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CSAM



# Regional Training on Protected Agriculture Technology in Asian Countries

## Country Report in Cambodia

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# I. Country Review



- ❖ **Location: SEA and bordered with Vietnam, Laos and Thailand**
  - Land border: 2,438Km
  - Coastline: 435Km
- ❖ **Total area: 181,035km<sup>2</sup>**
- ❖ **Total population in 2017:**
  - 16.01 millions (51 % are women)
- ❖ **Population by Urban - Rural residence**
  - ✓ Urban= 20%
  - ✓ Rural= 80 %
- ❖ **Population growth: 1.64% per annum**





# I. Country Review – cont'd

- ❖ **Agrarian country:** **80%** of population live in rural areas:
  - Central lowland along Mekong River: **49%**
  - Around Tonle Sap Lake: **33%**
  - Around coastal zone: **7%**
  - High land or plateau zone: **11%**
- ❖ **Climate: Tropical climate/Monsoon**
  - Rainy season: **May - October**
  - Dry season: **November - April**
  - Average annual monsoon rainfall:
    - ✓ Minimum: **1,441 mm**
    - ✓ Maximum: **1,968 mm**
  - Average annual temperature:
    - ✓ Minimum: **23.3 °C**
    - ✓ Maximum: **34.9 °C**
  - 25 provinces, Phnom Penh municipality, and 26 cities/krongs.



# I. Country Review – *cont'd*

❖ Total cultivated area of 4,505,267 ha in 2013

- Rice: crops: 68%
- Subsidiary and industrial 21%
- Permanent crop: 4%
- Rubber plantation: 7%

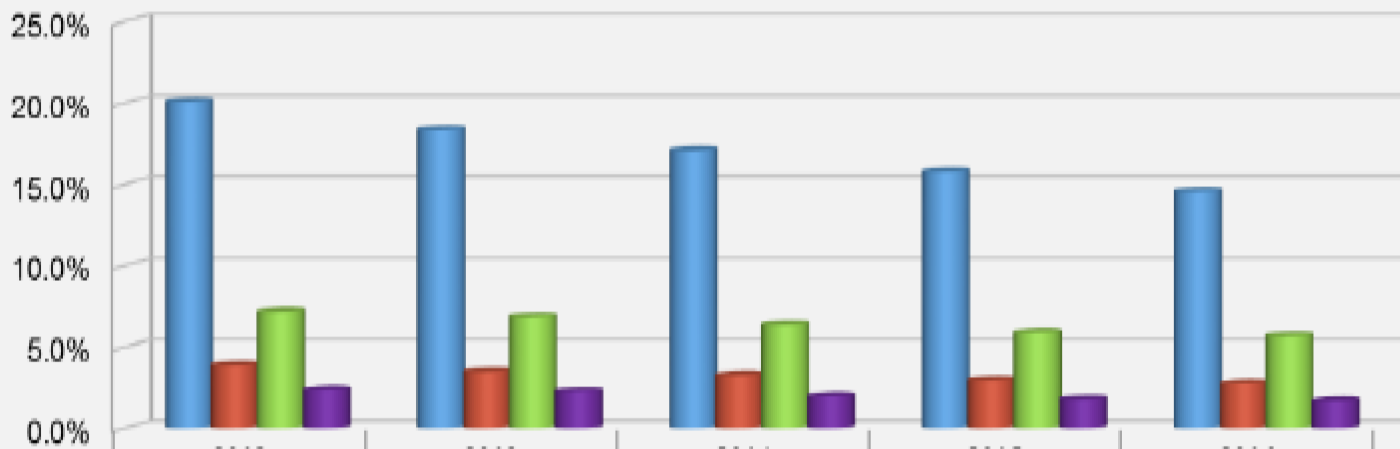
❖ **Employment in agriculture:** Approximately 70% of the total population.

Agricultural crops	Cultivated area (ha)	Remarks
Rice crop	3,052,420	Wet & dry rice crops
Subsidiary and industrial crops	941,028	Maize, cassava, sweet potatoes, vegetables, all kinds of bean, sesame, sugar cane, tobacco etc.
Permanent crops	183,048	Cashew, banana, oil palm, coconut, mangoes, coffee, durian, pepper, orange, and other fruit etc.
Rubber plantation	328,771	
Total	4,505,267	



## II. Contribution of Agriculture sub sector from 2012 to 2016

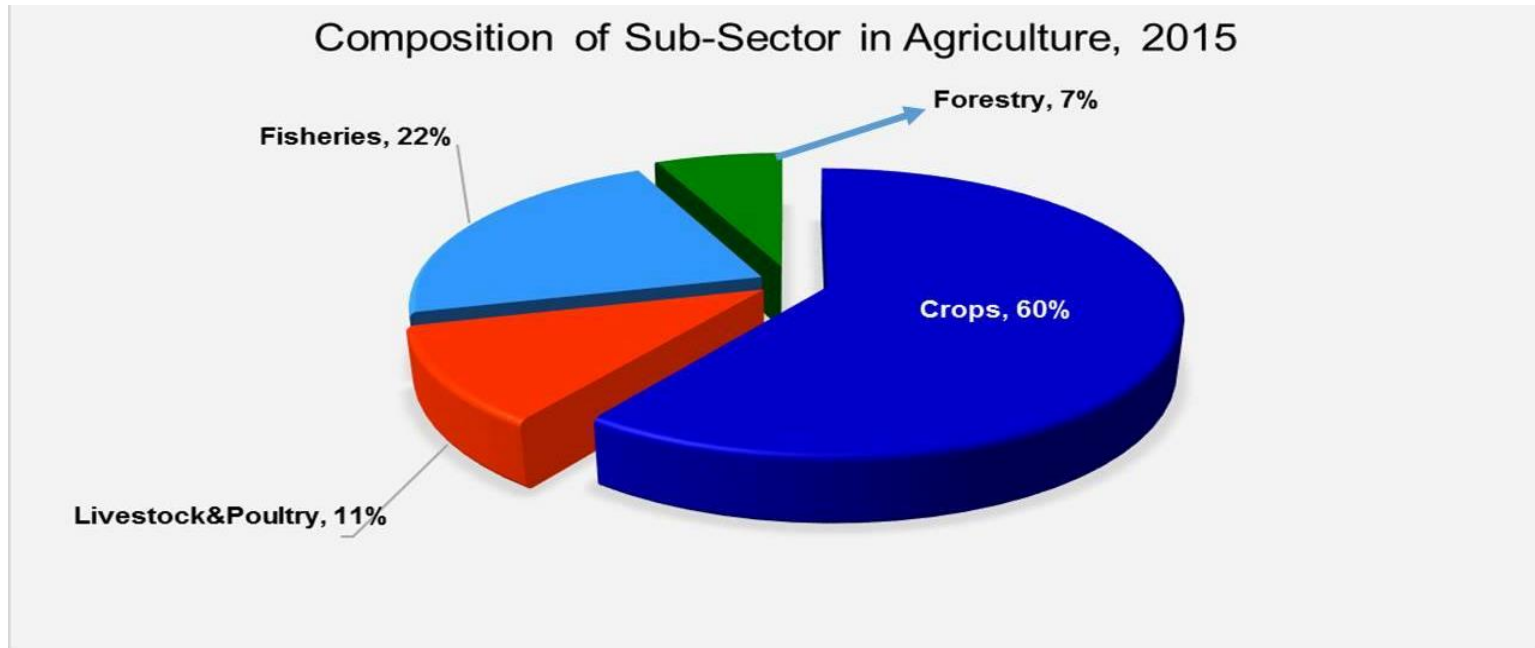
Share of Sub-Agriculture Sector, 2012-2016



	2012	2013	2014	2015	2016
■ Crop	20.1%	18.4%	17.1%	15.8%	14.6%
■ Livestock & Poultry	3.9%	3.5%	3.3%	3.0%	2.8%
■ Fisheries	7.2%	6.9%	6.4%	5.9%	5.7%
■ Forestry & Logging	2.4%	2.3%	2.0%	1.8%	1.7%



## 2.1 Composition of sub- sector in Agriculture, 2015



- Industrial and subsidiary crops are rubber, maize, cassava, all kinds of beans, sesame, sugar cane, tobacco, vegetables , etc.
- Composition of sub-sector in agriculture: crops 60 %; fisheries 22 % ; livestock & poultry 11 % ; and forestry 7 %.



## 2.2 Status of machinery usage in Cambodia

- In Cambodia, rice is the main crop and farm mechanization is also mainly for rice. Agricultural machines are also used for other crops such as corn, cassava, bean, rubber, sugar cane and fruit tree for land preparation, transportation and planting.
- For rice, farm operations which are significantly mechanized are land preparation, spraying, weeding, threshing and milling. Other farm operations such as transplanting, fertilizing, etc. are still done manually because they are complicated to be mechanized.



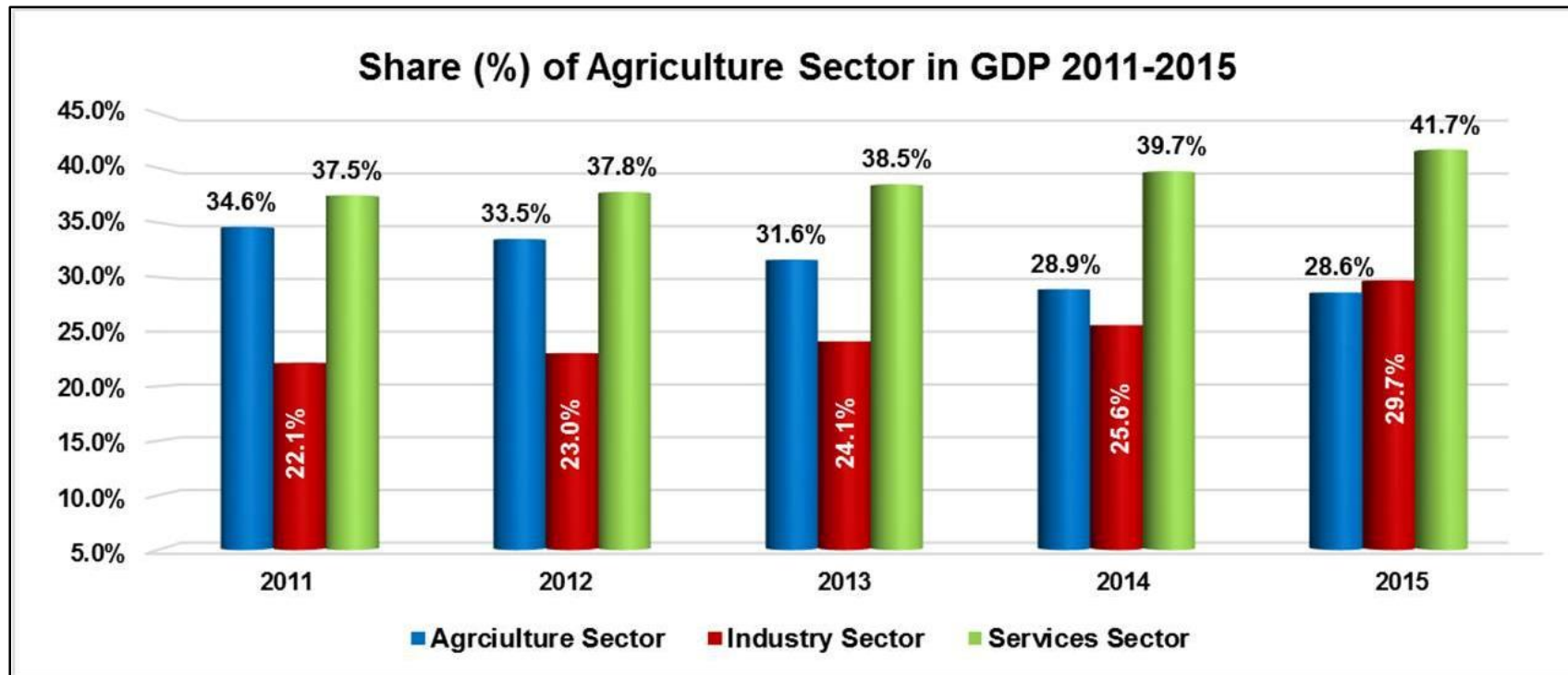


## 2.3 Mechanization rate of paddy rice work

Operation	Power Source (%)		
	Manual	Man-Animal	Mechanical
Land preparation	0	12.22	87.78
Planting	99.99	0	0.01
Weeding	90	0	10
Fertilizer application	99.90	0	0.1
Spraying	0	0	100
Harvesting	30	0	70
Threshing	1	1	98
Drying (farm level)	99	0	1
Milling	0	0	100
Average	46.65	1.47	51.88



## 2.4 Contribution of Agriculture Sector in GDP From 2011 to 2015



The agriculture sector contribute to the GDP is about 28.6% in 2015, while industry sector is about 29.7% and services sector is about 41.7%. While in 2011, agriculture sector contribute to about 34.6%, industry sector is about 22.1% and services sector is about 37.5%.



### III. Protected Agriculture Technology in Cambodia

**Crop protection** is the science and practice of managing plant, diseases, weeds and other pests (both vertebrate and invertebrate) that damage agricultural crops and forestry. Agricultural crops include field crops, vegetable crops (potatoes, cabbages, etc.) and fruits. The crops in field are exposed to many factor. The crop plants may be damaged by insects, birds, rodents, bacteria, etc.



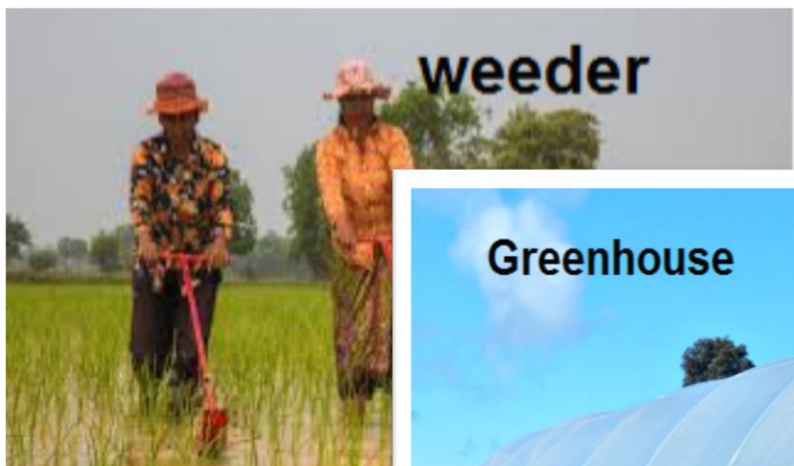
### 3.1 Other ways crops protection Cambodian used







### 3.2 Other ways crops protection Cambodian used-Cont'd





### 3.3 Type of Pesticide Sprayers Cambodian used





## 3.4 Main Issues and Challenges for Using Chemical pesticides

### Main Issues

- Over using of Chemical pesticide
- Most farmers lack knowledge for mixing
- Increasing of diseases and insects
- Illegal import of chemical pesticides
- Crop production is not good quality
- Using Chemical pesticide is not on time

### Challenges

- Environmental effects
- Impact on human and animal health
- Impact on agro-ecosystem etc.



## **IV. Research Interest**

1. Study on designing the small agricultural equipment such as Sprayers, motorize weeder and other equipments.
2. Study on designing and equipment for Greenhouse
3. Study on new innovations for crops protection from other countries



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for your  
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