | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|---------|--------------------|------|------|------|------|------|
| 1. Students finish training | Student | 320 | 320 | 350 | 350 | 400 | 400 |
| 2. Officers and professors graduate Master level | Officer | 45 | 5 | 5 | 5 | 5 | 5 |
| 3. Officers and professors graduate PhD level | Officer | 9 | 2 | 2 | 2 | 3 | 3 |
| 4. Farmers received training | Farmer | 350 | 350 | 500 | 500 | 500 | 500 |

Activities:

1. Teach students based on study program, lead them for study tour, prepare programs for researching and implementing, and training on use of IT system and implement physical education and sport.
2. Train professors for capacity building on professional skills, and how to teach, further improve officers and teachers' capacity on language and computer skills.
3. Organize workshops on further improvement of study program, compile technical document of agriculture for sharing.
4. Establish committee for strengthening professional qualification to evaluate the skills and teaching capacity.
5. Organize meetings of advisory board.
6. Compile and publish technical information bulletins of agriculture, further improve IT system and share school's activities via Website.
7. Organize and implement full security protection in laboratory.
8. Train agricultural technique to farmers.
9. Organize public forum for students, establish a forum that illustrates the skills of students in Kampong Cham National School of Agriculture to the public especially employee and technicians.
10. Organize graduate exam for associate degrees, organize thesis defense presentation of bachelor degree.
11. Equip equipment and study tools, strengthen the security system, equip experiment equipment, chemicals, and other analysis equipment, equip computers for teaching IT system.
12. Construct and maintain the building of administration office, buildings of stations, construct and maintain wall around experiment station for 10 hectare, decorate study buildings and computer buildings, organize a suitable library, organize dormitories for students who wish to stay at the station.
13. Organize and provide transportation and communication for the operation of the station.

5.13 Sub-Program 5.13: Support by Municipal/Provincial Department of Agriculture for Programme 5

This Sub-Programme is the consolidation of cluster of all activities for implementation by 25 MDA/PDA which will contribute to achieve the objective and indicator of Programme 5: *“Strengthening institutions, improving the efficiency of supporting services and develop human resource in agricultural sector”*.

G. Strategic Framework for Cross Cutting Issues

(1) Strategic Framework for Climate Change in Agriculture Sector

The climate change has been considered a major issue which resulted strongly impact to the global livelihood and this was made attraction from national and international institutions to establish the effective mechanism for climate change adaptation and also reduce the activities which led to negative impact on environment in order to maintain the sustainable development. This mechanism was nationally and internationally implemented for solving this issue which maintained natural environment. It is recognized that the issues affected to the development of agriculture sector including the change of temperature, seasonality, rainfall regime, flooding, drought, earthquake, and storm etc. In addition, a number of human activities, such as illegal loggings, in-appropriate cultivation practices etc. led to change the climate as well.

In response to this challenge, 1992 UNCED (United Nation Conference for Environment Development) released the UN Framework for Climate Change to cope with the greenhouse gas emission. In order to effectively implement, KYOTO Protocol launched in 2005 for reducing the high temperature, i.e. reduced greenhouse gas emission by 2.5% of the level emitted in 1991. In this connection, a vision of ASEAN Community 2020 was also defined to move “A Clean and Green ASEAN” and as a result, ASEAN Multi-Sector Framework on Climate Change adopted in 2009 for coordinating the formulation and implementation of Climate Change Adaptation and Mitigation Strategy. A Core Environment Programme of Great Mekong Sub-Region has been implemented for reducing the climate change impacts and improving natural environment.

In Cambodia climate change context, the Royal Government of Cambodia strongly considered the climate change impact and accelerated the implementation to cope with the negative impacts by climate change. The National Action Plan for Climate Change Adaptation and Mitigation was approved and implemented in 2006. In order to fully implemented, the Royal Government of Cambodia established a National Committee for Climate Change Management (Sub-Decree No. 99 dated 18, August, 2010) for coordinating and reviewing the implementation of climate change policy and strategy in order to response to the climate change issue, contributing to the environment and natural resource protection.

The vision of the Ministry related to climate change is: “Cambodian agriculture sector continued to improve food security and safety, economic growth and sustainable environment through the implementation of climate smart policy contributing to sustainable and green development, especially to assist the rural communities and vulnerable population”.

The main goal of this strategic plan is to “Contribute to reduce negative impacts on agricultural production, livestock farming, forestry and fisheries caused by climate change for restoring losses and damages through the increases of intervention measures for climate change adaptation and mitigation”.

The objectives of this strategic plan are:

1. To enhance human and institutional capacity in developing new technology of rubber seed, animal production, forestry, fishery and tolerance to flood and drought, salinity water, disease and insect devastation against crops and animals.
2. To enhance capacity to farmers with new technology in coping with climate change.
3. To reduce GHG emission from the loss and forest degradation through forest restoration, animal production, crop production, and to encourage for sustainable forest management in particular forest community development, renewable energy (biomass) and appropriated agricultural technology.
4. development and enhance the effectiveness of fishery management through water ecological improvement, protected flooded forest and mangrove forest, increase research development on aquaculture and post-harvest processing and to continue strengthening capacity of the fishery community.
5. Capacity development strengthening on crop production, rubber, livestock, forestry and fishery through trainings, awareness raising, exchange visits in relation to climate change and the process of global warming.

(A) Strategic Measures for Agriculture and Agro-Industrial Development:

In order to achieve the sustainable development for agriculture and agro-industry in the context of climate change as well as clean development, the following strategic measures needed to be addressed:

1. Improve agricultural productivity to ensure food security and farmers' livelihood improvement through an increase of crop & agro-industrial production, at 10% per year by promoting intensification, diversification adapted to the ecological environment and increase the adaptation and mitigation capacity for rural communities.
2. Strengthen scientific and technical research capacity for developing new innovation and technology related to climate change adaptation and mitigation in agricultural and agro-industrial production.

3. Promote low GHG emission in agriculture through sustainable natural resource management, carry out climate smart agriculture practices for contributing to enhance a community that resilience to climate change.
4. Strengthen technical capacity in coordination, natural calamity intervention, human resource development, policy development and mainstream climate change issues in agricultural education, and technology transferring on climate change to concerned stakeholders.
5. Increase technical capacity and responsibility for agricultural entrepreneurs in relation to climate change mitigation, reduce negative impact and vulnerability response to climate change for achieving sustainable social and environmental benefit.

(B) Strategic Measures for Rubber Development:

- 1) Enhance natural rubber seed production with more sustainable manner by focusing on adaptation and mitigation.
- 2) Promote the new rubber clones adapted to climate change and suitable for production in the context of Cambodian ecological environment, reducing the rubber seed imported.
- 3) Promote the study and research on the impact of climate change on rubber production and identify the possibility of carbon credit from rubber development.
- 4) Build staff capacity for implement activities responded to climate change impact on rubber production and establish climate change modelling, cropping pattern by production zones.
- 5) Increase technical capacity on Good Agricultural Practices (GAP) in rubber production, climate change impact awareness and adaptation measures through the improvement of rubber producers' capacity, especially land preparation, seed selection, cover cropping, and the proper use of fertilizer and chemicals.
- 6) Increase the efficiency of input use in rubber processing, rubber wood through the economical and efficient use of processing inputs, the use of renewable energy, bio-energy, and the proper management of waste.

(C) Strategic Measures for Livestock production and Development:

1. Promote the livestock production that responded to adapt and mitigate the climate change impact by changing production technology, especially the integrated livestock and farming production.
2. Develop appropriate technology and innovation in production system to adapt climate change, especially animal breeding, feed improvement and animal health.
3. Strengthen technical capacity and extension services to producers through the improvement of institutional capacity, staff capacity development as well as livestock producers for increasing the Good Animal Production Practices which adapted to climate change.

4. Provide intervention and rescue for livestock producers affected by natural calamity caused from climate change.
5. Improve the feed management and animal feeding through the change of feeding techniques which led to reduce methane for mitigating the climate change issue.
6. Improve the grass management for livestock production that contributing to GHG emission by applying the rotation of grass zones for feeding livestock, integrating the new grass seed as well as the legume into the natural grass zones for increasing the stock of carbon and azote in the soil.
7. Improve the animal waste management and establish bio-digester that contributing to reduce the GHG emission.
8. Strengthen the implementation of law and regulations related to livestock production and health and further implement the Climate Change Strategic Plan in connection to the livestock development.

(D) Strategic Measures for Forestry Sector:

1. Increase efficiency in forest management: forest demarcation, forest land registration, and preparing and implementing the plan for forest management & conservation. In this connection, the potential forest areas, including communities forestry, of about 2 million hectares will be implemented the REDD+ (Reducing Emission from Deforestation and forest Degradation). The revenue from carbon credit programme would be the potential sources to encourage concerned stakeholders, especially community forestry and local government, to more involving in forestry sustainable management.
2. Forest conservation and Reforestation: The priority actions related to forest conservation and management in associated with the climate change included: 1) land use mapping in economic land concession, 2) increase the awareness on forest fire protection, 3) protect and support minority communities as well as local communities depending on forest, 4) protect and conserve bio diversity, 5) restore forestry and carry out actions for reforestation aiming to improve the social livelihood and environmental services , 6) enact forestry law and related regulations to increase efficiency of sustainable forestry management.
3. Forestry research & development and extension programme: The focus would be on 1) conduct the study and research for climate change adaptation and mitigation in forestry sector, 2) increase technical capacity in forestry sustainable management connecting to climate change, 3) carry out extension programme for climate change adaptation and mitigation measures in forestry sector.
4. Build staff technical capacity and increase resources for efficient implementation in forestry management.
5. Climate change adaptation measure: Increase the climate change awareness, especially adaptation measures, to local communities living surrounding forest areas.

(E) Strategic Measures for Fisheries Sector:

- 1) Improve fisheries productivity and production for food security and nutrition as well as increase income through the strengthening and promotion of fisheries management and conservation. The focus would be more on aquaculture development, by 15% per annum, creation of fish pond communities, 75% of total communes by 2019.
- 2) Enhance quality and safety of fishery products and 80% of fishery processors implemented safety standard by 2019 and promote the implementation of “One Village One Fishery Product” for the rural communities with integrating climate change adaptation measures in fishery development.
- 3) Improve research capacity in fishery sector and increase the extension works related to climate change in fisheries development.
- 4) Strengthen and increase technical capacity for staff and concerned stakeholders through the capacity building and training programme in connection to climate change adaptation and mitigation in fishery sector.
- 5) Improve the sustainable management, conservation and reforestation for flooded and mangrove forest.
- 6) Formulate and implement the regulations related to climate change adaptation and mitigation in fishery development.
- 7) Promote the environment and ecological system protection related to climate change through the mitigation of navigation waste to water, reduce illegal land clearance in flooded and mangrove forest protection zones.
- 8) Consideration will be made for the gender issue in fishery sector in connection to climate change adaptation and mitigation.

(2) Strategic Framework for Gender in Agriculture Sector

Cambodia has expressed its commitment to gender equality through our prioritized development goals, ratifying the United Nations’ Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), signing on declarations, creating national plan for women, establishment of committees for advancement of women in every ministry, provision of quotas for female participation in various administrations, etc. Royal Government of Cambodia also recognized that women participation in all sectors and levels, especially in decision making process is an important factor to reach Royal Government of Cambodia’s strategic goal.

Although the law states that men and women have equal rights, the society does not value equally to women. Recently, there are small number of women in decision-making positions at all levels of Royal Government of Cambodia and civil service. Agricultural sector is backbone of Cambodia economy while women’s capabilities recently in accessing natural resources are limited due to their low level of understanding. Obviously, half among female farmers are illiterate or have less than elementary level of education. Moreover, society still perceives that agricultural work is for men, and women only help to do this work for sometimes. All these factors cause women to get less opportunity to participate in community

activities, training, and other opportunity which help strengthen knowledge and additional skills in accessing to and controlling of resources as well as the opportunity to get important supporting services such as agricultural extension service, credit, market information, and research which is crucial resources for female farmers to innovate agricultural production and to promote living quality of women.

In response to the aforementioned problems, in 2006 Ministry of Agriculture, Forestry and Fisheries has developed and implemented policy and strategic plan for gender mainstreaming in agriculture sector, and actively contributed to national and sub-national level mechanism such as Cambodia National Council for women, and Technical Working Group for Gender Mainstreaming by sector referring to promote gender equality and empowerment as well as women status in all levels.

To contribute to the implementation of rectangular strategy of Royal Government of Cambodia, MAFF will update policy and strategic plan for gender mainstreaming in agriculture sector; strengthen gender awareness among civil servant at all levels; strengthen women's associations in agriculture sector; increase empowerment and the number of women in the leadership roles at all levels; increase women's capability to access and control resources and agriculture services; as well as increase economic effectiveness for women in rural area.

MAFF vision is to promote gender equality, dignity, and women's benefits in agricultural sector following the United Nations' Convention on Elimination of All Forms of Discrimination against Women, and the Constitution of Cambodia.

The strategic goal is to strengthen gender equality in agricultural sector through active cooperation of both women and men, the opportunity of participation, and equal benefits from all sub-sectors of agriculture.

To achieve the aforesaid strategic goal as well as to ensure the effectiveness of the promotion of gender equality in agricultural sector, the MAFF has set fives (5) missions as follows:

- 4.1. Updating policy and strategic plan for gender mainstreaming in agricultural sector
- 4.2. Enhancing gender awareness to government officials of the MAFF
- 4.3. Strengthening women's association in agricultural sector
- 4.4. Increasing empowerment, capability, and quantity of qualified women to the leadership roles at all levels of the MAFF
- 4.5. Increasing capability to access and control resources and agriculture extension services, as well as strengthening economic effectiveness for women in rural area in order to promote household livelihood and economic development

To achieve aforementioned goals, a number of following prioritized activities will be implemented within the five years Agriculture Sector Strategy Development Plan (ASSDP) 2014-2018.

Prioritized activities:

- 4.1 Updating policy and strategic plan for gender mainstreaming in agricultural sector
 - 4.1.1 Preparation of working group to update policy and strategic plan for gender mainstreaming in agricultural sector
 - 4.1.2 Activities evaluation and facing issue analysis of past implementation
 - 4.1.3 Draft of policy and strategic plan for gender mainstreaming in agricultural sector
 - 4.1.4 Consultation workshop on updated draft of policy and strategic plan for gender mainstreaming in agricultural sector
 - 4.1.5 Publishing and promulgating policy and strategic plan 2014-2018 to all National and Sub-national officials

- 4.2 Enhancing gender awareness to government officials of the MAFF
 - 4.2.1 Training of gender focal point who are under department and Ministry of Agriculture, Forestry and Fisheries
 - 4.2.2 Supporting gender focal point in opening gender training course and the concept of Convention on the Elimination of All Forms of Discrimination against Women to officials of the MAFF

- 4.3 Strengthening women's association in agricultural sector
 - 4.3.1 Establishment of database management system
 - 4.3.2 Data collection and analysis
 - 4.3.3 Opening training course of usage and data management system
 - 4.3.4 Preparation of controlling, monitoring, and evaluation plan
 - 4.3.5 Controlling, monitoring, and evaluation of services and implementation of gender equity in agricultural sector
 - 4.3.6 Workshop of strengthening the capacity of gender focal point in controlling, monitoring, and evaluation of gender mainstreaming in agriculture sector
 - 4.3.7 Preparation of quarterly meeting of gender working group
 - 4.3.8 Annually workshop on evaluation and sharing experiences of gender work
 - 4.3.9 Study tour visit inside and outside of the country to get experiences on gender equity

- 4.3.10 Uploading activities and progress reports of gender by sector to home page of the Ministry of Agriculture, Forestry and Fisheries
- 4.4. Increasing empowerment, capability, and the quantity of qualified women to the leadership roles at all levels of the MAFF
 - 4.4.1 Coordination to increase women participation in technical training courses
 - 4.4.2 Coordination for female officials in order to study with free of charge
 - 4.4.3 Coordination to increase women's participation in training of management and leadership
 - 4.4.4 Coordination to be equal opportunity between men and women in promotion at all levels of MAFF
 - 4.4.5 Preparation of discussion with female officials to reflex issues and obstacles to the effectiveness of implementation
- 4.5 Increasing capability to access and control resources and agriculture extension services, as well as strengthening economic effectiveness for women in rural area in order to promote household livelihood and economic development.
 - 4.5.1 Learning obstacles, issues, and needs of women to participate in household economy and community development
 - 4.5.2 Widespread dissemination of various programs concerning food security to poor/female headed household
 - 4.5.3 Arrangement of technical training (chickens and fishes raising, crops planting, sustainable usage and management of forestry and fisheries resources) for women with subjects satisfying their need and actual implementation
 - 4.5.4 Encouragement to and provision of opportunity for female farmers to participate in various groups and communities.
 - 4.5.5 Coordination for accessibility of women to credit.
 - 4.5.6 Dissemination of marketing information to female farmers.
 - 4.5.7 Encouragement to women with below-six-year-old children to use children caring services in community in order for them to participate in training and other activities.
 - 4.5.8 Preparation of study tour, visit to improve knowledge and to get female farmers' attention in training courses and other activities.

To ensure the effectiveness of promotion of gender equality in agriculture sector, MAFF has established and nominated seventeen members of working group for gender and children, consisting of one Secretary of State as Chair-Person, one Under Secretary of State as Vice Chair-Person, and a number of leader of line department of MAFF as members. This working group plays an important role in preparation of policy and strategy plan to promote gender

equality in agriculture sector, coordination in implementation, monitoring, monitoring, and evaluation of gender program by closely cooperation with gender focal point at the concerned organizations under the Ministry of Agriculture, Forestry and Fisheries.

(3) Strategic framework for child development and protection in agricultural sector

Cambodia ratified the United Nation’s Convention on the Rights of the Child on 15 October 1992. A signatory of the convention, the Royal Government of Cambodia (RGC) has been focusing on the benefits of the child as stated in the article 48 of the Cambodia’s constitution “The state assures to protect the rights of the child recognized in the Convention, especially the right to live, the right to be educated, the right to be protected during war and the protection from economic exploitation of the child. The state opposes work which interferes with the child’s education or is harmful to the child’s health.”

Despite endeavors of the government and civil society in exercising the rights of the child, some children are still facing all forms of abuse and exploitation. Obviously, 1.5 million children are seen laboring, of which 75% are working in agricultural sector. Those children have been facing many health problems such as malnutrition, skin disease, respiratory disease and so on. What’s more, around 430,000 children have dropped out of school while 400,000 children are deprived of the opportunity to study. These are caused by the lack of effective child protection measures and services, limited capacity of relevant officials, low level of understanding of parents and guardians (particularly in remote areas) on child protection and development while the opportunity to access child-related information and knowledge is still limited.

In response to the aforementioned problems, the RGC has developed policies, national action plans and other mechanisms to protect children in all levels including Cambodia National Council for Children, National Committee for Child Development and Protection, Technical Coordinating Committee on Children in each sector, Women and Children Consultative Committee, and so on.

To contribute to the implementation of the National Policy on Child Development and Protection so as to achieve human resources with accountability and active contribution to Cambodia’s poverty reduction, the Ministry of Agriculture, Forestry and Fisheries (MAFF) will create legal framework and supportive mechanism, build capacity of relevant officials, promote the understanding of child protection and development to parents and guardians, establish and strengthen the monitoring and evaluation mechanism and mobilize resources to support the effective promotion of the protection and development of children in agriculture.

Strategic goal is to promote the protection and development of children in agriculture especially vulnerable children in poor farmer family to be in line with the Constitution of the Kingdom of Cambodia.

To achieve the aforesaid strategic goal as well as to ensure the effectiveness of the protection and development of children in agriculture, the MAFF has set 5 missions as follows:

1. Creating legal framework and supportive mechanism and implement the protection and development of children in agriculture
2. Building capacity of officials relevant to the protection and development of children in agriculture
3. Promoting the understanding of the protection and development of children to parents, guardians and child custodians,
4. Establishing and strengthening the monitoring and evaluation with participation of all levels of relevant stakeholders
5. Mobilizing resources from all sources to support the activities of protection and development of children in agriculture

Prioritized activities:

The following primary activities will be implemented in 5 years of the Strategic Plan of Agriculture Development 2014-2018 to achieve the missions set above. Priority activities are set as follows:

1. Creating legal framework and supportive mechanisms and implementing the protection and development of children in agricultural sector
 - 1.1 establishing a technical coordinating committee on children of the MAFF
 - 1.2 preparing a policy on protection and development of children in agriculture
 - 1.3 preparing guidelines for the implementation of the program on protection and development of children in agriculture
 - 1.4 preparing the declaration on the serious form of child labor in agriculture
2. Building capacity of officials relevant to the protection and development of children in agriculture
 - 2.1 Organizing workshop to disseminate policy on protection and development of children in agriculture to leaders and officials of the MAFF in both national and sub-national levels
 - 2.2 Conducting training to farmer community, domesticated animal health agencies, agencies for agriculture dissemination in commune, animal husbandry community, fisheries community, forestry community etc.
 - 2.3 Arranging a study tour to exchange experiences related to child protection and development

3. Promoting the understanding of protection and development of children in agricultural production to parents, guardians and child custodians
 - 3.1 Preparing promotional materials for local community concerning child's rights and message on agricultural techniques regarding nutrition, sanitation, health and safety of the child
 - 3.2 Disseminating the information on the protection and development of children in agriculture to the local community
4. Creating and strengthening the monitoring and evaluation with participation from all levels of stakeholders
 - 4.1 Preparing the monitoring and evaluation
 - 4.2 Monitoring the implementation of the child protection and development activities in agriculture
 - 4.3 Delegating a focal person for child-related works in the entities under supervision of the MAFF
 - 4.4 Conducting quarterly meeting of the technical coordinating committee on children of the MAFF
 - 4.5 Conducting annual evaluation meeting on the implementation of the plan on the protection and development of children in agriculture
5. Mobilizing resources from all sources to support the activities on protection and development of children in agriculture
 - 5.1 Organizing consultative workshop between leaders of the MAFF and provincial agriculture department to figure out problems and solutions for the protection and development of children in agriculture
 - 5.2 Organizing a meeting with development partners to support the activities on protection and development of children in agriculture
 - 5.3 Incorporating the protection and development activities of children in agriculture into National Plan of Action for Children
 - 5.4 Mainstreaming the activities on protection and development of children in sub-programs of the MAFF
 - 5.5 Incorporating activities and reports related to the works on protection and development of children in each sector into the website of the MAFF

Monitoring and evaluation mechanisms: to ensure the effectiveness of protection and development of children in agriculture, the MAFF has established the Technical Coordinating Committee on Child Development and Protection. The Chairman is an Under-Secretary of State and leaders of relevant agencies under the supervision of some member ministries. The committee plays important roles in coordinating the implementation, and monitoring and evaluating the implementation and the project outcome. This committee will be in close

collaboration with Gender Unit of the ministry and the focal person in relevant agencies under the supervision of the ministry in terms of the implementation of the aforesaid project with some existing local communities such as farmer community, village animal health agency, commune agriculture extension workers, animal husbandry community, fisheries community, forestry community etc.

The quarter and annual meetings with participation of all relevant stakeholders will also be organized with the aims at evaluating the progress of the project, challenges, solutions and setting appropriate strategies for the better implementation of the project in the years to come.

H. BUDGET PLAN

To achieve the policy goal for the agricultural development, the Ministry of Agriculture, Forestry and Fisheries has set priority programs and projects and allocates the budget to support the implementation of those programs and projects/activities 2014-2018. Furthermore, the Ministry of Agriculture, Forestry and Fisheries strongly believes that the RGC will further increase the local budget resource together with technical and financial supports from international communities, development partners, non-government organizations, civil societies, and private sector. More importantly, the participation of local authorities and farmer communities would be increased to promote agriculture sector development.

The main financial resources for the promotion of agriculture sector development would be obtained from the national budget and external assistances. To realize the implementation of Agriculture Sector Strategic Development Plan, 2014-2018, the Ministry of Agriculture, Forestry and Fisheries has proposed the priority programs, sub-programs and projects, with budget allocation to support the implementation with the total amount of 262.44 million US\$, in which the amount of 218.70 million US\$ for recurrent costs and 43.74 million US\$ for investment costs.

In the total recurrent costs, the amount of 56,946,470 US\$ allocated for enhancement of agricultural productivities, diversification and commercialization, the amount of 38,001,460 US\$ allocated for promotion of livestock production and health, the amount of 30,805,600 US\$ allocated for sustainable fisheries resource management, the amount of 49,714,240 US\$ allocated for sustainable forestry and wildlife management, and the amount of 43,236,310 US\$ allocated for strengthening institutional capacity, increasing the efficiency of supporting services and human resource development in agriculture sector.

Table: Requirement of Recurrent Budget for Implementation ASDP, 2014-2018

| Programmes | Recurrent Budget Requirement (000' USD) | | | | | Total (000' USD) |
|---|---|-----------|-----------|-----------|-----------|---------------------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | |
| Programme-1: Enhancement of Agricultural Productivity, Diversification and Commercialization | 7,794.48 | 11,403.55 | 11,574.72 | 12,553.37 | 13,620.34 | 56,946.47 |
| Programme-2: Promote Animal Production and Animal Health | 3,918.00 | 7,343.99 | 8,078.39 | 8,886.23 | 9,774.85 | 38,001.46 |
| Programme-3: Sustainable Fisheries Resources Management | 4,588.34 | 5,819.62 | 6,285.87 | 6,775.62 | 7,336.15 | 30,805.60 |
| Programme-4: Sustainable Forestry & Wildlife Resource Management | 2,636.26 | 8,410.17 | 11,332.05 | 12,688.07 | 14,647.69 | 49,714.24 |
| Programme-5: Strengthening Institutional Capacity, enhancing efficiency of supporting services and Human Resource Development | 6,326.50 | 8,078.23 | 8,796.08 | 9,620.95 | 10,414.55 | 43,236.31 |
| Total Recurrent Costs | 25,263.58 | 41,055.56 | 46,067.12 | 50,524.23 | 55,793.58 | 218,704.08 |
| Total Investment Costs | 5,052.72 | 8,211.11 | 9,213.42 | 10,104.85 | 11,158.72 | 43,740.82 |
| Grand Total | 30,316.29 | 49,266.68 | 55,280.55 | 60,629.08 | 66,952.30 | 262,444.89 |

K. MONITORING AND EVALUATION

Based on lessons learnt and experiences in the past, especially the past achievement and assessment on the implementation of ASDP 2009-2013, it was indicated that monitoring and evaluation (M&E) is the crucial tool to ensure the project implementation and the indicators verification set properly in the project planning and design in comparison with the actual achievements. Therefore, it is a very important tool for verifying all outcomes and output indicators, in mid-term and full terms of the implementation of NSDP, 2014-2018 and that will be reflected to support the sector and national policies.

However, Agricultural Sector Strategic Development Plan 2014-2018 would be expressed and indicated several indicators for supporting to verify the outcomes and outputs of the implementation. (See indicators in ASDP, 2014-2018).

In order to ensure that monitoring and evaluation will be fully carried out, the Department of Planning and Statistics (DPS) of MAFF has a main role to implement this activity. The report

of the work progress for those activities/projects will be made during the implementation and post evaluation. All concerned line technical departments and institutions involved in the ASDP implementation are requested to report their progress to MAFF (DPS) through quarterly, 6 months, 9 months and yearly reports. Based on these reports, the MAFF will consolidate and submit the whole progress report to Ministry of Planning.

L. CONCLUSION

It is true that Agricultural Sector Strategic Development Plan 2014-2018 is a strategic document for implementing during its 5 years period which all necessary actions to be carried out will be required the concerned technical departments, concerned institutions as well as development partners and private sector to fully participate in the implementation.

The RGC will further provide a full support to develop the agricultural sector as dynamic efforts in order to accelerate economic growth and poverty reduction with the increase of financial support for public investment as well as the increase of external assistances from development partners for the development of agricultural sector.

This document has also indicated the main obstacles and problems encountered and clearly provided the proposed actions to overcome with indicating the expected outcomes and outputs, especially the indicators set for achievements during the implementation of this strategic plan as the verification tools for monitoring process in the mid-term and full term of the implementation with estimation of budget required for operation as well as the schedule of activity to be successfully implemented.

The Agricultural Sector Strategic Development Plan 2014-2018 is truly important with the provision of clear indications, policy direction and the priority actions to be undertaken in order to produce great achievements as directed by the NSDP 2014-2018 and this is a basic strategic plan to provide roadmap for agricultural development as all concerned institutions and development partners referred to in order to provide their technical and financial assistance for implementation all relevant priority actions set in this plan which to be contributing to the development of agricultural sector.

The Ministry of Agriculture, Forestry and Fisheries highly committed in the implementation of the Agricultural Sector Strategic Development Plan 2014-2018 with high expectation of results. However, negative impacts and obstacles may be occurred during the implementation of productivity, diversification and commercialization for agriculture, especially rice production. The natural calamities, including flood, drought and insect destruction may be the root cause for failure in crop production. But, these problems will be mitigated through the strong commitments and full efforts from all concerned parties for achieving the great success to accelerate the development of agricultural sector.

Annex 1: Key Indicators of Agriculture, Forestry and Fisheries Sector

| Key Indicators | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---------------|-----------|-----------|-----------|-----------|-----------|
| Rice yield | Ton/ha | 3.15 | 3.18 | 3.21 | 3.23 | 3.25 |
| Rice cultivated areas | Ton/ha | 3.10 | 3.15 | 3.20 | 3.28 | 3.34 |
| Rice Production | Million tons | 9.76 | 10.01 | 10.28 | 10.56 | 10.85 |
| Paddy surplus | Million tons | 5.24 | 5.41 | 5.60 | 5.79 | 6.00 |
| Cultivated areas for all crops (including permanent and plantation crops) | Hectare | 4,814,534 | 5,024,534 | 5,234,534 | 5,444,534 | 5,654,532 |
| Agricultural communities | Number | 475 | 575 | 675 | 775 | 875 |
| All types of Animal production (+3%) | Million heads | 35.86 | 36.93 | 38.03 | 39.17 | 40.34 |
| Animals receiving vaccine (compared with total livestock) | % | 10 | 12 | 15 | 17 | 20 |
| Slaughterhouses applying technical norms for good hygiene | Number | 25 | 50 | 75 | 100 | 125 |
| Rubber plantation areas | Hectare | 306,500 | 334,500 | 362,500 | 384,500 | 404,500 |
| Rubber yield | kg/ha | 1,257 | 1,282 | 1,311 | 1,373 | 1,368 |
| Dry rubber Production | Ton | 137,520 | 181,560 | 240,800 | 300,800 | 340,930 |
| Aquaculture production with a (+15%) | Ton | 97,800 | 112,500 | 129,400 | 148,800 | 171,170 |
| Fisheries production (Fresh water, marine, and aquaculture) | Thousand tons | 752 | 790 | 829 | 870 | 910 |
| Community Fisheries | Number | 516 | 516 | 516 | 516 | 516 |
| Areas for wildlife and forest conservation and protection | Hectare | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| Community Forestry | Number | 32 | 32 | 32 | 32 | 32 |

Source: NSDP, 2014-2018

