



Agricultural Mechanization in Cambodia: Challenges and Opportunities

**Regional Forum on Sustainable Agricultural Mechanization in
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saruthchan@hotmail.com

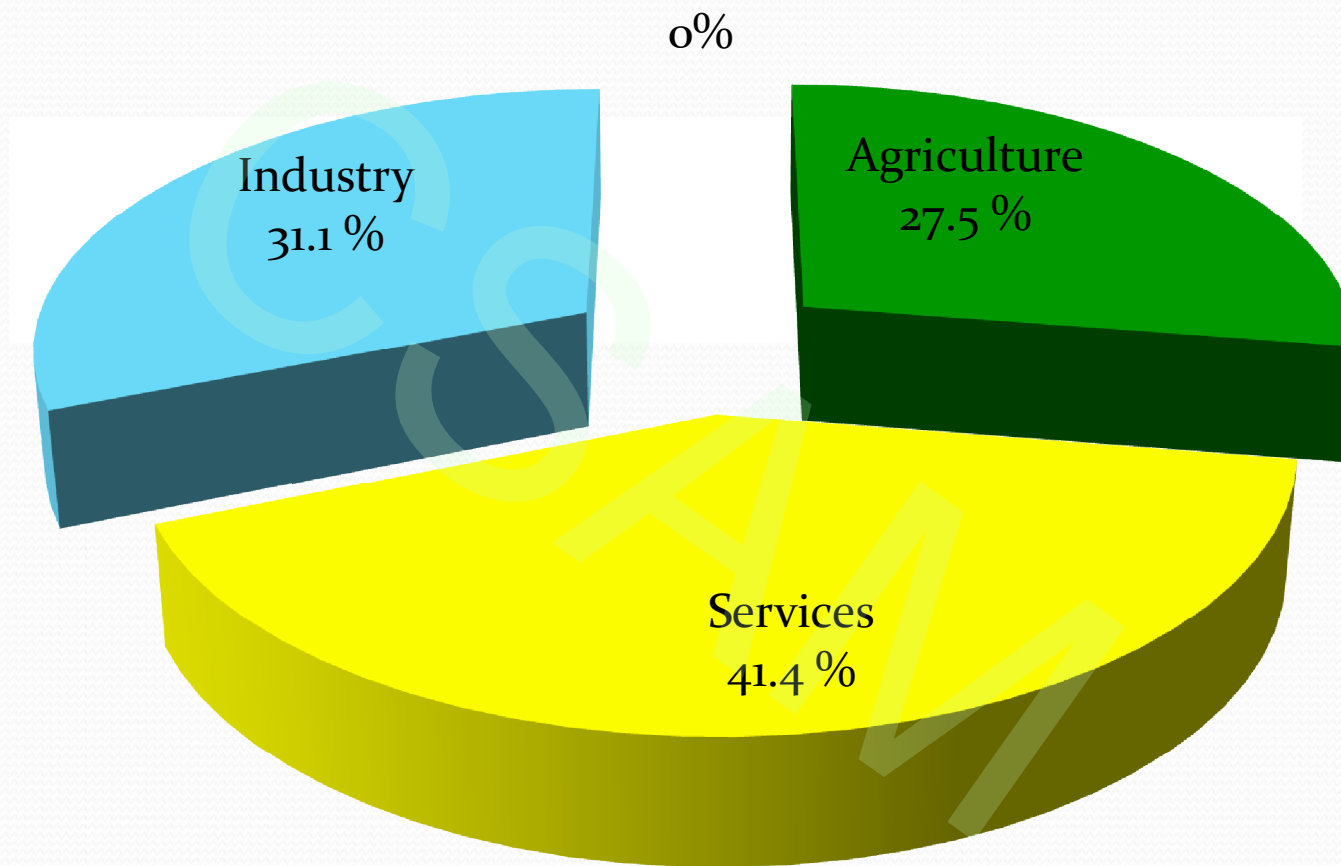
I. Background



- ❖ Location: SEA and bordered with Vietnam, Laos and Thailand
- ❖ Total area: 181,035km²
- ❖ Total population: 14 millions (51.8 % are women)
- ❖ Population by Urban - Rural residence
 - ❖ Urban=3 millions
 - ❖ Rural= 11 millions

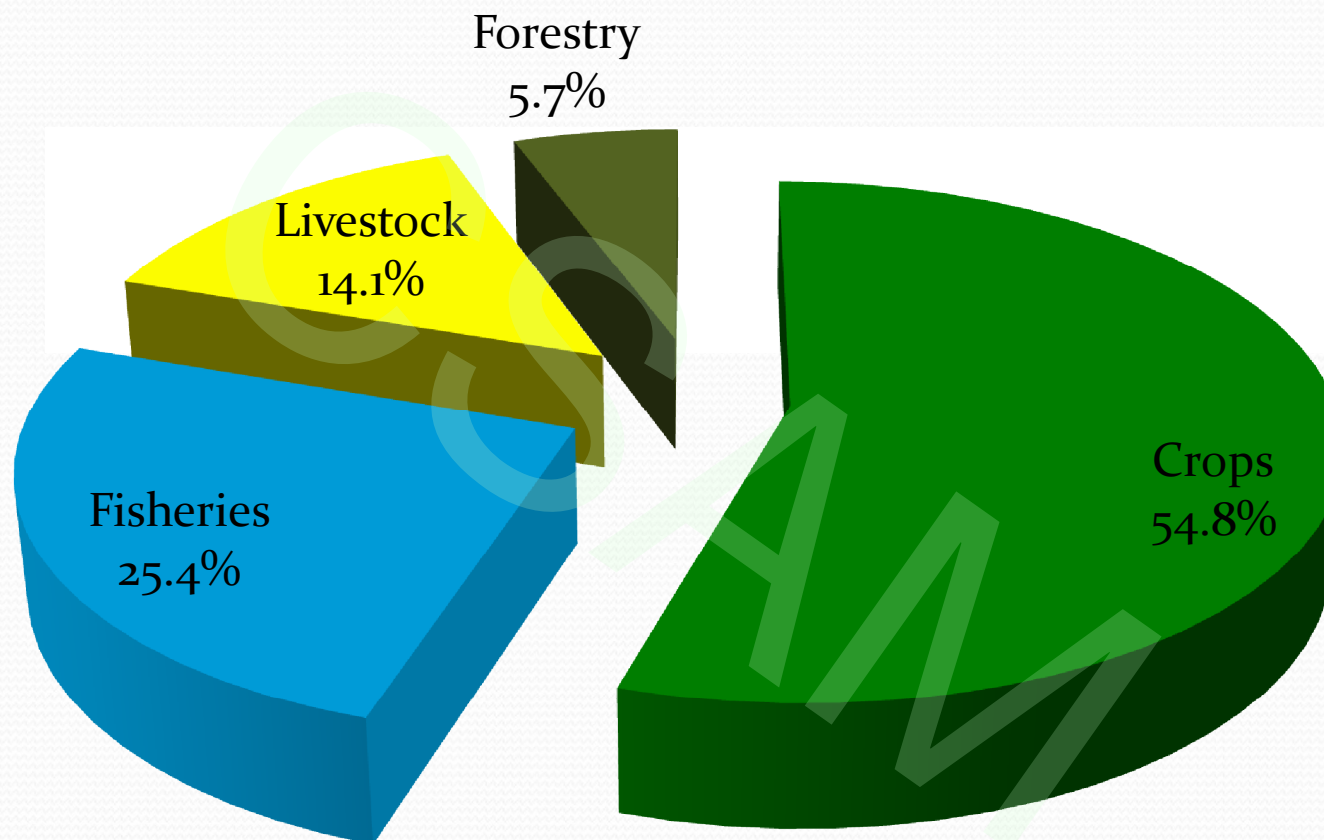
II. Agriculture in Cambodia - 1

Contribution of Cambodian Agriculture in GDP in 2012



Source: Ministry of Planning, March 2013

II. Agriculture in Cambodia - 2



Composition of agricultural sub sector in 2012

Source: Ministry of Agriculture, Forestry and Fisheries, April 2013

II. Agriculture in Cambodia - 3

Crop production statistics in 2012

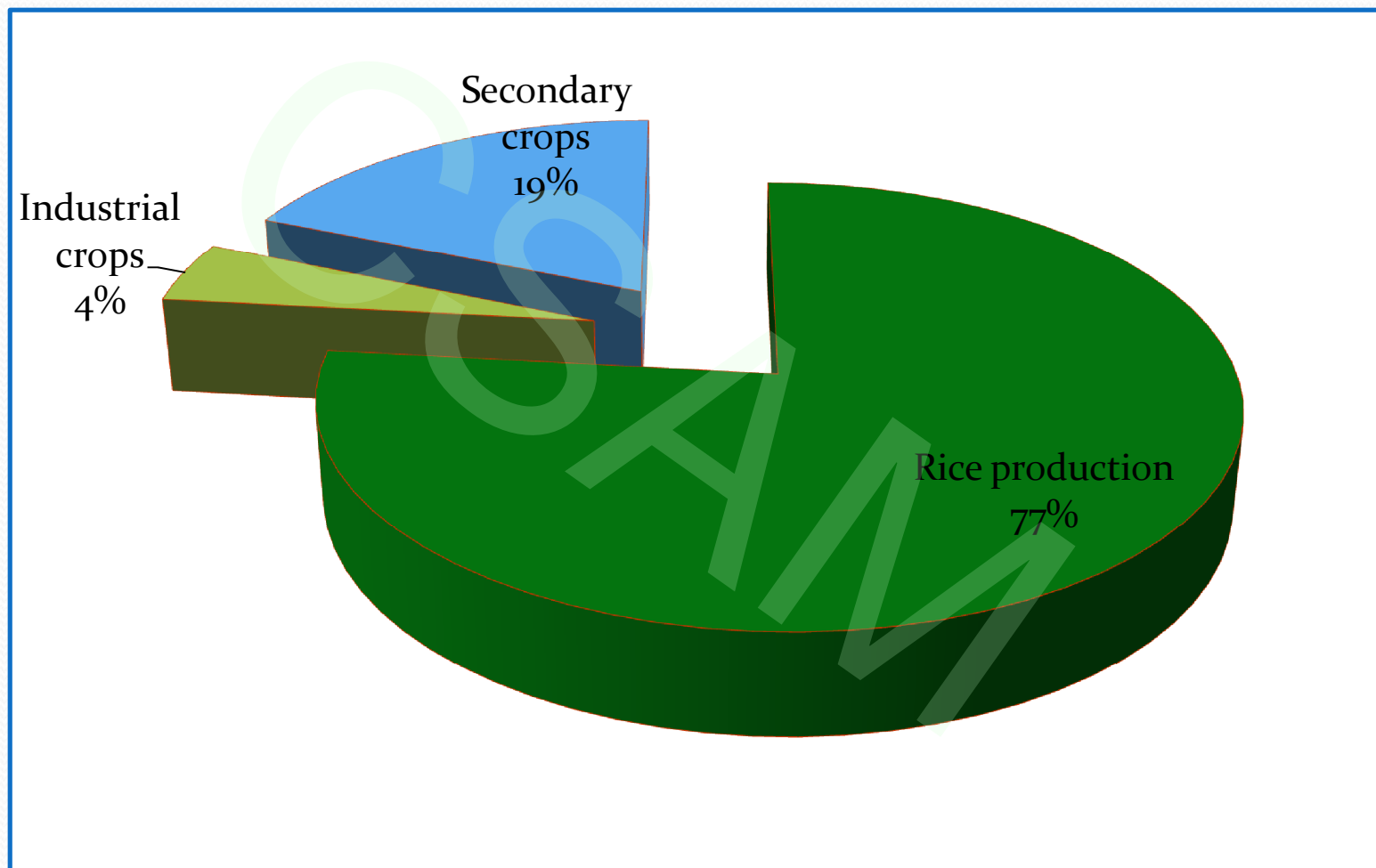
No	Items	Cultivated area (ha)	Production (tone)
I	Rice production	<u>3,007,545</u>	<u>9,290,940</u>
II	Industrial crops	<u>180,926</u>	<u>1,760,335</u>
	2.1 Sugarcane	48,586	1,573,771
	2,2 Soybean	71,337	120,165
	2.3 Sesame	36,722	26,764
	2.4 Peanut	18,048	30,376
	2.5 Tabaco	5,947	8,987
	2.6 Jute	286	271
III	Secondary crops	<u>731,957</u>	<u>9,099,472</u>
	3.1 Cassava	361,851	7,613,697
	3.2 Maize	216,330	950,909
	3.3 Vegetables	76,495	411,435
	3.4 Sweet potato	10,428	48,754
	3.5 Mung bean	66,850	74,677

Source: Ministry of Agriculture, Forestry and Fisheries, April 2013

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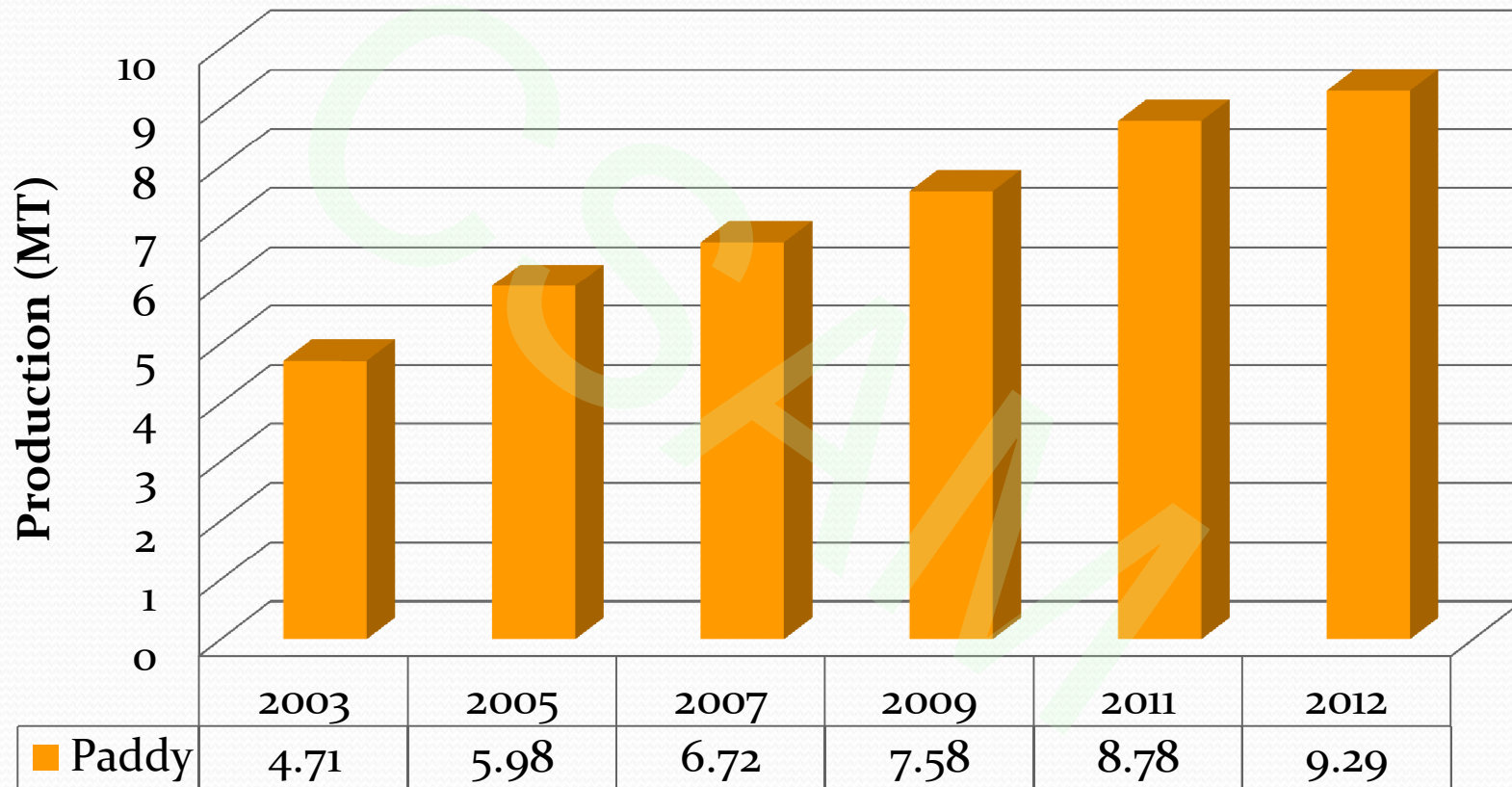
II. Agriculture in Cambodia - 4

Cultivated area (%) in 2012



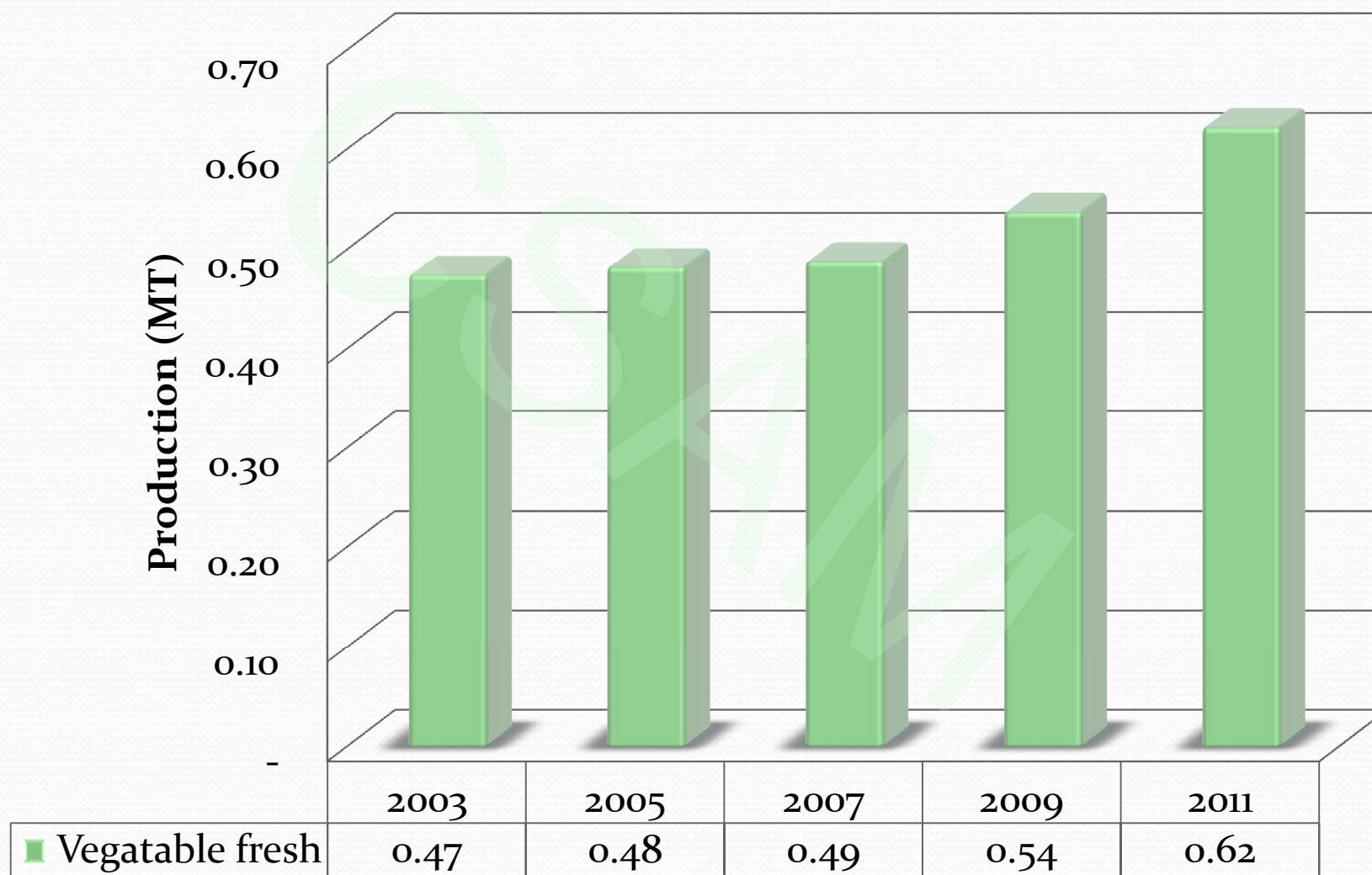
II. Agriculture in Cambodia - 5

The paddy production in Cambodia from 2003 to 2012



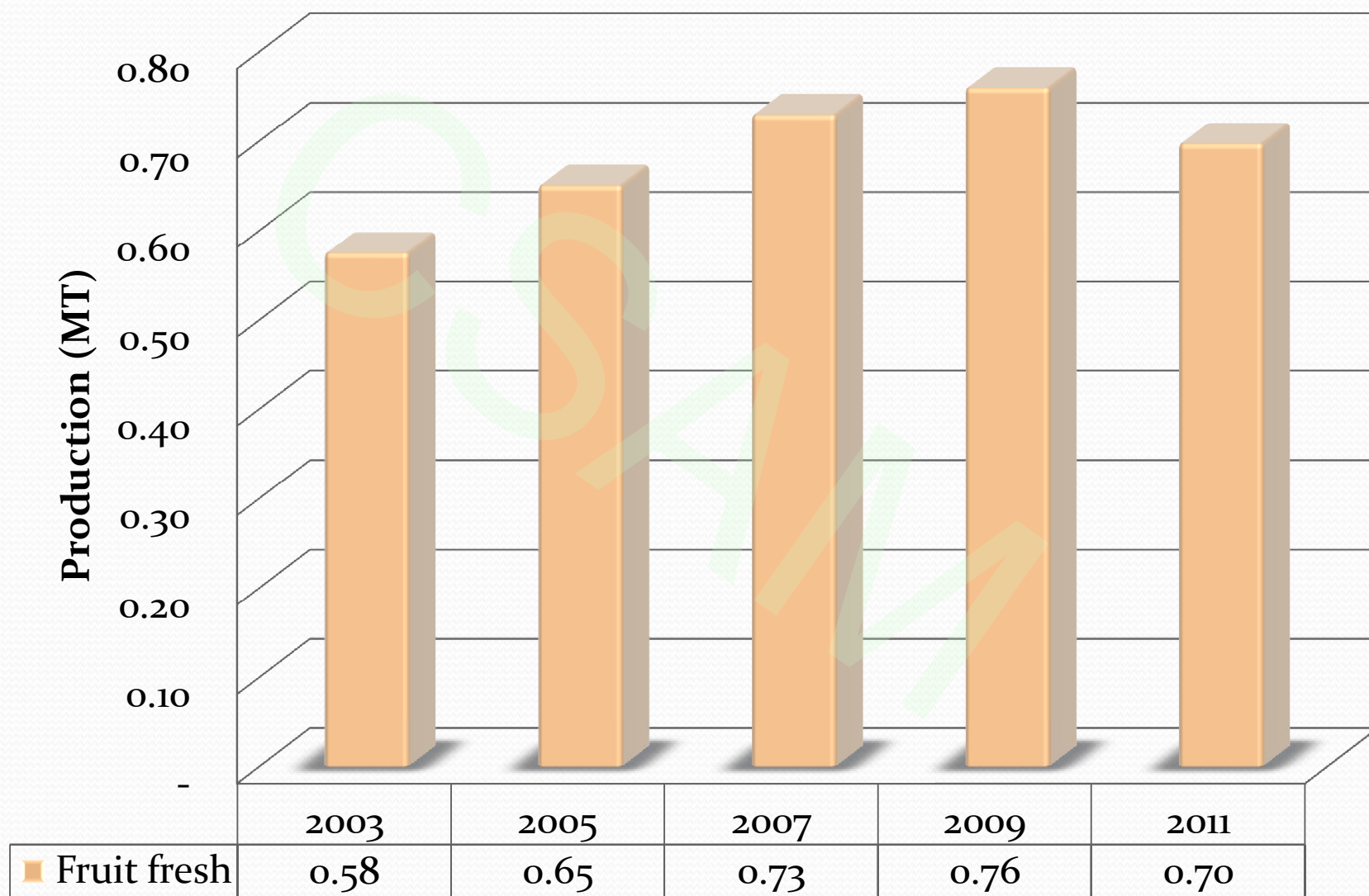
II. Agriculture in Cambodia - 6

The vegetable production in Cambodia from 2003 to 2011

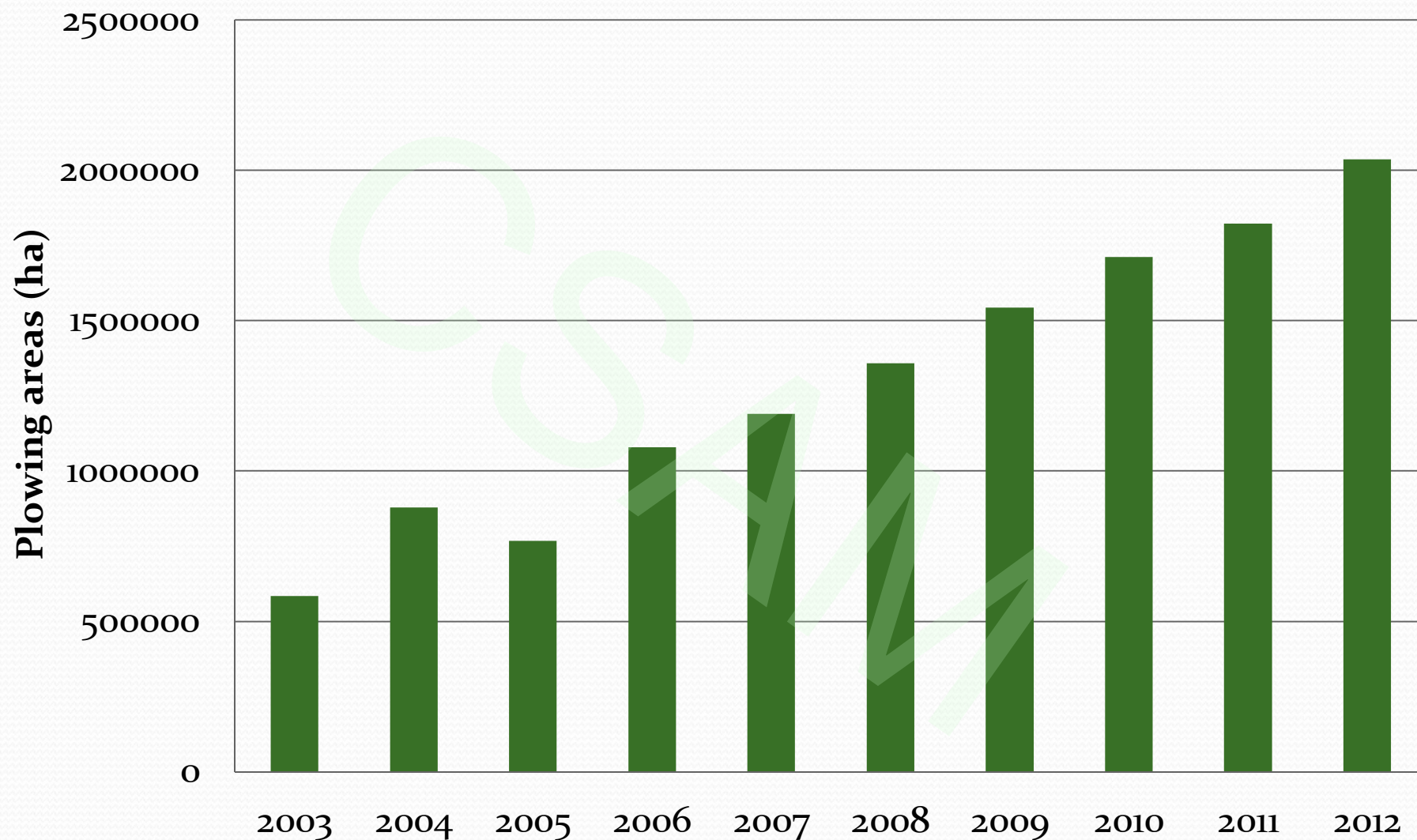


II. Agriculture in Cambodia - 7

The fruit production in Cambodia from 2003 to 2011



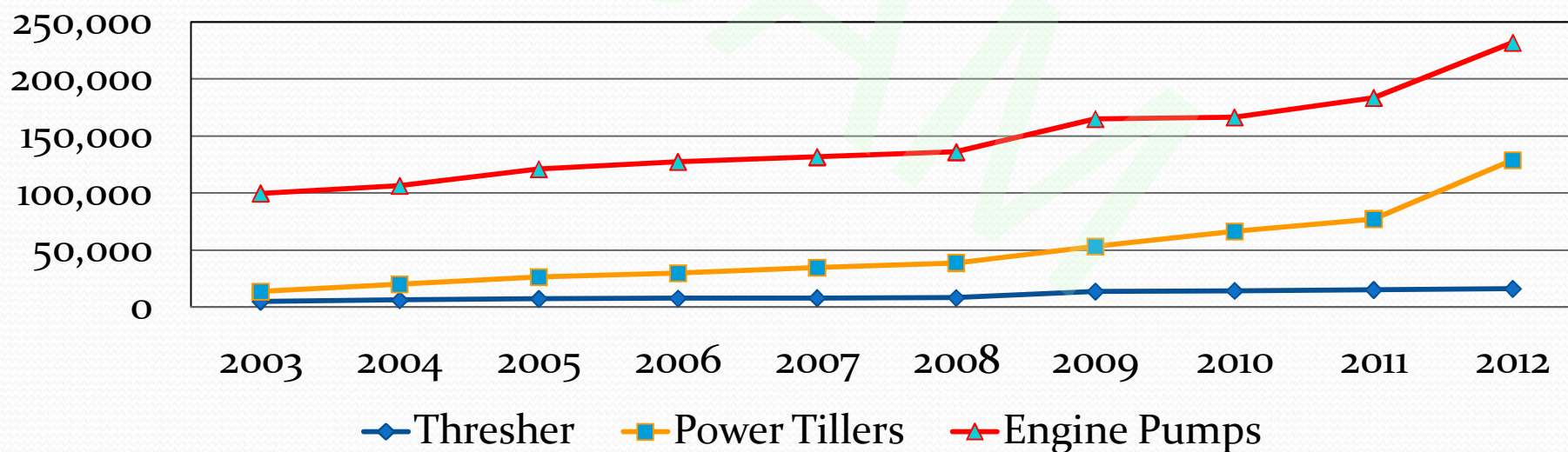
III. The plowing areas by farm machinery from 2003 to 2012



Note: The total of plowing area is approximately 3 million hectares/year

IV. Statistical data on farm machinery and equipment from 2003 to 2012

No	Items	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	Tractor	3,310	3,857	4,166	4,247	4,475	4,611	5,495	6,200	6,786	8,961
2	Power tiller	13,693	20,279	26,504	29,706	34,639	38,912	53,220	66,548	77,421	128,806
3	Harvester	-	-	-	325	395	430	836	947	1,548	4,820
4	Thresher	4,967	6,220	7,338	7,795	8,036	8,237	13,798	14,390	15,210	16,146
5	Mill	32,945	36,531	38,606	38,618	38,680	39,429	47,620	48,217	48,753	54,328
6	Engine pump	99,875	106,569	120,968	127,610	131,702	136,061	164,974	166,633	183,502	231,942



V. The challenges of Ag Mechanization in Cambodia

- National policy on agricultural mechanization is not yet prepared;
- Structure of the Provincial Office of agricultural engineering is still weak;
- Inadequate skilled workforce at both national and provincial level;
- Credit scheme for buying farm machinery and equipment is not existent;
- Most of workshops for repairing and maintenance of farm machinery and equipment are not available at the rural areas;
- Annual budget allocated for the implementation of agricultural mechanization activities fails the nationwide coverage;
- Less activities on Research and Development on agricultural machinery and equipment and it exists mainly at the national level;
- External support and cooperation with development partners is still missing; and
- Gap in cooperation with private sector dealing with farm machinery.

VI. The positive points of Ag Mechanization in Cambodia

- The number of farm machinery and equipment is increasing rapidly in the last few years;
- Strategy on agricultural mechanization is in place as a milestone;
- Clear structure and mandate;
- Support from the Ministry of Agriculture, Forestry and Fisheries;
- Good cooperation with other line departments under the Ministry of Agriculture, Forestry and Fisheries;
- Academic institutions providing services in agricultural mechanization from short-term certificate courses to graduated degrees; and
- Annual budget allocation from the Government to implement its activities increasingly.

VII. Orientation of Agricultural Mechanization Development in Cambodia - 1

- *Shifting labor force from agriculture to other sectors*
- *Shifting from the Subsistence Agriculture to Commercial Agriculture*
- *Rice exportation policy*

Main Objectives



Increase in
Labor
productivity



Increase in
Land
productivity



Decrease in
Costs of
production

VII. Orientation of Agricultural Mechanization Development in Cambodia - 2

Pre Harvest Technology



Engineering and Ag. Land Reform/Consolidation

Bio-Technology

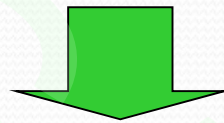
Post Harvest Technology

Mechanization in both pre and post harvest technology will increase rice production in Cambodia

VIII. Agricultural Mechanization Development Strategic planning in Cambodia

Goal:

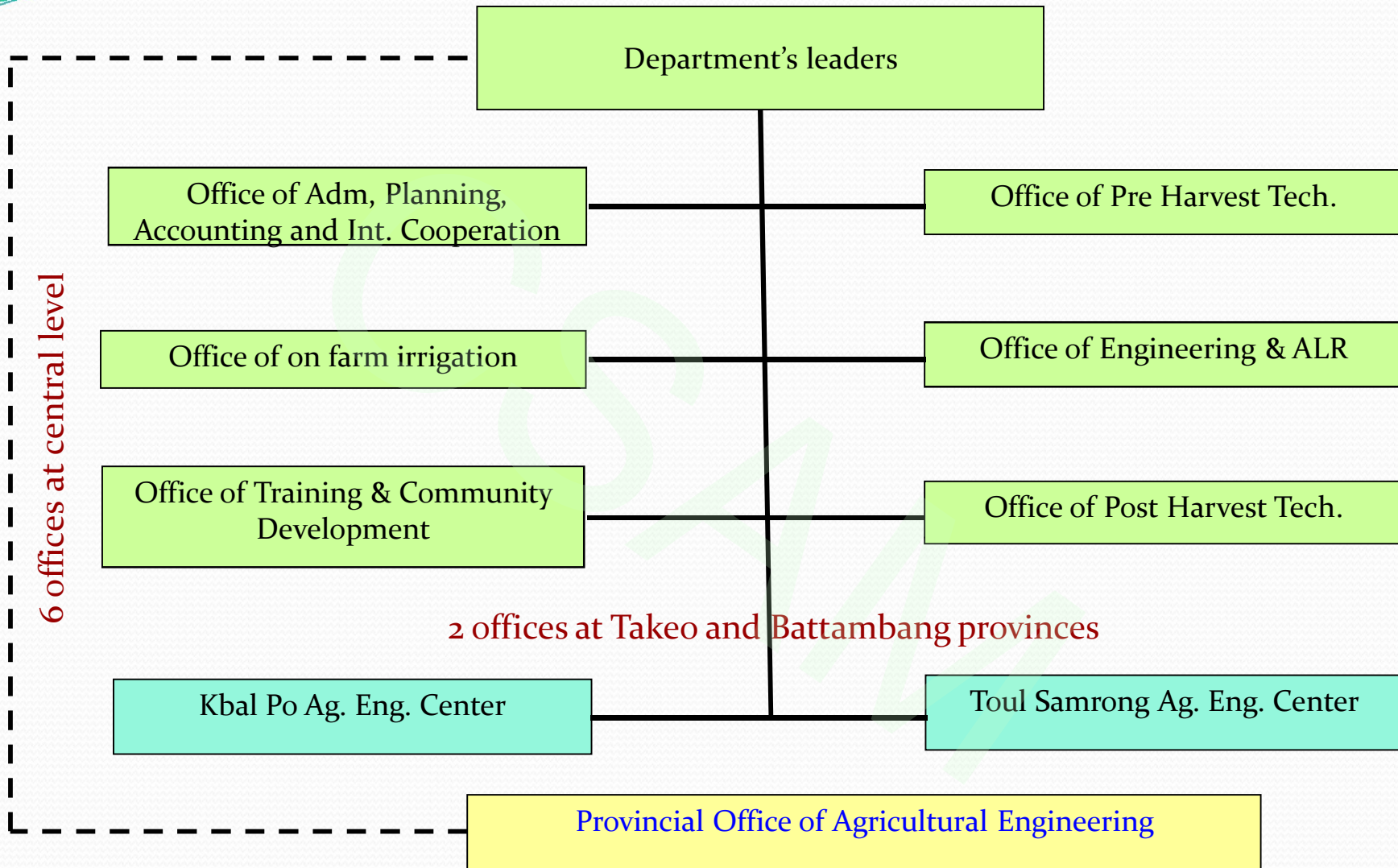
We are committed toward contributing to **poverty reduction**, ensuring **food security** and **adapting to climate change**.



4 main objectives are considered and addressed:

1. Enabling access to Mechanization;
2. Develop broad-based skills and strengthen capacity in agricultural mechanization;
3. Commercialization of agriculture through mechanized farming; and
4. Improving policy, legal and regulatory environment for agricultural mechanization.

IX. The Development of an organizational chart of Dept of Agricultural Engineering in Cambodia



Local made farm machinery & equipment



Farmer congress on farm machinery & equipment



Research & Development on farm machinery & equipment



Field demonstration on farm machinery & equipment used



Display of farm machinery & equipment at the annual agricultural conference



Cooperation with Int institution and private sector



Different applications on rice harvesting introduced at farmer field day

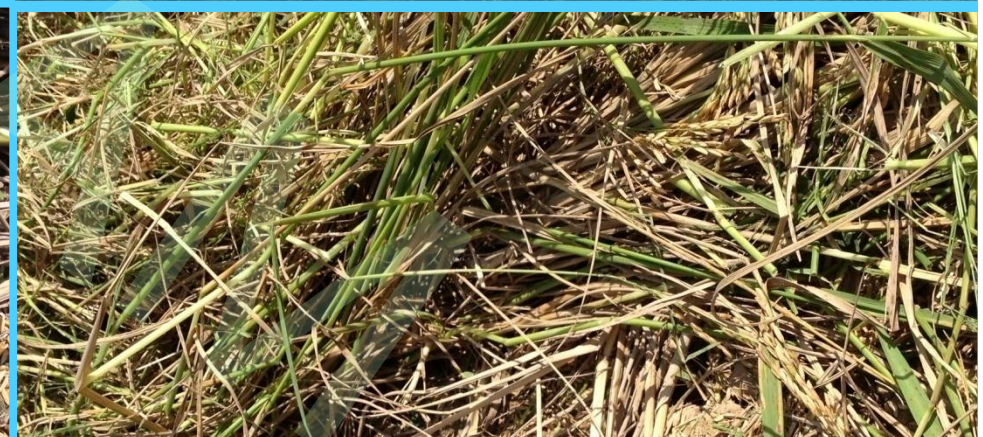


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Farmer workshop at the rice field between combine harvester's owner, operator, rice field owner and other farmers on rice losses and waste after harvesting by combine harvester

X. Prospective activities for 2014 - 1

- Strengthen the organization of the Provincial Offices of Agricultural Engineering;
- Conduct in-depth data collection on the use of agricultural machinery and equipment;
- Prepare regulations and guidelines for the improvement of agricultural machinery;
- Conduct Research and Develop on most suitable implements equipped with hand tractors and tractors;
- Continue providing training on repair and maintenance of farm machinery and equipment to end-users/farmers;
- Make technical documents available in both Cambodian and English;
- Organize events, at national and provincial levels, where end-users/farmers, distributors and artisans/manufacturers can meet together to share experiences and updated information.

X. Prospective activities for 2014 - 2

- Organize workshops to update and upgrade farmers and artisans/mechanics who are enthusiastic about the creation/innovation and modification of farm machinery and equipment;
- Coordinate and cooperate with development partners, NGOs, and private sector to make the agricultural mechanization sector kept pace with the Govt's strategy on the promotion of rice export;
- Organize farm machinery expo in cooperation with private sector and development partners at national and provincial levels.

XI. Conclusion

- Agricultural machinery and equipment is increasing rapidly in the last few years in Cambodia;
- Agricultural mechanization in both pre and post harvest technology (plowing, harrowing and harvesting) plays a major roles in agricultural production in Cambodia;
- However, technical skilled workforce is limited and not competence enough to respond the needs at both national and provincial level;
- Most of workshops for repairing and maintenance of farm machinery and equipment are not available at the rural areas;
- Less activities on Research and Development of agricultural machinery and equipment and it exists mainly at the national level; and
- The involving of all support institutions from Governments, international organizations and private sectors are important in applying the agricultural mechanization in Cambodia effectively.



Thank you for your attention

