



Strengthening Agricultural Extension Services in Cambodia

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Background

- Agricultural program existed in Cambodia before 1970s (Department of Extension and Rural Development)
- After 1979, Ministry of Agriculture, Forestry and Fisheries (MAFF) set up an Extension Unit and one Committee
- Department of Agricultural Extension (DAE) was created in 1995 and renewed in 2000
- About 1,100 staff provide extension services to farmers (as of 2014)

Objectives of the Study

- ❖ To enlist the agricultural extension service providers.
- ❖ To examine the major sources and channels of information used by farmers.
- ❖ To examine the level of adoption of new agricultural practices by farmers.
- ❖ To assess farmers' needs and wants in terms of learning and adoption of new agricultural technologies and practices.
- ❖ To understand the perceived barriers to adoption of new agricultural practices.

Methods

❖ Study populations

- Farmers
- Extension professionals, commune council chairpersons (CCC) and other key informants (NGO/INGO/project staff and others)

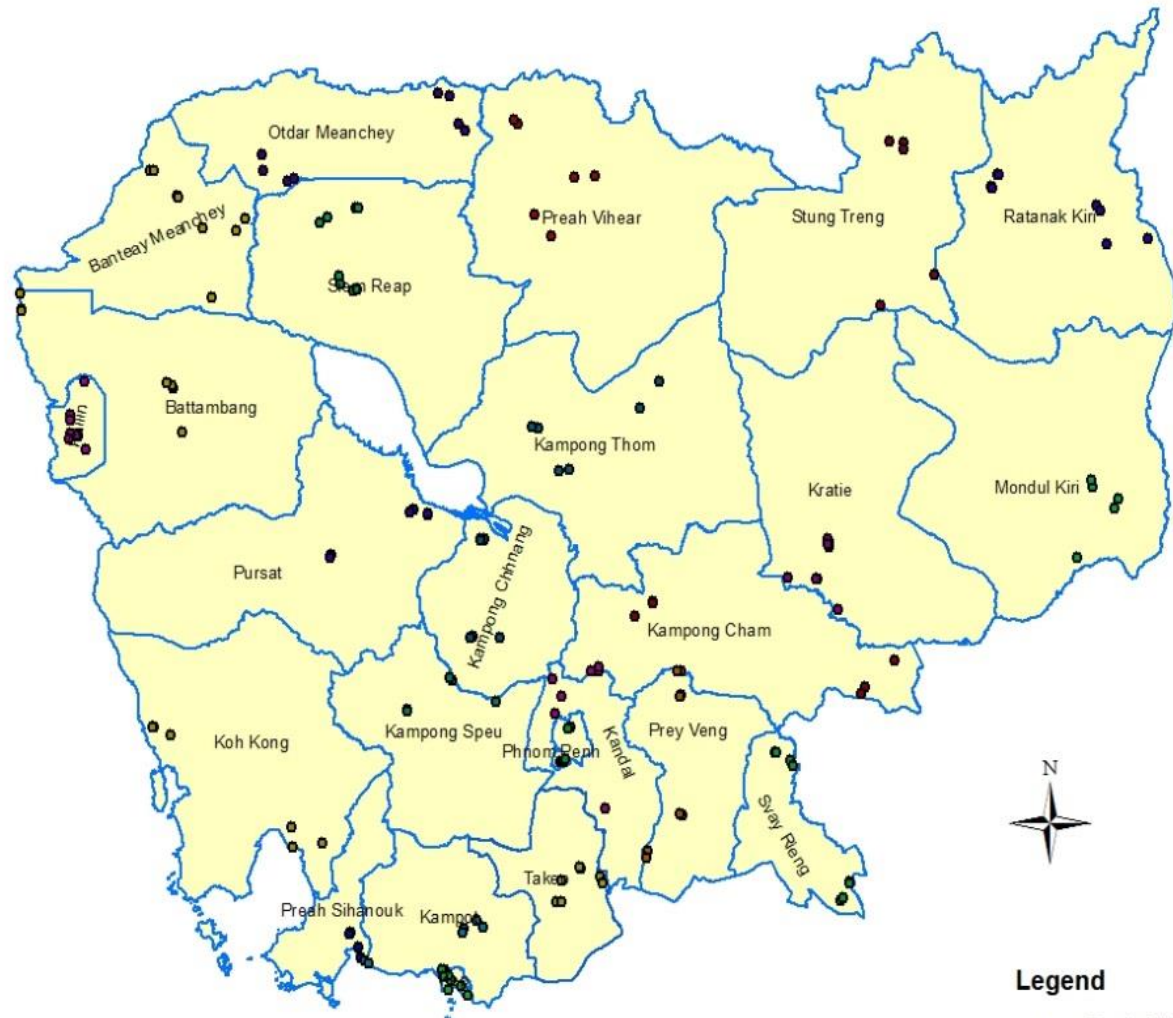
❖ Farmers sample

- 24 provinces, random selection of 2 districts from each province = 48 districts, random selection of 2 communes from each district = 96 communes; and random selection of 2 villages from each commune = 192 villages. From each village a cluster of 15-16 households were randomly selected (Total: 3054 HHs)

❖ Extension professionals, commune council chairs and other key informants

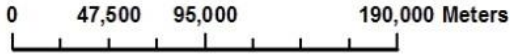
- Convenience sample: District and commune level extension workers, commune council chairs, NGO/INGOs project staff

Map of Cambodia showing study areas for agricultural extension case study



Legend

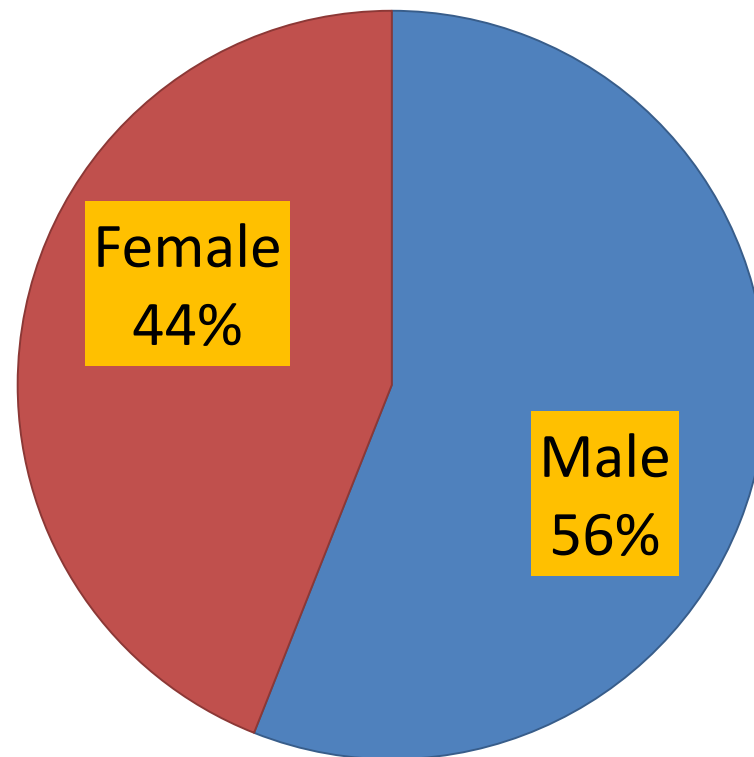
- Study Villages
- Study Provinces



Results (Part A)
Survey of Farmers

Demographics

Gender (N=3,054)



Demographics...

	N	Mean (SD)
Age (years)	3,054	44.67 (13.14)
HH Size	3,054	5.32 (2.06)
Schooling (years)	3,054	4.21 (3.47)

Demographics...

Provinces	Gender		Age (years)	HH size	Schooling (years)	Can read and write?
	Male (%)	Female (%)	Mean			Yes (%)
Prey Veng	33.6	66.4	45.8	5.3	4.5	76.6
Pursat	47.2	52.8	42.2	5.0	4.1	68.5
Sihanuk Ville	37.5	62.5	45.9	5.4	4.1	76.0
Siemreap	53.1	46.9	44.3	5.4	1.9	44.5
Stengtrang	57.8	42.2	44.0	5.8	3.2	59.7
SvayReang	50.0	50.0	46.0	5.1	4.3	69.5
Takeo	60.2	39.8	46.1	5.2	4.3	76.6
Pailin	78.1	21.9	44.2	5.1	4.7	76.6
Presh Vihear	45.7	54.3	42.3	5.1	2.9	53.2
Kandal	63.3	36.7	48.9	5.6	5.5	80.3
Kompot	71.1	28.9	42.5	5.1	4.0	70.3
Kratie	69.5	30.5	50.0	5.4	5.3	90.6
Bonthea Meanchey	37.0	63.0	44.8	4.7	3.8	64.3
Battambang	75.0	25.0	47.8	5.3	5.6	89.3
Kompong Cham	77.3	22.7	43.3	5.3	4.4	73.4
Kompong Chhang	66.4	33.6	47.3	4.7	4.7	80.0
Kompong Speur	44.5	55.5	41.5	5.2	3.6	68.8
Kompong Thom	52.0	48.0	45.4	5.0	4.2	66.9
Oddar Meanchey	70.3	29.7	43.8	5.3	3.9	69.6
Kep	33.6	66.4	46.4	5.3	5.0	66.4
Mondulkiri	48.4	51.6	37.4	5.4	3.7	62.5
Rathanakiri	60.2	39.8	40.6	6.4	4.8	50.0
Kosh Kong	60.9	39.1	43.9	5.3	3.5	67.2
Phnom Penh	50.8	49.2	48.2	6.0	5.9	84.4

Crop production: Wet season

- ❖ Low land rain fed rice dominant
- ❖ Average plot size:
 - Low land rain fed: 2.59 ha
 - Deep water/floating: 2.14 ha
- ❖ Three-fourth (76%) of paddy rice is covered by traditional varieties
- ❖ One-fourth (27%) of maize is local/traditional maize
- ❖ Seed source:
 - ❖ Rice: Own harvest (82%)
 - ❖ Maize: Purchased from market (62%)

Crop production: Dry season

- ❖ Major crops : Dry season flood recession, low land irrigated rice, and maize
- ❖ Farm size:
 - Floor recession rice: 1.54 ha
 - Low land irrigated rice: 1.43 ha
 - Maize: 1.76 ha
- ❖ Two-third (67%) of rice and three-fourth (74%) of maize farms covered by improved seeds
- ❖ Seed source: 56.6% of rice seed is purchased from market.

Crop Production: Dry and Wet Season Combined

Name of crop	Average area cultivated by plot (ha)	Varieties Planted		
		Traditional / local	Improved	Number of Plots
Rice	2.4	72.2%	27.8%	4267
Maize	6.4	25.3%	74.7%	487
Cassava	2.5	51.3%	48.7%	636
Sweet Potato	1.4	84.2%	15.8%	19
Soybean	1.8	68.4%	31.6%	79
Mungbean	1.4	51.3%	48.7%	78

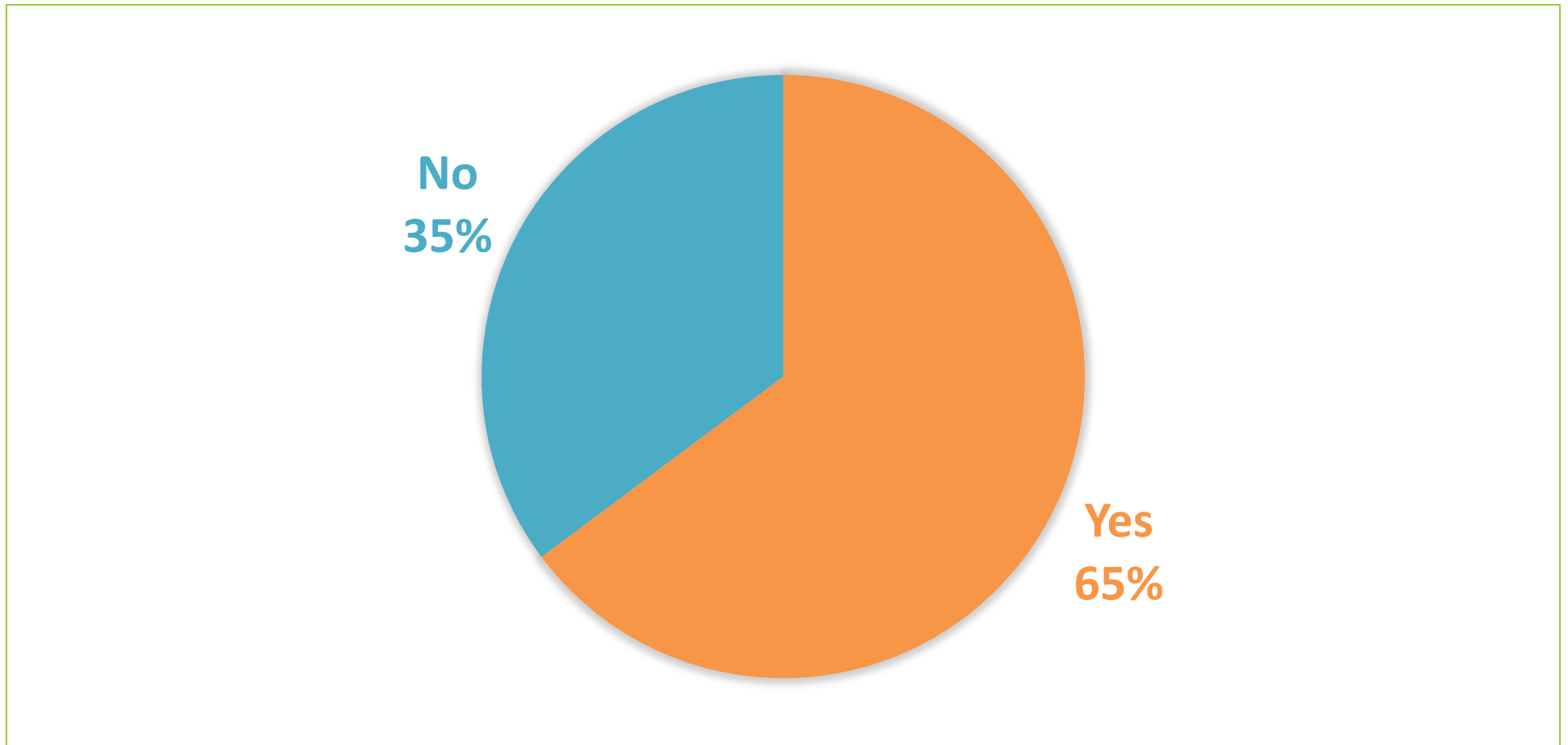
Vegetable and Fruit Production Area

Vegetable	Plot no	Mean (sq. m)		Fruit	N	Mean (sq. m)
Cucumber	229	482.52		Mango	1402	12.37
Pumpkin	205	344.20		Guava	272	5.7
Chinese morning glory	320	119.79		Banana	1101	42.72
Egg plant	95	126.86		Pineapple	165	31.76
Gourd species	156	72.68		Papaya	368	24.62

Livestock and Fish Production

Species	Frequency	Average herd/flock size	SD
Cattle	1280	3.4	2.8
Buffalo	427	3.4	2.5
Pig	954	3.4	5.2
Chicken	1985	13.2	17.9
Ducks	494	11.7	50.6
	Frequency	Av. Farm Size	SD
Fish	160	122.3 sq. m.	208.7

Before today have you heard about an agricultural extension services in your area? (N=2,835)



Extension Services Received and # of Contacts

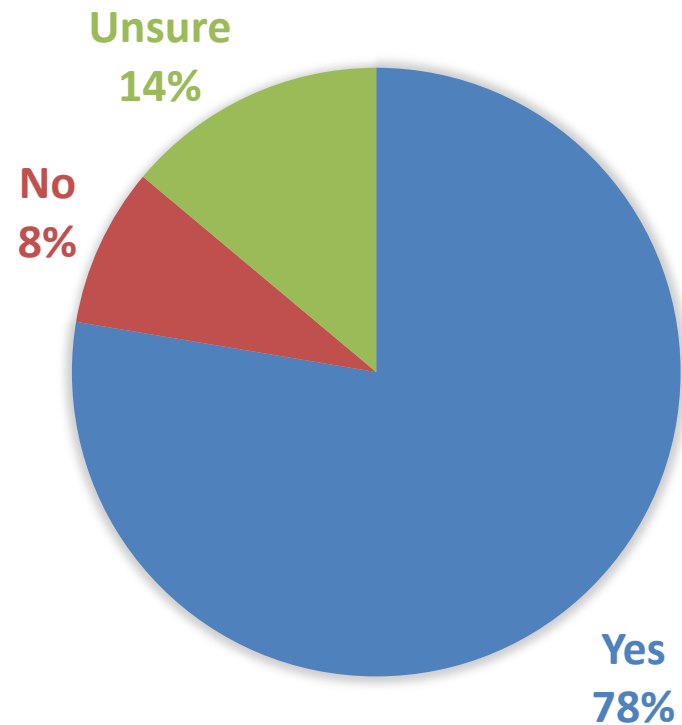
Service Providers	Have you received service from:	
	N	Yes (%)
Local agricultural service center	1841	22.4
Local village/commune office	1826	49.6
Agriculture colleges/universities, Cambodia	1730	3.6
Technical or vocational school	1729	4.9
Extension agents from the Ministry of Agriculture, Forestry and Fisheries	1772	24.0
Cambodian Agricultural Research and Development Institute (CARDI)	1729	6.0
NGO managed projects	1813	60.8
Local demonstration farms	1741	20.6
Local agricultural research stations	1726	4.6
Local fertilizer/input supply dealer	1764	16.0
Other service providers	1465	7.9

Sources of Information Used

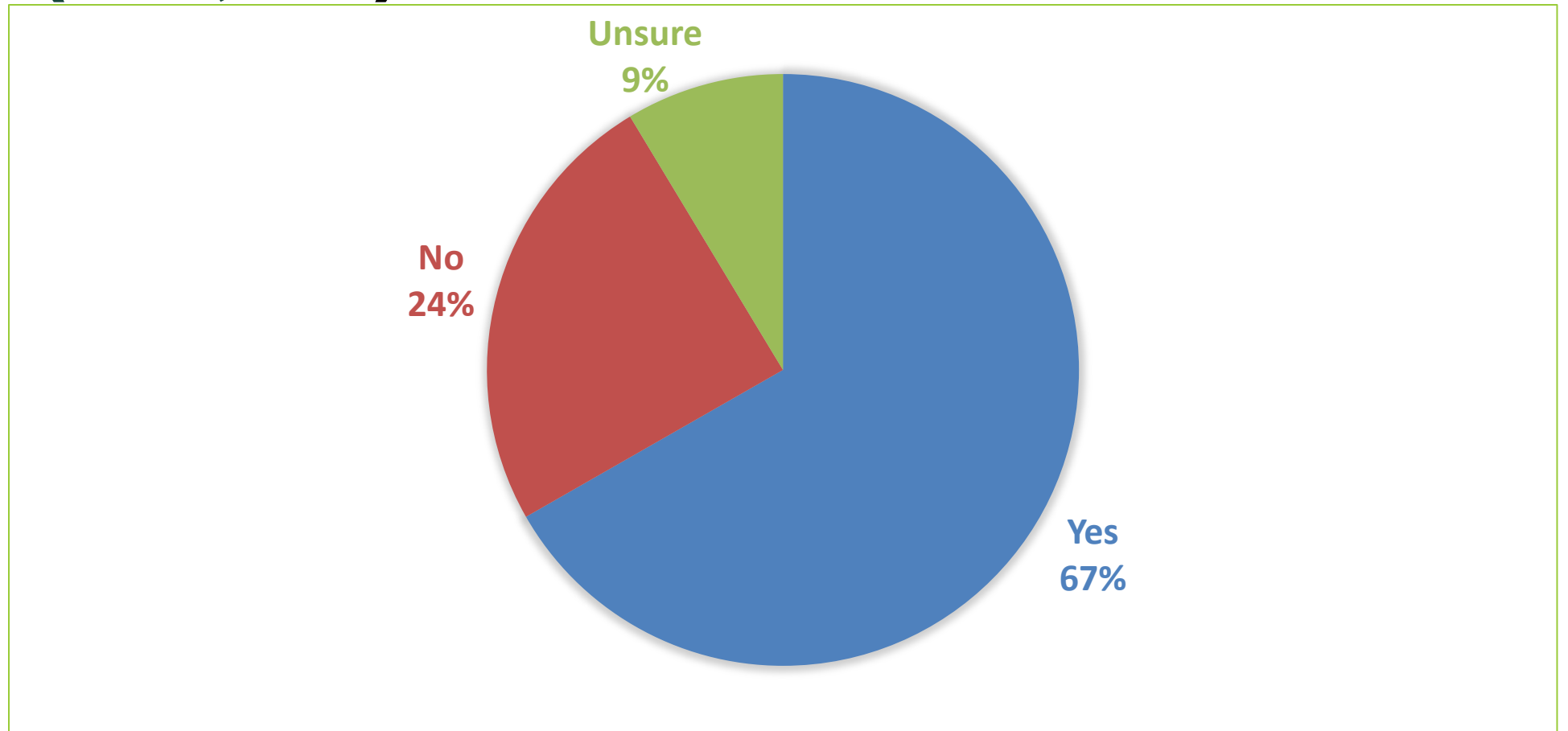
Sources of information	N	Nothing at all	A little	Some	A fair amount	A great deal
		%				
General newspapers	3028	93.0	3.8	2.1	1.0	.1
Farm magazines	3024	89.0	5.8	3.7	1.3	.3
Extension publications	3026	80.5	7.9	7.5	3.7	.4
TV farm programs	3025	56.0	13.4	16.4	12.6	1.7
Radio farm programs	3026	48.7	15.7	17.5	15.4	2.7
Local demonstration farms	3025	83.4	6.7	6.5	2.9	.5
Web/internet/e-mail	3023	97.7	1.0	.8	.4	.1
Extension meetings, workshops, courses	3026	55.6	14.1	19.2	9.9	1.1
Agricultural research stations	3027	93.7	3.2	2.1	.8	.1
Demonstration plots at local farmers' field, field days and tours	3025	88.7	5.5	4.3	1.3	.2
Personal contact with extension agents	3025	83.9	7.7	5.7	2.3	.4
Leader farmers in your area	3025	80.4	8.0	6.5	4.1	1.0
Neighbors/relatives	2974	45.4	17.2	14.8	19.2	3.3

Scales: 1 = Nothing at all, 2= A little, 3= Some, 4= A fair amount, 5= A great deal.

Do you feel you can improve your farm's productivity by adopting new/improved farming practices? (N=3,028)



Are there any barriers to fully adopt the improved agricultural practices? (N=3,021)



Barriers to fully adopt new agricultural technologies

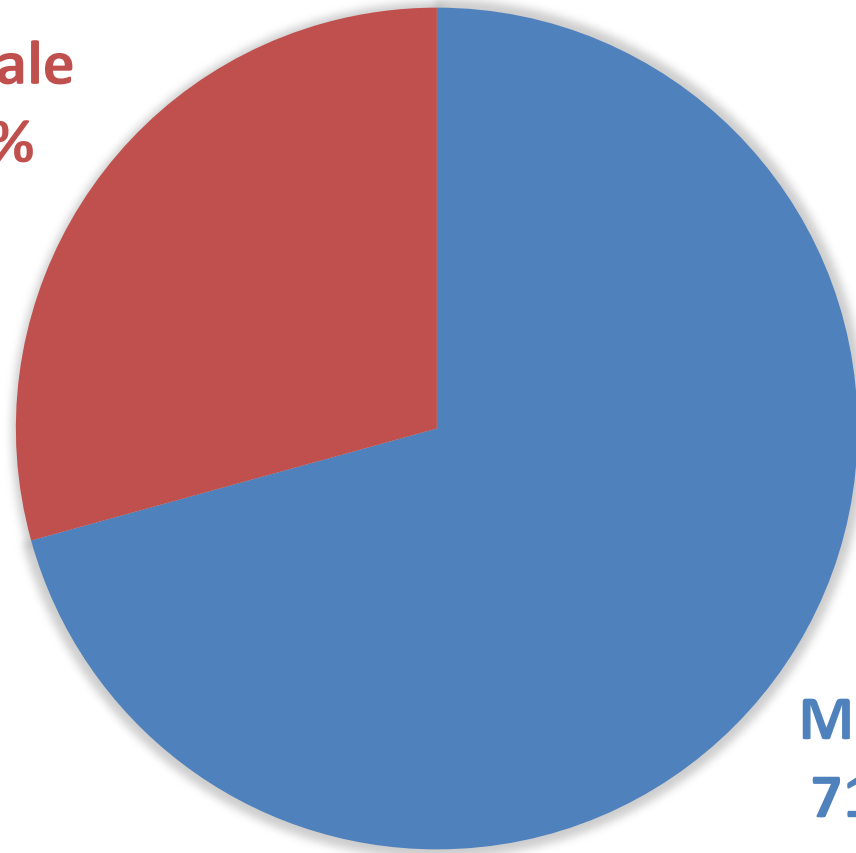
Barriers	N	Mean*
My farm has no access to irrigation	2,226	3.86
I do not have sufficient knowledge or details about the new technology	2,234	3.60
I do not have the education or skills to adopt the new technology	2,229	3.48
I do not have access to a market for my product	2,211	3.37
I cannot get credit needed to adopt the new technology	2,222	3.29
The agricultural technology is not suitable to my farm	2,230	2.93
My farm is too small	2,226	2.81
I do not own the land which I farm	2,225	2.59
Other reason	472	2.23

*Scales: 1= Not at all important, 2= A little important, 3=Neutral, 4=Somewhat important, 5= Very important

Part B:
**Extension Professionals, Commune Council
Chairpersons, Village Chiefs, and NGO/INGO
Professionals Survey**

Gender (N=140)

Female
29%



Male
71%

Respondents' Current Position (N=140)

Position	N	%
Ministry of Agriculture, Forestry and Fisheries (MAFF) Extension Professionals/Workers	27	19.3
Commune Council Chair (CCC)/CC Member/Village Chief (VC)/Asst. Village Chief	83	59.3
NGO/INGO/Project Staff and Other	30	21.4

Demographics

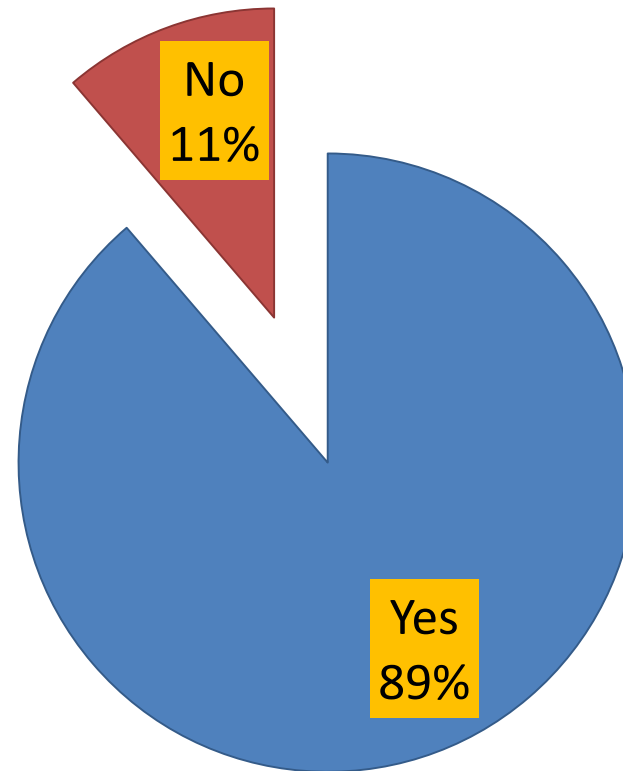
	Total		MAFF Extension Professionals/Workers		CCC/ CC Member/ Village Chief/Asst. VC		NGO/INGO/ Project Staff and Other	
	N	Mean	n	M	n	Mean	n	Mean
Age (years)	139	47.50	27	43.96	82	52.02	30	38.30
Education (years)	133	8.37	25	10.36	81	7.73	27	8.43
Period working in current position (years)	135	11.33	24	11.69	82	12.90	29	6.59

Major providers of Agricultural Extension Services (N=463*)

Agricultural Service Providers	N	MAFF Extension Professionals/ Workers	CCC/CC Member/ Village Chief & Asst. VC	NGO/INGO/ Project Staff & Other
Ministry of Agriculture, Forestry and Fisheries	115	22	72	21
Ministry of Rural Development	57	10	39	8
Ministry of Water Resources and Meteorology	49	6	36	7
Ministry of Women Affairs and Veterans	61	10	42	9
Cambodian Agricultural Research and Development Institute (CARDI)	29	7	16	6
Donor funded project such as USAID/ HARVEST, JICA, GIZ,...	32	9	19	4
NGOs in the area	71	13	48	10
Agriculture colleges/universities, Cambodia	14	4	9	1
Other organization(s)	25	4	15	6
I do not know any	10	3	4	3

* Respondents could select multiple choices.

Is an extension agent assigned to help farmers in your area? (N=142)



If YES, Who provides extension service? (N=246*)

Service providers	N	MAFF Extension Professionals/ Workers (n=51)	CCC/ CC Member/Village Chief/Asst. Village Chief (n=145)	NGO/INGO/ Project Staff and Other (n=50)
MAFF Extension Worker	101	25	60	21
Project staff (USAID/HARVEST; JICA, GIZ,...)	37	9	19	8
NGO/INGO worker	84	13	54	17
Other	20	4	12	4

*Note: Respondents could select multiple answers.

Common problems associated with agricultural services and provisions for

Agricultural services	Timeliness of supply	Quality of services	Price/Cost	Training on use of inputs
Frequency of mention				
Improved variety of rice seed for dry season	46	36	45	45
Improved rice seed for wet season	31	22	36	43
Improved fruit saplings/cuttings/seedlings	21	23	30	35
Improved vegetable seeds/saplings	19	17	25	33
Improved fingerlings	22	16	28	34
Improved cattle breeds	22	13	32	33
Improved buffalo breeds	19	8	28	30
Improved hogs	23	18	36	33
Improved poultry (ducks and chicken)	23	16	31	35
Livestock feed	20	15	38	33

How can extension services be improved? (N=91)

Suggestions	Frequency
Provide training, conduct demonstrations, and make farmers aware of the new agricultural activities/technologies	49
Increase visit of extension personnel to the farmers	18
Advertise more and disseminate messages using radio, magazine, etc.	7
Improve supply of agricultural inputs	5
Seek help of and/or collaborate with NGOs	4
Provide expert advisory services	3
Need adequate budget for extension program	2
Cash support to farmers	2
Help find market for agricultural produce	1

Major findings and issues

- ❖ Improved rice seed -- wet season; marketing of farm produce
- ❖ Major service providers:
 - Farmers: NGOs
 - Extension professionals: MAFF staff
- ❖ Input supply
 - Local seed, access to credit (difficult process, no collateral)
- ❖ Irrigation: scarce water source, no canals, costly management
- ❖ Lack of awareness of agricultural services among farmers
- ❖ Limited access to and use of information sources
- ❖ Needs for effective extension services felt

Conclusions and Recommendations

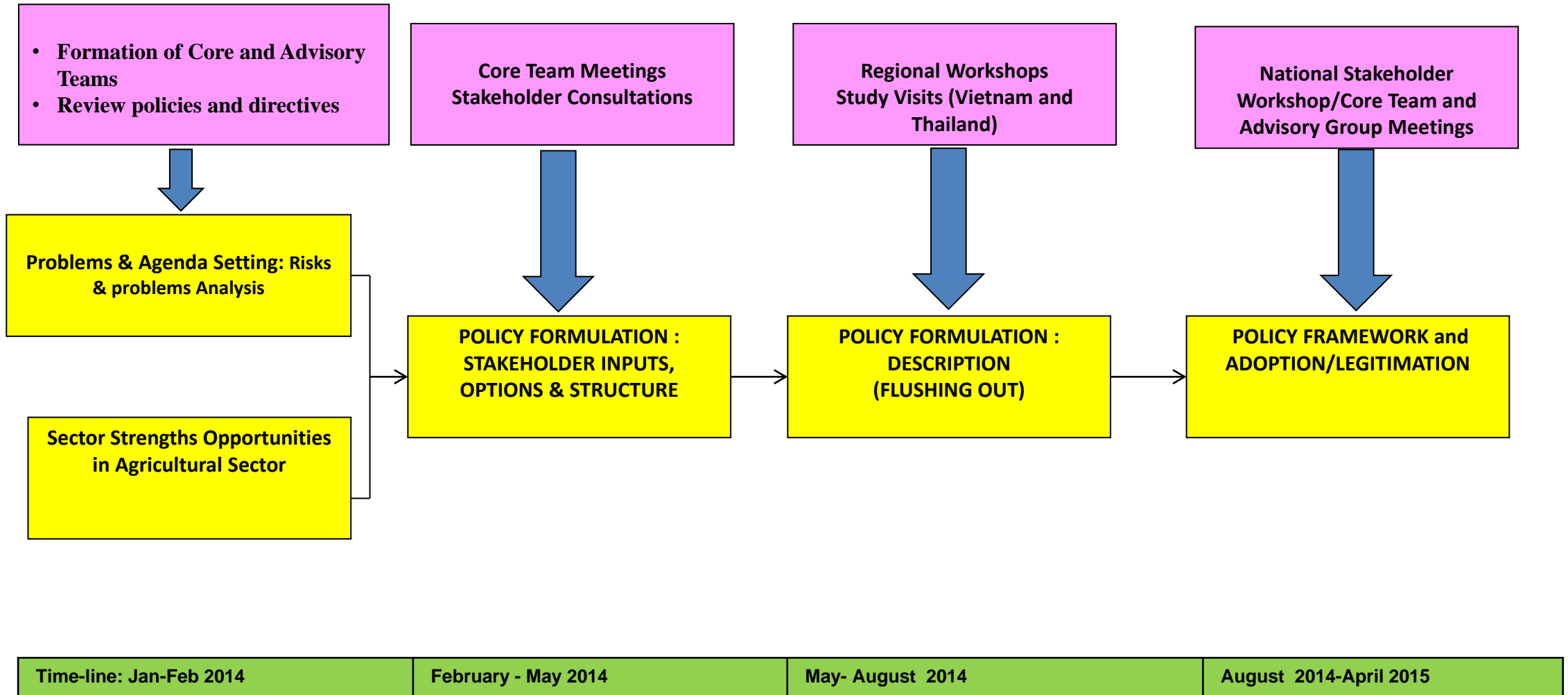
- ❖ Training and education of farmers
- ❖ Training of extension workers
 - More demonstration and farm visits
 - Improve the qualities of trainings and education program
 - In-service training for extension workers
- ❖ Institutional development of farmers
- ❖ More cooperation and collaboration between NGOs, CARDI, and agricultural colleges/universities in developing farmers-centered research and education

What happened in 2014/2015?

Agricultural Extension Policy

- General Department of Agriculture (GDA) and Department of Agricultural Extension (DAE) of MAFF recognized the need to strengthen extension service
- In January 2014, GDA and DAE initiated a consultative process of developing a **national policy on agricultural extension** to bring about real improvement in the agricultural sector
- Cambodia HARVEST provided technical assistance for policy formulation
- GDA established a “Core Team” of senior staff to formulate an agricultural extension policy and guidelines
- MAFF also established an “Advisory Committee” to oversee the agricultural extension policy formulation process

Policy Formulation Process



Process was extensive !

- Literature review on agricultural extension
- Study of agricultural extension act(s) and directives
- Regional and national level consultations
- Dialog and discussion with stakeholders
- Consultative workshops and feedback
- Review of draft policy by Advisory Committee
- Agricultural extension policy was approved by MAFF (May 2015)

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<http://fsg.afre.msu.edu/>

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