

**Workshop on Final Statistical Analyses  
of CSES 2003/04 Data  
16-17 June 2005**



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# **CROP PRODUCTION IN CAMBODIA 2004**

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## **Introduction**

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**Data for calculation of crop production were collected through the household questionnaire using three sets of questions:**

- 1. Land ownership,**
- 2. Production of crops, and**
- 3. Cost of crop cultivation.**

**All data of crop production was collected from November 2003 to January 2005 in the CSES 2003/04. The reference period was "last wet and dry seasons".**

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## Introduction



The survey registered 137 different crops. Based on FAO classification, the NIS provides a grouping into 23 groups namely:

1. Cereal harvested for grain,
2. Tubers, roots and bulk crop,
3. Leguminous plants mainly for grain (excluding soybean and groundnut),
4. Sugar crops,
5. Oilseed crops
6. Spices, condiments, aromatic and medicinal plants,
7. Fiber crops,
8. Other industrial crops,

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## Introduction



9. Leafy or stem vegetables,
10. Fruit-bearing vegetables,
11. Root, bulb and tuberous vegetables,
12. Leguminous vegetables harvested green,
13. Other vegetables,
14. Special horticultural cultivation,
15. Citrus fruit,
16. Other cultivated fruit,
17. Edible nuts,
18. Beverage crops,
19. Oil crops,
20. Spices and aromatic crops,
21. Rubber and tanning crops,
22. Flower crops,
23. Other crop not classified elsewhere

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## Introduction



However, to get reliable estimates we have to reduce the groupings to six main groups:

1. Cereals (group 1)
2. Tubers and leguminous plants (group 2-3)
3. Industrial temporary crops (group 4-8)
4. Vegetables (group 9-14)
5. Fruits and nuts (group 15-17) and
6. Industrial permanent crops (group 18-22).

can't remember  
definition of  
permanent +  
temporary crops...

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## Introduction



Crop production was divided into two categories namely gross output and net output, followed by the wet season and dry season.

Net output was derived from gross output minus post harvest loss.

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## Number of households by region



### Wet season 2004 (in 1000)

Main group	Phnom Penh		Other Urban		Rural		Total	
	Number	%	Number	%	Number	%	Number	%
Cereal harvested for grain	5	48.4	88	62.3	1,439	72.1	1,532	71.3
Tubers and leguminous plants	0	1.4	2	1.6	71	3.6	73	3.4
Industrial temporary crops	0	2.6	5	3.7	96	4.8	101	4.7
Vegetables	1	11.0	14	9.6	108	5.4	123	5.7
Fruits and nuts	3	28.7	22	15.2	202	10.1	226	10.5
Industrial permanent crops	1	7.9	10	7.2	67	3.4	78	3.6
Other crop not classified elsewhere	0	0.0	1	0.6	16	0.8	16	0.8
<b>Total</b>	<b>10</b>	<b>100.0</b>	<b>141</b>	<b>100.0</b>	<b>1,997</b>	<b>100.0</b>	<b>2,149</b>	<b>100.0</b>

1  
= 2.1m h/h

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how can this be  
squared w. only 60%  
employed in ag/  
hunting / fishing?

• are these % only  
of cultivating h/h in  
each region?  
• imputed to total pop =  
of h/h?

## Number of households by region

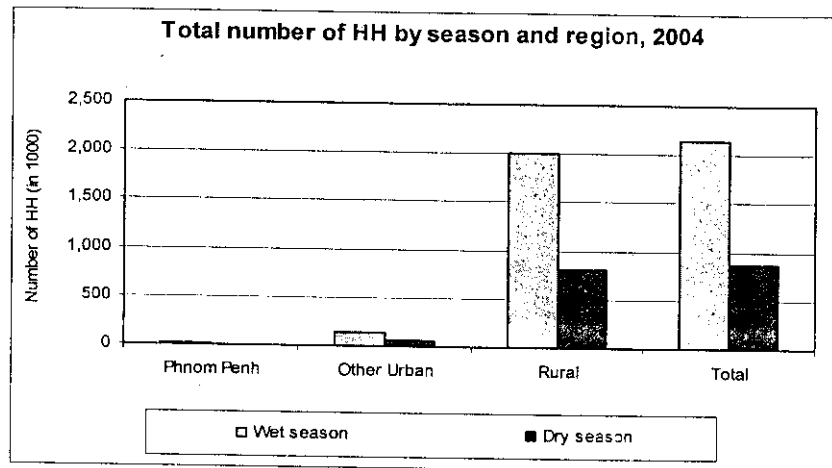


### Dry season 2004 (in 1000)

Main group	Phnom Penh		Other Urban		Rural		Total	
	Number	%	Number	%	Number	%	Number	%
Cereal harvested for grain	0	0.0	17	25.3	313	38.9	330	37.7
Tubers and leguminous plants	0	4.1	2	2.6	60	6.3	62	6.0
Industrial temporary crops	0	7.8	4	6.1	66	7.0	61	6.9
Vegetables	1	16.7	13	19.0	94	11.7	108	12.3
Fruits and nuts	2	49.9	23	34.2	216	26.9	241	27.5
Industrial permanent crops	1	21.5	8	12.3	62	7.7	71	8.1
Other crop not classified elsewhere	0	0.0	0	0.0	12	1.5	12	1.4
<b>Total</b>	<b>3</b>	<b>100.0</b>	<b>67</b>	<b>100.0</b>	<b>804</b>	<b>100.0</b>	<b>874</b>	<b>100.0</b>

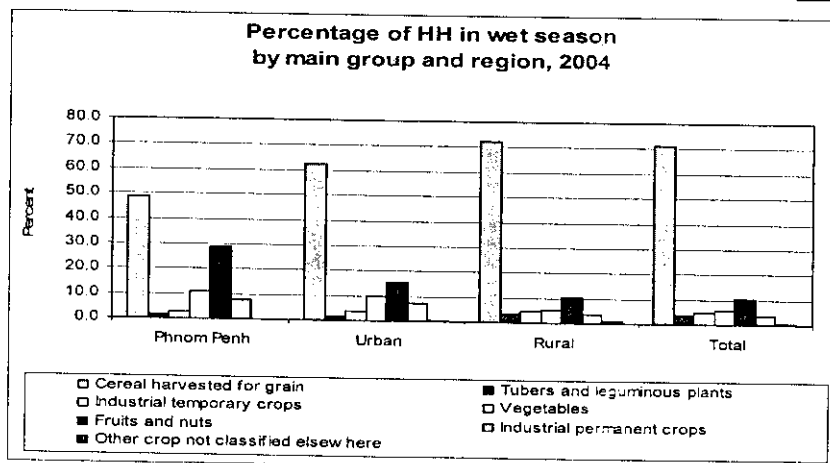
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## Number of households by region



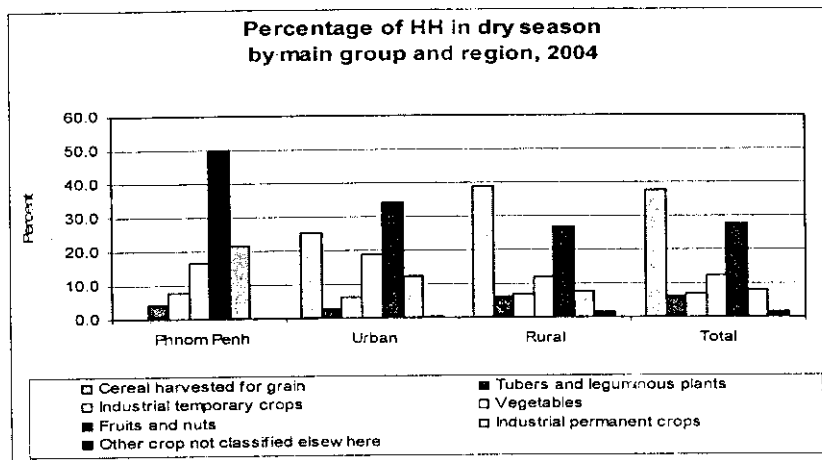
9

## Percentage of households



10

## Percentage of households



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## Number of households by zone



Wet season 2004 (in 1000)

Main group	Phnom Penh		Plain		Tonle Sap		Coastal		Plateau/ Mountain	
	Number	%	Number	%	Number	%	Number	%	Number	%
Cereal harvested for grain	6	48.4	657	72.0	615	72.8	140	69.6	215	67.7
Tubers and leguminous plants	0	1.4	35	3.8	21	3.0	3	1.7	13	4.2
Industrial temporary crops	0	2.6	61	6.7	20	2.8	6	2.9	14	4.4
Vegetables	1	11.0	31	3.4	54	7.6	10	5.0	27	8.4
Fruits and nuts	3	28.7	90	9.9	77	10.9	21	10.4	35	11.1
Industrial permanent crops	1	7.9	30	3.3	19	2.6	20	9.8	9	2.9
Other crop not classified elsewhere	0	0.0	9	1.0	2	0.2	1	0.6	4	1.3
<b>Total</b>	<b>10</b>	<b>100.0</b>	<b>912</b>	<b>100.0</b>	<b>708</b>	<b>100.0</b>	<b>201</b>	<b>100.0</b>	<b>313</b>	<b>100.0</b>

Wet season:  
not actually v.  
significant diff. b/w  
diff rural zones  
- still rice dominant

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## Number of households by zone



Dry season 2004 (in 1000)

Main group	Phnom Penh		Plain		Tonle Sap		Coastal		Plateau/Mountain	
	Number	%	Number	%	Number	%	Number	%	Number	%
Cereal harvested for grain	0	0.0	265	49.7	49	23.7	2	3.3	14	19.0
Tubers and leguminous plants	0	4.1	40	7.5	9	4.5	2	3.1	1	1.7
Industrial temporary crops	0	7.8	46	8.8	5	2.3	2	3.6	8	9.9
Vegetables	1	16.7	47	8.8	44	21.2	8	14.0	8	11.0
Fruits and nuts	2	49.9	88	18.0	81	39.7	27	47.0	35	46.9
Industrial permanent crops	1	21.6	30	5.5	16	7.8	15	27.1	9	12.5
Other crop not classified elsewhere	0	0.0	9	1.8	2	0.7	1	1.9	0	0.0
<b>Total</b>	<b>3</b>	<b>100.0</b>	<b>533</b>	<b>100.0</b>	<b>205</b>	<b>100.0</b>	<b>57</b>	<b>100.0</b>	<b>76</b>	<b>100.0</b>

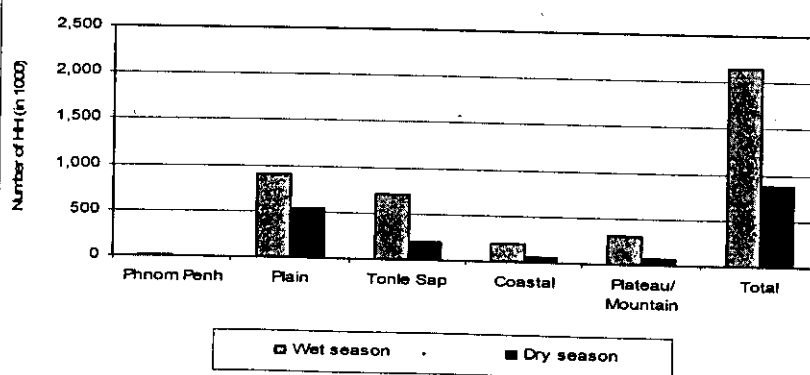
more differentiation during dry season

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## Number of households by zone



Total number of HH by season and zone, 2004



again, this must be projected to include pop. based on survey %s, no?

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## Number of households by zone



Dry season 2004 (in 1000)

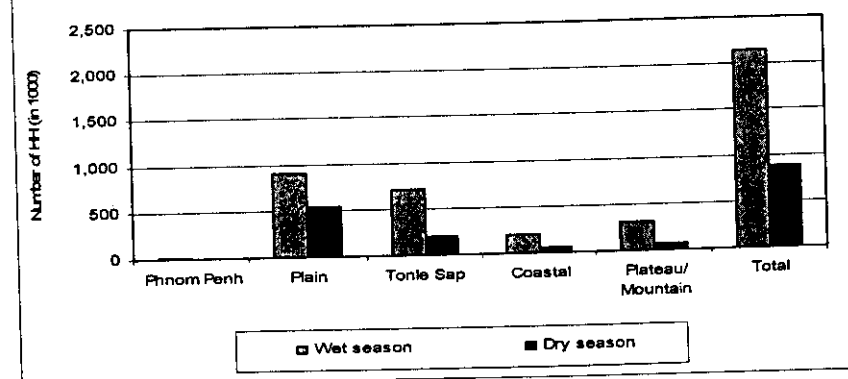
Main group	Phnom Penh		Plain		Tonle Sap		Coastal		Plateau/ Mountain	
	Number	%	Number	%	Number	%	Number	%	Number	%
Cereal harvested for grain	0	0.0	265	49.7	49	23.7	2	3.3	14	19.0
Tubers and leguminous plants	0	4.1	40	7.5	9	4.5	2	3.1	1	1.7
Industrial temporary crops	0	7.8	46	8.6	5	2.3	2	3.6	8	9.9
Vegetables	1	16.7	47	8.8	44	21.2	8	14.0	8	11.0
Fruits and nuts	2	49.9	96	18.0	81	39.7	27	47.0	36	46.9
Industrial permanent crops	1	21.6	30	5.5	16	7.8	15	27.1	9	12.5
Other crop not classified elsewhere	0	0.0	9	1.8	2	0.7	1	1.9	0	0.0
<b>Total</b>	<b>3</b>	<b>100.0</b>	<b>533</b>	<b>100.0</b>	<b>205</b>	<b>100.0</b>	<b>67</b>	<b>100.0</b>	<b>76</b>	<b>100.0</b>

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## Number of households by zone



Total number of HH by season and zone, 2004



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## Crop production



### Wet season 2004 (in Million Riels)

Main group	Gross output	Post harvested loss		Net output	
		Value	Percent	Value	%
Cereal harvested for grain	1,217,601	42,696	3.6	1,174,905	96.6
Tubers and other grains	31,980	1,671	5.2	30,309	94.8
Industrial temporary crops	84,619	3,789	4.6	80,829	95.6
Vegetables	31,281	1,122	3.6	30,159	96.4
Fruits and nuts	43,166	1,313	3.0	41,844	97.0
Industrial permanent crops	12,606	481	3.8	12,124	96.2
Other crop not classified elsewhere	16,373	1,769	11.6	13,603	88.6
<b>Total</b>	<b>1,436,616</b>	<b>62,841</b>	<b>3.7</b>	<b>1,383,773</b>	<b>96.3</b>

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## Crop production

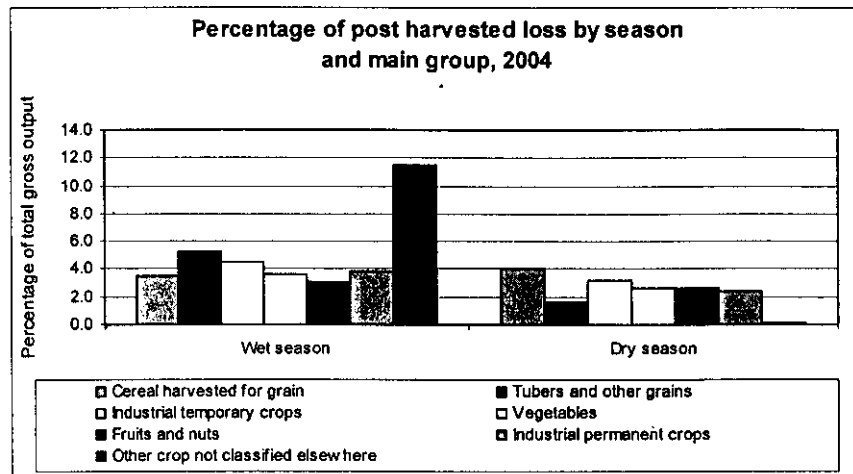


### Dry season 2004 (in Million Riels)

Main group	Gross output	Post harvested loss		Net output	
		Value	Percent	Value	%
Cereal harvested for grain	345,030	14,012	4.1	331,018	96.9
Tubers and other grains	47,924	771	1.6	47,153	98.4
Industrial temporary crops	56,767	1,744	3.1	54,013	96.9
Vegetables	57,894	1,532	2.6	56,362	97.4
Fruits and nuts	66,455	1,751	2.6	64,704	97.4
Industrial permanent crops	8,423	198	2.4	8,225	97.6
Other crop not classified elsewhere	4,463	7	0.2	4,456	99.8
<b>Total</b>	<b>586,946</b>	<b>20,016</b>	<b>3.4</b>	<b>566,931</b>	<b>96.6</b>

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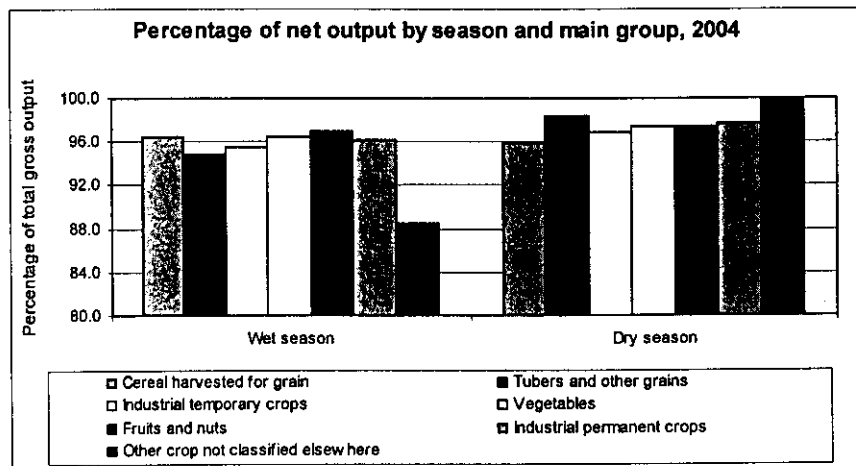
## Post harvested loss



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Lead to match bar  
to key  
eg lower, highest in ... ?  
across, then down

## Net output



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## Cost of crop production (in Million Riels)

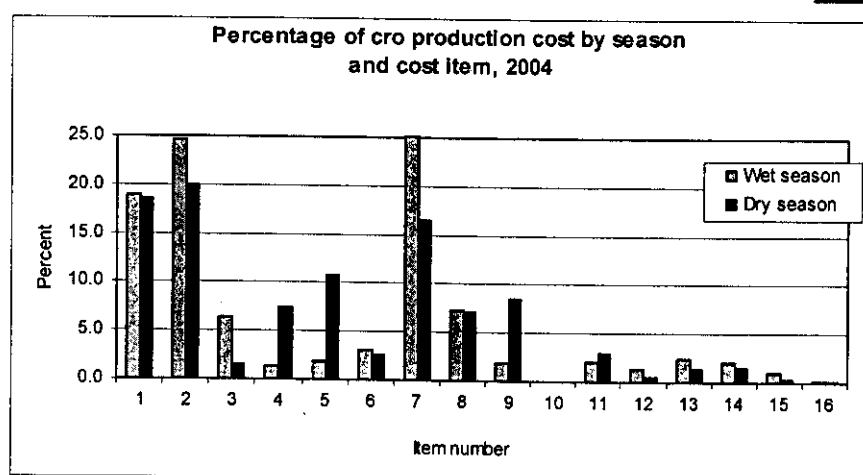
Item No.	Group item	Wet season		Dry season		Total	
		Value	%	Value	%	Value	%
1	Planting material	94,168	19.0	42,383	18.6	136,541	18.9
2	Chemical fertilizers	122,200	24.6	46,611	20.0	167,812	23.2
3	Animal & plant manure	31,738	6.4	3,643	1.6	35,380	4.9
4	Pesticide, weedicide & fungicide	6,729	1.4	17,110	7.6	23,839	3.3
5	Electricity, oil, gas, diesel oil for the farming	9,346	1.9	24,636	10.7	33,881	4.7
6	Storage items	16,782	3.2	6,048	2.6	21,830	3.0
7	Payment for hired draft power	124,426	25.1	37,769	16.6	162,186	22.4
8	Other hired labor charges	36,493	7.4	16,349	7.2	52,842	7.3
9	Irrigation charges	8,393	1.9	19,423	8.6	28,816	4.0
10	Services/technical supports from govt. & others	208	0.0	174	0.1	383	0.1
11	Transportation of input materials & products	10,609	2.1	6,690	2.9	17,100	2.4
12	Repair & maintenance of farm house, animal shed	6,648	1.3	1,062	0.5	7,601	1.0
13	Repair & maintenance of farm equipment	11,743	2.4	3,244	1.4	14,987	2.1
14	Rental paid to owner for farm land (in cash)	10,236	2.1	3,602	1.6	13,737	1.9
15	Rental paid to owner for farm land (in kind)	5,691	1.1	663	0.3	6,244	0.9
16	Rental paid to owner for farm house, equipment etc.	793	0.2	366	0.2	1,148	0.2
Total		495,894	100.0	228,433	100.0	724,327	100.0

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surprised at expense of hiring draft power

renting still v. small  
- still owner-occupied  
(+ small wage labour?)

## Cost of crop production



fertilizer

draft

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based on market prices  
not farmgate  
(?)

- he doesn't seem to know for certain

what is deficit  
of value added?

## Value added of crop production



(in Million Riels)

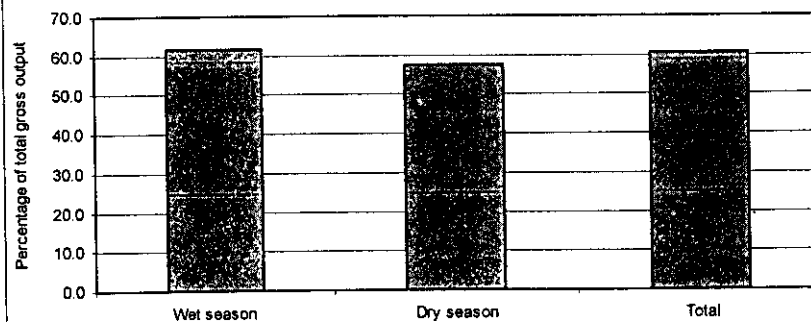
Description	Wet season		Dry season		Total	
	Value	Percent	Value	Percent	Value	Percent
Gross output	1,436,615	100.0	586,948	100.0	2,022,561	100.0
Post harvest loss	52,841	3.7	20,016	3.4	72,856	3.6
Net output	1,383,773	96.3	566,931	96.6	1,949,704	96.4
Cost	496,894	34.6	228,433	39.0	724,327	35.8
Value added	887,879	61.8	337,498	57.6	1,225,378	60.6

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## Value added of crop production



Percentage of value added by season, 2004



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## Average yield per square meter, 2004



(in Riels)

Main group	Wet season		Dry season	
	Gross output	Net output	Gross output	Net output
Cereal harvested for grain	1,313	1,288	1,282	1,242
Tubers and leguminous plants	158	152	306	300
Industrial temporary crops	689	677	689	677
Vegetables	906	873	296	288
Fruits and nuts	1,833	1,698	449	441
Industrial permanent crops	168	166	130	127
Other crop not classified elsewhere	310	288	212	211

rice highest presumably  
because inputs (or at  
least purchased inputs)  
so low cf. total (?)

a bit deceptive  
(or at least counter-intuitive)

that wet season  
yield higher than dry  
presumably because more  
inputs in dry season  
(this would expect  
this to be offset  
by lower price of  
in wet, surplus, harvest...)

Could be exceptional 06?

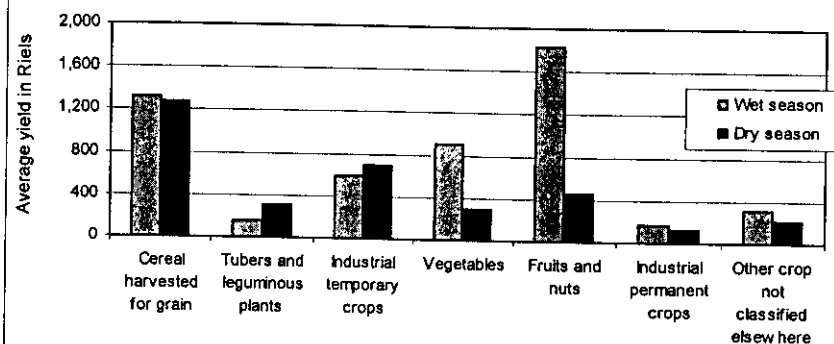
- drought / flood  
affecting input/sale  
differently the  
seasons?

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## Average yield per square meter, 2004



Average yield per square meter of gross output  
by main group and season, 2004



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# Thank You!

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Zia: big difference btw. these figs and those in natl. accounts

- ~~SES~~ not an ag survey
- NA draw on ag census (comm...)
- hkh survey, so doesn't include agribusiness, Mang Rithy, etc.
- hired labour taken out of value added in ~~SES~~ (or external to hkh)  
but in in natl. accounts (as part of sector)