



Wholesale Demand for Vegetables Produced under Boosting Food Production (BFP) Programme



by
Centre for Policy Studies
for
General Directorate of Agriculture (GDA)
Ministry of Agriculture, Forestry, and Fisheries (MAFF)

December 2016, Phnom Penh

Table of Contents

Executive Summary	4
I. Survey Objectives	7
II. Research Methods	7
2.1 Survey Questionnaire	7
2.2 Data Collection and Analysis	7
2.3 Limitation and Constraint	8
III. Survey Findings	8
3.1 Neak Meas Market, Phnom Penh.....	9
3.1.1 Wholesale Volume	9
3.1.2 Supply Source for Wholesales	10
3.1.3 Destination of Wholesale Distribution.....	10
3.2 Deumkor Market, Phnom Penh	11
3.2.1 Wholesale Volume	11
3.2.2 Supply Source for Wholesales	12
3.2.3 Destination of Wholesale Distribution.....	14
3.3 Suong Market, Thaug Khmum	15
3.3.1 Wholesale Volume	15
3.3.2 Supply Source for Wholesales	16
3.3.3 Destination of Wholesale Distribution.....	17
3.4 Samaki Market, Siem Reap.....	18
3.4.1 Wholesale Volume	18
3.4.2 Supply Source for Wholesales	19
3.4.3 Destination of Wholesale Distribution.....	20

3.5 Behavior of Wholesalers toward BFP	23
3.5.1 Wholesalers' willingness to buy vegetables under BFP	36
3.5.2 Wholesalers' interest to cooperate with BFP	36
3.5.3 Wholesalers' prospect for contractual arrangement with producers under BFP	37
III. Conclusion	38
IV. Appendices	40
4.1. Appendix 1: Survey Questionnaire.....	40
4.2 Appendix 2: Survey Activities	42

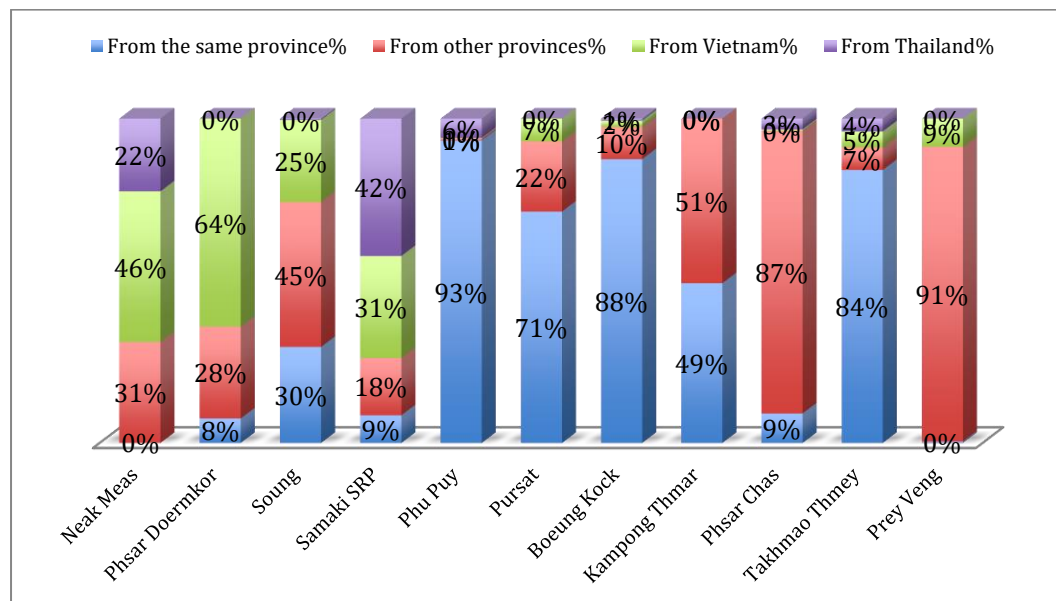
Executive Summary

The General Directorate of Agriculture (GDA) of the Ministry of Agriculture, Forestry, and Fisheries (MAFF) is launching a new program, Boosting Food Production (BFP) program. It is a government funded program and the first phase will run for three-year from 2016 to 2019. The program aims at increasing a sustainable production of aromatic rice and vegetables in Cambodia. The program takes a market driven approach. Therefore, understanding the market and identifying producer-market linkage are vital for the program. Therefore, the Centre for Policy Studies (CPS) is assisting GDA/MAFF to conduct a study as an initial step to assess the market demand and identify potential wholesalers who are willing to cooperate with the program.

A survey was then conducted from 16 to 24 December 2016 by the CPS team in four wholesale markets: Neak Meas market and Deumkor market in Phnom Penh, Suong market in Tbaung Khmum, and Samaki market in Siem Reap. The survey focuses on the 13 vegetable commodities considered by the BFP program. As a result, 159 wholesale stands were identified and 68 participated in the interview.

The study reveals a potential wholesale demand for the 13 vegetable commodities in the four markets would be as much as 278 tonnes per day, of which 40% are supplied by the local producers. Other 60% are dependent on imports from Vietnam (40%) and Thailand (20%). As further illustrated by Figure 1, the role of supply from domestic sources are far significant in Tbaung Khmum (both from Tbaung Khmum itself and from other parts of Cambodia) sharing up to 75% of the total supply despite its proximity to competitors from Vietnam.

Figure 1: Overview of Supply Sources for Various Markets [% of total wholesale volume]



Source: Survey conducted by CPS [Dec, 2016]

Of the total wholesale volume of all 13 commodities in terms of kg, cucumbers appear to be highly demanded by the market. It accounts for 32%, followed by Chinese cabbages (16%), tomatoes (13%), and cauliflowers and Chinese radishes (11% each). Despite high dependency on imports, most of these 13 commodities generally have a good share of supply by the local producers. Therefore, there exist a handy opportunity for capitalization in order to improve and expand their local production to feed this wholesale market demand.

Phnom Penh, Tboung Khmum, and Siem Reap are identified as a main wholesale points for further distribution of vegetables to other parts of the country. As in confirms in Table 1, markets in Phnom Penh plays a very important role as it has wide distribution destinations, covering not only nearby provinces in southern region, but also other farther provinces across Cambodia. Suong market in Tboung Khmum is a strategic location for distribution of wholesale to provinces in the northeastern Cambodia. Similarly, Samaki market in Siem Reap is more responsible for the distribution to other provinces in the northwestern region, especially Riem Reap itself and Preah Vihear. However, the local supply to feed this wholesale demand is quite limited, but at the same time it might offer handy opportunity to increase the capacity of domestic supply.

Table 1. Destination of Wholesale Distribution

No.	Destination [province]	Wholesale Markets		
		Phnom Penh [Neak Meas and Deumkor markets]	Tbaung Khmum [Suong market]	Siem Reap [Samaki market]
1	Phnom Penh	●	●	⊗
2	Kandal	●	⊗	⊗
3	Kampong Speu	●	⊗	⊗
4	Takeo	●	⊗	⊗
5	Prey Veng	●	⊗	⊗
6	Svay Rieng	⊗	⊗	⊗
7	Kep	⊗	⊗	⊗
8	Kampot	●	⊗	⊗
9	Preah Sihanouk	●	⊗	⊗
10	Koh Kong	●	⊗	⊗
11	Kampong Chhnang	●	⊗	⊗
12	Pursat	⊗	⊗	⊗
13	Battambang	●	⊗	⊗
14	Pailin	⊗	⊗	⊗
15	Banteay Meanchey	●	⊗	⊗

16	Tbaung Khmum	⊘	●	⊘
17	Kratie	●	●	⊘
18	Stung Treng	●	●	⊘
19	Ratanak Kiri	●	●	⊘
20	Mondul Kiri	⊘	●	⊘
21	Kampong Cham	●	●	●
22	Preah Vihear	●	●	●
23	Siemreap	●	⊘	●
24	Kampong Thom	●	⊘	●
25	Otdar Meanchey	⊘	⊘	●

Legend: ● Have distribution ⊘ No distribution ●⊘ Blue indicates BFP's target provinces

Source: Survey conducted by CPS [Dec, 2016]

Overall, majority of respondents are willing to participate in the BFP program and are interested to consider the purchase of the local vegetables if the quality and quantity of supply can meet the market expectation. However, they are keen to go into contractual arrangement with local producers for the purchase of their produces as they have high concerns on irregularity of supply, high price, and price volatility of local vegetables. The level of trust on supply by local producers was also cited as concern given past experiences by the wholesalers.

I. Survey Objectives

The survey has two main objectives. The primary objective is to identify potential wholesalers in the major markets (namely Neak Meas and Dermkor in Phnom Penh, Suong in Tbaung Khmum province, Samaki in Siem Reap, Phu Puy in Battambang, Pursat in Pursat, Boeung Kock in Kampong Cham, Kampong Thmar and Phsar Chas in Kampong Thom, Takhmao Thmey in Kandal, and Prey Veng in Prey Veng), for Boosting Food Production (BFP) program. The secondary objective is to collect up to date market data (particularly on trade volume, supply source, and destination of distribution) for the 13 vegetable commodities under consideration of BFP.

II. Research Methods

2.1 Survey Questionnaire

To address both objectives of the survey, a semi-structured questionnaire was designed to capture data in the following key areas:

1. General information of wholesalers (name, contact number, location);
2. Wholesale volume and sources of supply;
3. Distribution destinations;
4. Behavior of wholesalers toward BFP (willingness to buy products from BFP producers, interest to cooperate with BFP and/or its producers, and prospect for contractual arrangement with BFP's producers.)

2.2 Data Collection and Analysis

The survey was conducted in December 2016 and February 2017 and by 3 data collectors (interviewers) from the Centre for Policy Studies (CPS). The training was provided to the data collectors in order to ensure their comprehensive understanding the context and objectives of the survey, to familiarize themselves with the questionnaire, and to prepare themselves for some variation of situation so that they can adapt accordingly. The training also prepares them on how to identify and approach the interviewees.

The questionnaire was designed to capture mostly quantitative data. To ensure the accuracy and reliability of the data, all completed/filled-in questionnaires were double-checked on a daily basis by a supervisor. A callback was used when there is a need to clarify further doubt presented in the data. The collected data was then carefully entered into the SPSS software program for further analysis performance.

2.3 Limitation and Constraint

Some wholesalers do not agree to be interviewed as they perceive the negative image of previous local product promotion. Some potential wholesalers, especially ones at the markets in Phnom Penh, are not interested in the BFP. They are interested in trading the imported products only.

III. Survey Findings

Table 1 below shows the number of wholesalers in each market. In total, there are 1289 of them: 188 accepted the request for interview, 90 rejected the request, other 11 were not present at the wholesale stands.

Table 2: Overview of Wholesalers in the Surveyed Markets

No	Names of Market	# Wholesalers			
		Total # of wholesalers	Participated in interview	Rejected request for interview	Not present at wholesale stands
1	Neak Meas (Phnom Penh)	70	27	43	0
2	Deumkor (Phnom Penh)	37	4	33	0
3	Suong (Tbaung Khmum)	14	11	0	3
4	Samaki (Siem Reap)	38	26	4	8
5	Phu Puy (Battambang)	63	59	4	0
6	Pursat (Pursat)	16	10	6	0
7	Boeung Kock (Kampong Cham)	12	12	0	0
8	Kampong Thmar (Kampong Thom)	5	5	0	0
9	Phsar Chas (Kampong Thom)	7	7	0	0
10	Takhmao Thmey (Kandal)	22	22	0	0

11	Prey Veng (Prey Veng)	5	5	0	0
	Total	289	188	90	11

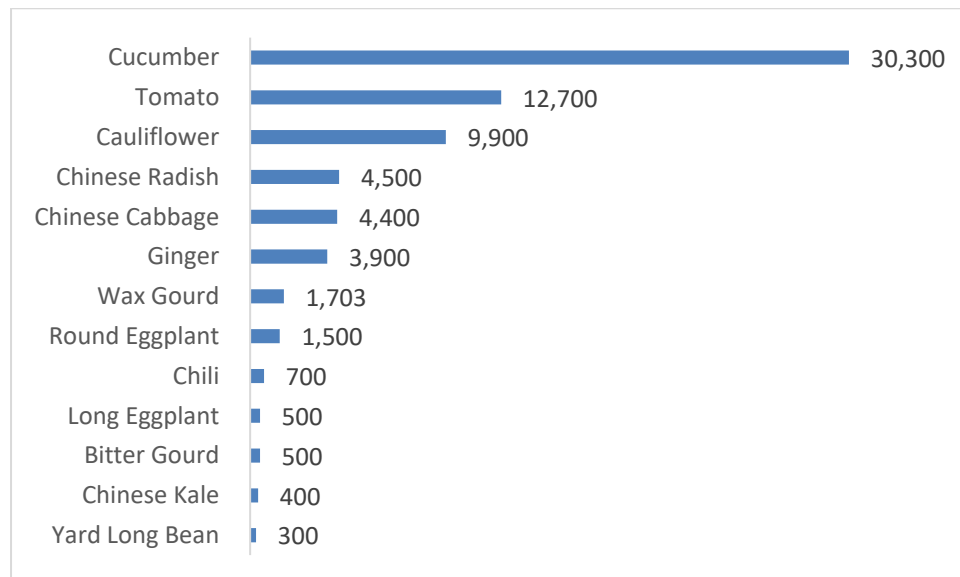
Source: Survey conducted by CPS [Dec, 2016 and Feb, 2017]

3.1 Neak Meas Market, Phnom Penh

3.1.1 Wholesale Volume

There were 70 vegetable wholesalers at Neak Meas market, 27 of which participated in the interview. Each wholesaler stand usually sells many commodities of vegetables, but the survey focuses on the 13 commodities considered by the BFP program. As shown in Figure 2, all 13 commodities were available at Neak Meas market and around 71 tonnes were sold out per day by these 27 stands. Taking into consideration the 70 wholesalers stands in the market, the total wholesale volume for Neak Meas market would stand around 185 tonnes per day. In other words, this market could each day absorb up to 185 tonnes of the 13 vegetable commodities.

Figure 2: Wholesale Volume at Neak Meas [kg/day, 27 stands]



Source: Survey conducted by CPS [Dec, 2016]

Among the 13 commodities, cucumber, tomato, and cauliflower respectively top the list in terms of wholesale volume in kg. They represent 74% of the total wholesale of all 13 commodities. Commodities that are least in terms of wholesale volume in kg are chilies, long eggplants, bitter gourds, Chinese kale, and yard long beans.

3.1.2 Supply Source for Wholesales

Table 3 illustrates the supply sources of the 13 vegetable commodities into Neak Meas market. Based on the collected data from 27 stands, the overall proportion of supplies (based on wholesale volume in kg) shows that the majority of them are imported from Vietnam and Thailand. Both sources are respectively responsible for 46% and 23% of the total wholesale volume. The other 31% is supplied by the local producers from other parts of Cambodia outside Phnom Penh.

Table 3: Supply Source for Neak Meas Market

No.	Commodities	Wholesale volume [kg/day]	Supply Source [row %]			
			From same province	From other provinces	From Vietnam	From Thailand
1	Cucumber	30,300	0%	62%	34%	4%
2	Tomato	12,700	0%	0%	0%	100%
3	Cauliflower	9,900	0%	0%	94%	6%
4	Chinese Radish	4,500	0%	0%	89%	11%
5	Chinese Cabbage	4,400	0%	0%	100%	0%
6	Ginger	3,900	0%	0%	82%	18%
7	Wax Gourd	1,703	0%	59%	35%	6%
8	Round Eggplant	1,500	0%	100%	0%	0%
9	Chili	700	0%	0%	100%	0%
10	Bitter Gourd	500	0%	20%	60%	20%
11	Long Eggplant	500	0%	40%	60%	0%
12	Chinese Kale	400	0%	50%	0%	50%
13	Yard Long Bean	300	0%	100%	0%	0%
Total		71,303	0%	31%	46%	22%

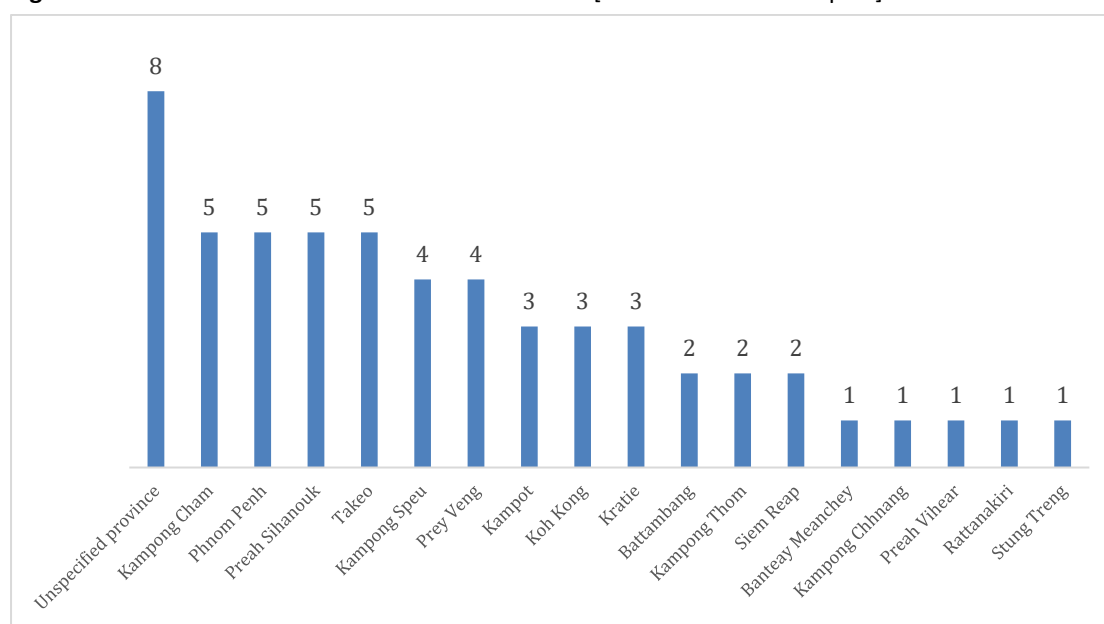
Source: Survey conducted by CPS [Dec, 2016]

Table 3 offers a more detailed picture of the supply sources. Two out of the 13 commodities are totally supplied by the local producers. They are round eggplants and yard long beans. Other three commodities, Chinese kales, wax gourds, and cucumbers also have a significant share of the supply. Each commodity shares 50% or more of the total wholesale volume. Commodities that are wholly dependent on imports are tomatoes, Chinese cabbages, and chilies.

3.1.3 Destination of Wholesale Distribution

Usually a wholesale may distribute their sale to more than one destination. Figure 3 shows the number of wholesalers who have reported the destination of their sale. As indicated, the 13 commodities from Neak Meas market have a wide distribution destinations. These commodities were channeled to feed other smaller wholesale and retail markets in at least 18 provinces across the country.

Figure 3: Distribution destination of the commodities [# wholesalers that report]



Source: Survey conducted by CPS [Dec, 2016]

Figure 3 also illustrates that the flow of vegetables goes more to destinations that are closer to the sale point (Neak Meas market in Phnom Penh) and least to areas that are further. For example, Kampong Cham, Phnom Penh, Preah Sihanouk, and Takeo are the top five destinations while few wholesalers distribute to Beanteay Meanchey, Preah Vihear, Ratanakiri, and Stung Treng, which quite far from the wholesale point (Neak Meas market, Phnom Penh).

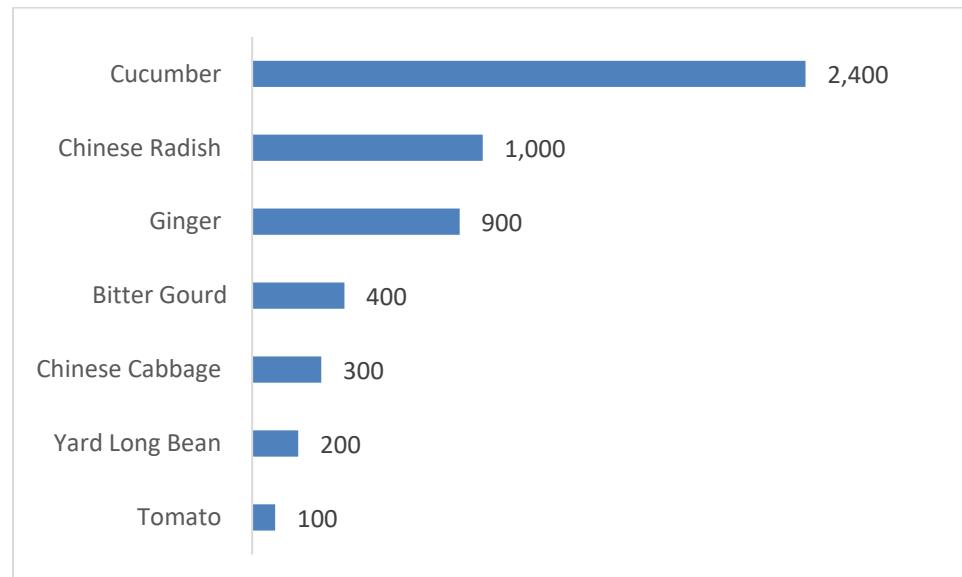
3.2 Deumkor Market, Phnom Penh

3.2.1 Wholesale Volume

The survey found 37 stands of wholesalers in Deumkor market. They are situated in the southern part of the market, along Monyreth Boulevard, and the corner of Monyreth Boulevard and street No. 374. Among them, 7 wholesalers were approached, 4 of which were interviewed, while the rest denied the request for

interview, simply because the majority of them are in favor of dealing with imported produces rather than the local ones.

Figure 4: Wholesale volume at Deumkor [kg/day, 4 stalls]



Source: Survey conducted by CPS [Dec, 2016]

As illustrated in Figure 4, the 4 wholesale stands could supply around 5 tonnes per day. Taking into consideration the 37 stands supplying the wholesale of vegetables, the total supply volume of the 13 commodities would account approximately for 14 tonnes each day.

Among the 7 commodities captured by the survey, cucumbers top the list in terms of wholesale volume in kg, followed by Chinese radish and ginger. The least traded volume is for tomatoes, which is 100 kg per day.

3.2.2 Supply Source for Wholesales

Table 4 shows the supply source of the 7 vegetable commodities into Deumkor market. Interestingly, there is no supply from Thailand. But the majority of the supply still come from the import, 64% of the total supply of 7 commodities and Vietnam is the sole source for this. The rest is supplied by the domestic producers, 8% from the same locality (that is Phnom Penh in this case) and 28% from other provinces outside Phnom Penh. Of note, this figure might not provide a good indication given the fact that the survey team could meet only 4 wholesalers, which is too few. Therefore, this finding could not be generalized for the whole study population.

Table 4: Supply Sources for Deumkor Market

No.	Commodities	Wholesale volume [kg/day]	Supply Source [row %]			
			From same province	From other provinces	From Vietnam	From Thailand
7	Cucumber	2,400	0%	63%	38%	0%
6	Chinese Radish	1,000	40%	0%	60%	0%
5	Ginger	900	0%	0%	100%	0%
4	Bitter Gourd	400	0%	0%	100%	0%
3	Chinese Cabbage	300	0%	0%	100%	0%
2	Yard Long Bean	200	0%	0%	100%	0%
1	Tomato	100	0%	0%	100%	0%
	Total	5,300	8%	28%	64%	0%

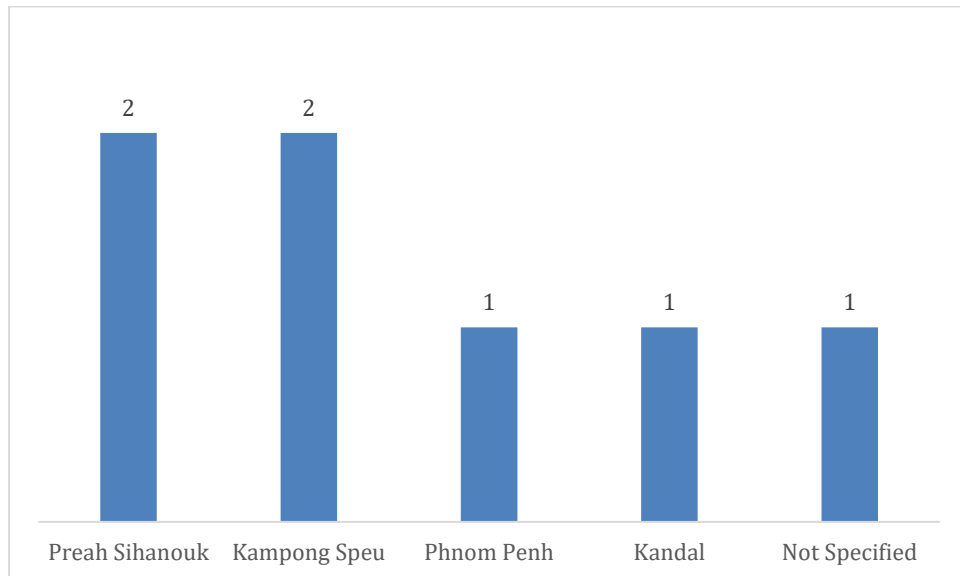
Source: Survey conducted by CPS [Dec, 2016]

Table 4 further reveals a more interesting indication. Despite its significant share of the total supply volume, local producers can only supply two out of the 7 commodities. That is 63% share for cucumbers and 40% for Chinese radish. No domestic supply at all for other produces: gingers, bitter gourds, Chinese cabbages, yard long beans, and tomatoes. These are all imported from Vietnam, but at the same time suggests a potential for local producers to expand their production on these commodities.

3.2.3 Destination of Wholesale Distribution

Unlike Neak Meas market, the distribution destinations from Deumkor market appears very different. The commodity wholesale from this sale point goes to just a few provinces. Another difference is that the distribution goes more to further provinces rather than nearer locations like Phnom Penh and Kandal. Nevertheless, this finding could not firmly stand. There is high chance that all these are just distorted by too small the sample, given only four out of 37 identified wholesalers participated in the survey.

Figure 5: Destination of wholesale distribution [# wholesalers that report]



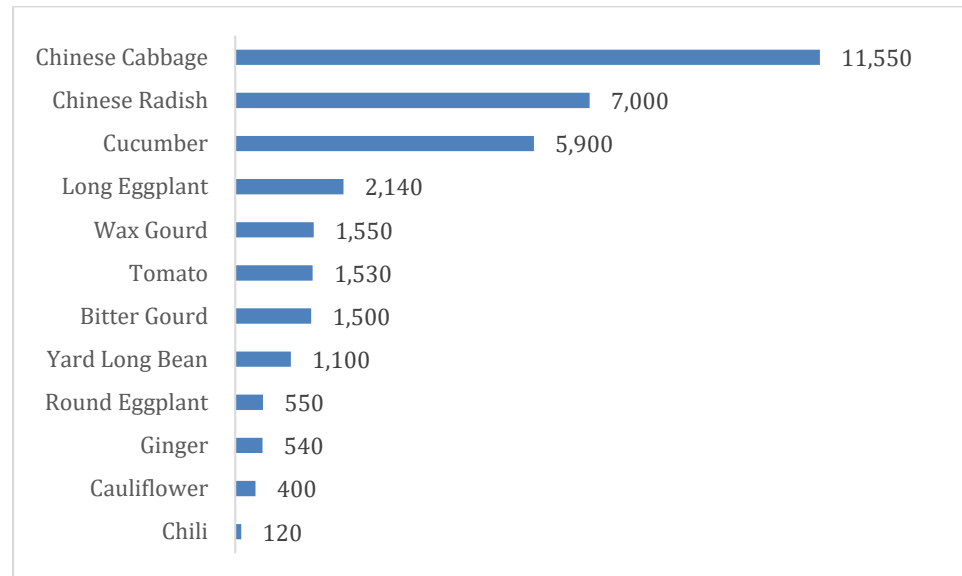
Source: Survey conducted by CPS [Dec, 2016]

3.3 Suong Market, Taung Khmum

3.3.1 Wholesale Volume

There are 14 wholesalers identified in Suong market, 11 of which were approached for interview, while the rest was not found at their stands. As illustrated in Figure 6, 12 out of 13 commodities were traded during the survey. The total wholesale volume for the 11 stands is around 34 tonnes per day for all 12 commodities. That is approximately estimated at around 43 tonnes each if taking into consideration all 14 wholesale stands.

Figure 6: Wholesale Volume for Suong Market [kg/day, 11 stands]



Source: Survey conducted by CPS [Dec, 2016]

Three commodities that are most traded in terms of wholesale volume in kg are Chinese cabbages, Chinese radishes, and cucumbers. All these three commodities account for around 72% of the total wholesale volume.

3.3.2 Supply Source for Wholesales

The supply sources for the studied commodities offer quite a different pattern from that of the two markets in Phnom Penh. As shown in Table 5, the supplies from domestic sources take the majority share, 75%. That is 30% is supply from the same province and 45% is from other provinces outside Tbaung Khmum province. This pattern of supply could be attributed to the fact that Suong is surrounded by production area such as Kampong Cham and Tbaung Khmum provinces, allowing this market to absorb more local produces.

The import is responsible for 25% of the total supply of the 12 commodities and the main source of this import is Vietnam. The presence of imports from Thailand is very minimal, which is 0.4% and for tomatoes only. This phenomenon reflects that the proximity of Suong market to Vietnam while Thailand is far to the other end of the border.

Table 5: Supply Source for Suong Market

No.	Commodities	Wholesale volume kg/day]	Supply Source [row%]			
			From same province	From other provinces	From Vietnam	From Thailand
1	Chinese Cabbage	11,550	0%	73%	27%	0%
2	Chinese Radish	7,000	100%	0%	0%	0%
3	Cucumber	5,900	30%	36%	34%	0%
4	Long Eggplant	2,140	9%	91%	0%	0%
5	Wax Gourd	1,550	3%	65%	32%	0%
6	Tomato	1,530	33%	7%	51%	10%
7	Bitter Gourd	1,500	0%	33%	67%	0%
8	Yard Long Bean	1,100	5%	86%	9%	0%
9	Round Eggplant	550	45%	0%	55%	0%
10	Ginger	540	0%	7%	93%	0%
11	Cauliflower	400	50%	0%	50%	0%
12	Chili	120	17%	0%	83%	0%
Total		33,880	30%	45%	25%	0.4%

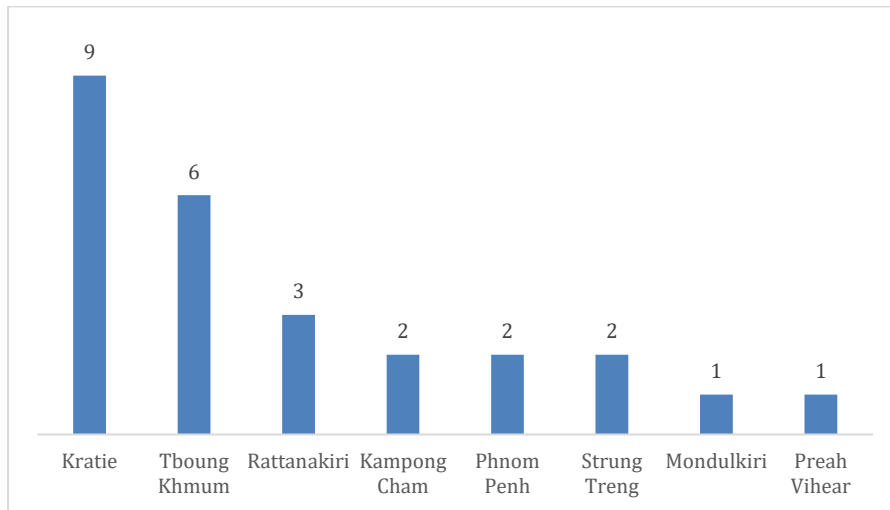
Source: Survey conducted by CPS [Dec, 2016]

Another interesting finding is that no particular commodity among these 12 captured by the survey is totally dependent on imports. Usually, there is a significant share of the domestic supplies, except for gingers and chilies that the imports from Vietnam are far more visible. This suggests that the share of domestic supply is very high and does not concentrate on just few goods, but all 12 commodities. Nonetheless, it is mindful that this phenomenon could be influenced by a seasonal peak of the domestic production.

3.3.3 Destination of Wholesale Distribution

Since Suong market is located in Tbaung Khmum province, which is more proximate to the northeastern part of Cambodia, it is supposed to play a more important role in distributing vegetables to other provinces in that northeastern region. This is confirmed in Figure 7. Provinces in this northeastern region are the destination of wholesale distribution from Suong market. Kratie appears the main destination, followed by Tbaung Khmum itself as second largest destination.

Figure 7: Destination of wholesale distribution [# wholesalers that report]



Source: Survey conducted by CPS [Dec, 2016]

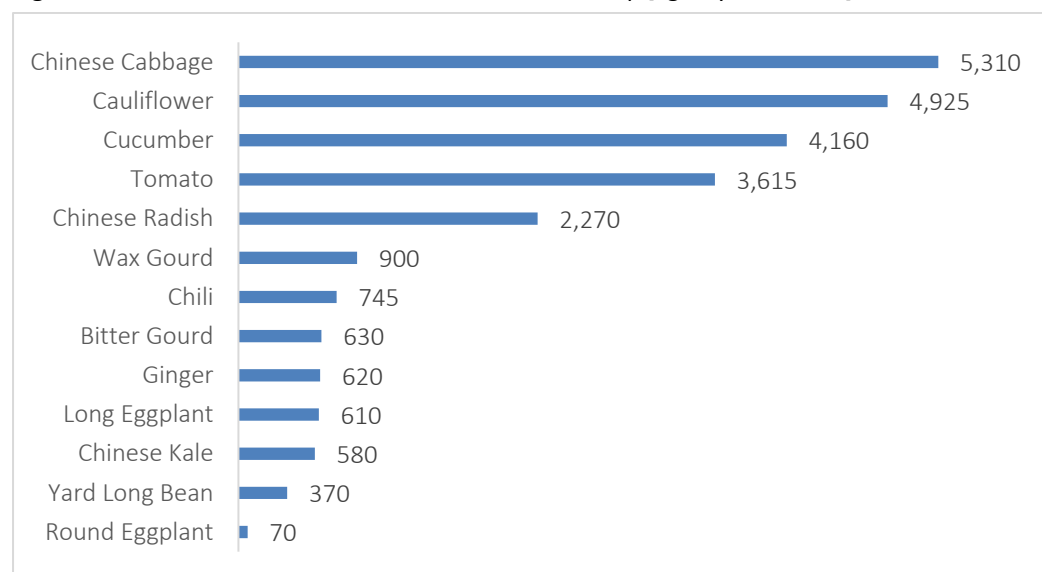
Of note, this northeastern region also shares the border with Vietnam. Such can actually ease the flow of agricultural products from nearby province in Vietnam such as Tay Ninh and thus substitute the wholesale from Suong market.

3.4 Samaki Market, Siem Reap

3.4.1 Wholesale Volume

In total, there are 38 wholesalers at the market, 26 of which were approached for interview, 4 rejected the request for interview, and 8 was not present at their stands. From the 26 wholesalers, all 13 commodities were traded during the survey.

Figure 8: Wholesale Volume at Samaki Market, Siem Reap [kg/day, 26 stands]



Source: Survey conducted by CPS [Dec, 2016]

Five commodities that takes the largest share of the traded volume kg terms are Chinese cabbages, cauliflowers, cucumbers, tomatoes, and Chinese radishes. They five commodities account for 82% of the total traded volume, 25 tonnes each day for all 26 wholesale stands. That can be estimated to 36.5 tonnes traded per day in Suong market. Of note, the traded volume for round eggplants is not at all significant.

3.4.2 Supply Source for Wholesales

As presented in Table 6, the overall pattern of supply source seems to be different from that for Suong market, but similar to ones for markets in Phnom Penh. The supply is more reliant on imports than the local producers. Imports from Vietnam and Thailand are responsible for 31% and 42% respectively. Higher share of imports from Thailand somehow reflects the proximity of Samaki market (Siem Reap) to the border with Thailand. In addition to that, it is reported that vegetables from Thailand are generally cheaper. The supply from local sources accounts account for 27% of the total, 9% from the same province and 18% from other parts of Cambodia.

Table 6: Supply Source for Wholesales in Samaki Market

No.	Commodities	Wholesale volume [kg/day]	Supply Source [row %]			
			From same province	From other provinces	From Vietnam	From Thailand

1	Chinese Cabbage	5,310	0%	4%	58%	38%
2	Cauliflower	4,925	1%	4%	33%	62%
3	Cucumber	4,160	12%	67%	16%	5%
4	Tomato	3,615	0%	0%	27%	73%
5	Chinese Radish	2,270	1%	2%	16%	81%
6	Wax Gourd	900	56%	44%	0%	0%
7	Chili	745	0%	10%	63%	27%
8	Bitter Gourd	630	44%	0%	32%	24%
9	Ginger	620	0%	10%	58%	32%
10	Long Eggplant	610	43%	57%	0%	0%
11	Chinese Kale	580	9%	34%	17%	40%
12	Yard Long Bean	370	100%	0%	0%	0%
13	Round Eggplant	70	71%	29%	0%	0%
	Total	24,805	9%	18%	31%	42%

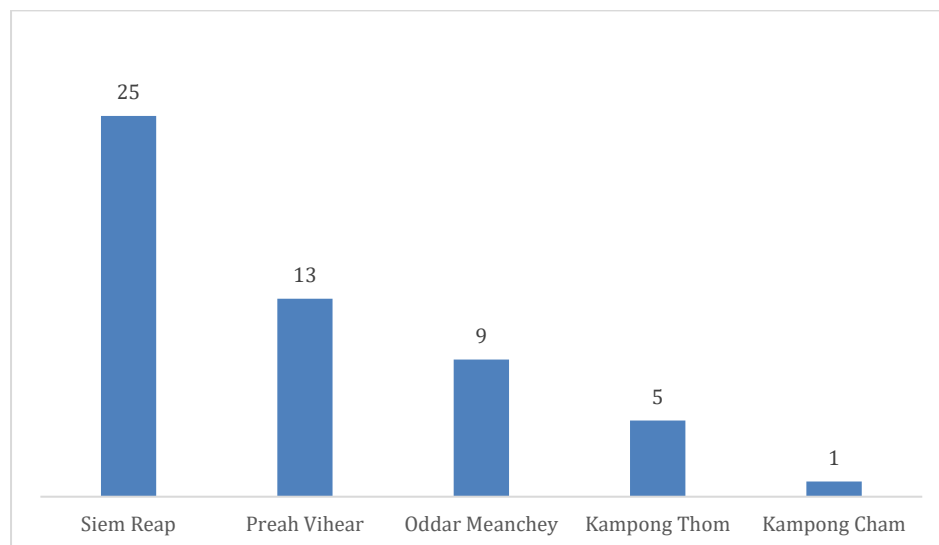
Source: Survey conducted by CPS [Dec, 2016]

Although the overall supply is dependent on imports from Vietnam and Thailand, there is no single commodity that is exclusively imported or has no local share of supply, except tomatoes. In contrast, there are actually several commodities that are 100% supplied by the domestic producers. They are round eggplants, yard long beans, long eggplants, and wax gourds. All these reveal a much stronger role of the domestic supply in Samaki market, Siem Reap, compared to other three markets in this survey.

3.4.3 Destination of Wholesale Distribution

Samaki wet market is located in the provincial town of Siem Reap. It is a vital location for northwestern Cambodia, which comprises other nearby provinces such as Preah Vihear and Oddar Meanchey. Figure 8 clearly confirms this expectation. The wholesale from this market point goes to feed destinations in the region, which include Siem Reap itself as a major destination, followed by Preah Vihear, Oddar Meanchey, and Kampong Thom. Kampong Cham is also reported as a distribution destination, but to a much less extent compared to others.

Figure 9: Destination of wholesale distribution [# wholesalers that report]



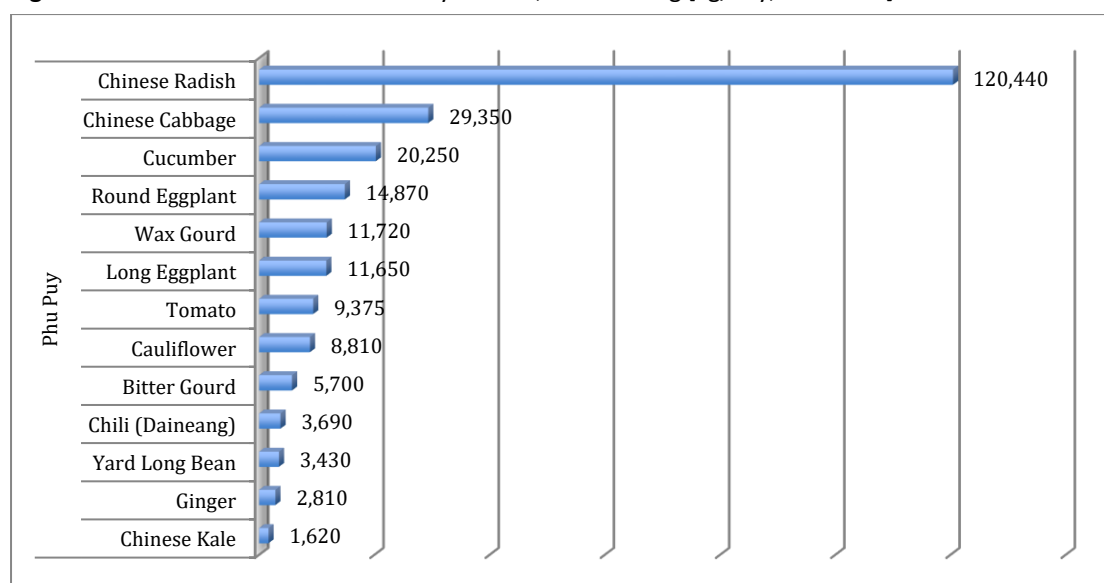
Source: Survey conducted by CPS [Dec, 2016]

3.5 Phu Puy Market, Battambang

3.5.1 Wholesale Volume

In total, there are 63 wholesalers at the market, all of which were approached for interview, 4 rejected the request for interview. *Each wholesaler stand usually sells many commodities of vegetables, but the survey focuses on the 13 commodities considered by the BFP program. As seen, all 13 commodities were traded during the survey.*

Figure 10: Wholesale Volume at Phu Puy Market, Battambang [kg/day, 59 stands]



Source: Survey conducted by CPS [Dec 2016 and Feb 2017]

Five commodities that take the largest share of the traded volume kg terms are Chinese radish, Chinese cabbages, cucumbers, Round eggplants, and wax gourd. These commodities account for 81% of the total traded volumes. Taking into consideration the 63 wholesalers stands in the market, the total wholesale volume for Phu Puy market would stand around 260 tonnes per day. In other words, this market could each day absorb up to 260 tonnes of the 13 vegetable commodities.

3.5.2 Supply Source for Wholesales

As presented in Table 7, the overall pattern of supply source seems to be different from that for Phu Puy market. The supply is more reliant on the local producers. The local products account for 94% of the total.

Table 7: Supply Source for Wholesales in Phu Puy Market

No.	Commodities	Wholesale volume(Kg/day)	From the same province	From other provinces	From Vietnam	From Thailand
1	Chinese Radish	120,440	99%	0%	0%	1%
2	Chinese Cabbage	29,350	96%	0%	2%	2%
3	Cucumber	20,250	97%	0%	0%	3%
4	Round Eggplant	14,870	97%	0%	0%	3%
5	Wax Gourd	11,720	100%	0%	0%	0%
6	Long Eggplant	11,650	98%	2%	0%	0%
7	Tomato	9,375	25%	2%	0%	73%
8	Cauliflower	8,810	91%	1%	0%	9%
9	Bitter Gourd	5,700	79%	4%	0%	18%
10	Chili Daineang	3,690	76%	1%	0%	23%
11	Yard Long Bean	3,430	87%	13%	0%	0%
12	Ginger	2,810	28%	0%	0%	72%
13	Chinese Kale	1,620	94%	6%	0%	0%
Total		243,715	93%	1%	0%	6%

Source: Survey conducted by CPS [Dec, 2016]

Although the overall supply is dependent on local sources, there is small proportion of imports share in the supply. As seen, local producers exclusively supply only Wax gourd, long eggplant, and yard long bean, while tomatoes and gingers are massively shared by the imports from Thailand.

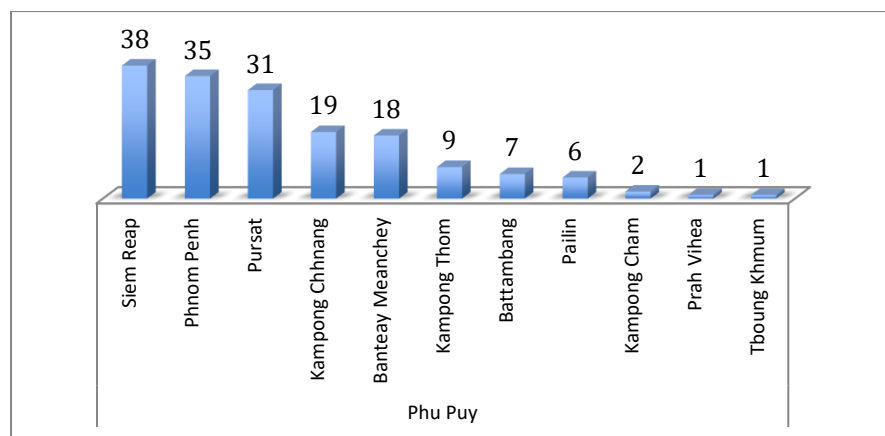
3.5.3 Destination of Wholesale Distribution

Phu Puy wet market is located in the provincial town of Battambang. It is a vital location for northern Cambodia, which comprises other nearby provinces such as Preah Vihear and Oddar Meanchey. Figure 8 clearly confirms this expectation. The wholesale from this market point goes to feed destinations in the region, which include Siem Reap itself as a major destination, followed by Preah Vihear, Oddar Meanchey, and Kampong Thom. Kampong Cham is also reported as a distribution destination, but to a much less extent compared to others.

Usually a wholesale may distribute their sale to more than one destination. Figure 10 shows the number of wholesalers who have reported the destination of their sale. As indicated, the 13 commodities from Neak Meas market have a wide distribution destinations. These commodities were channeled to feed other smaller wholesale and retail markets in at least 18 provinces across the country.

Figure 3 also illustrates that the flow of vegetables goes more to destinations that are closer to the sale point (Neak Meas market in Phnom Penh) and least to areas that are further. For example, Kampong Cham, Phnom Penh, Preah Sihanouk, and Takeo are the top five destinations while few wholesalers distribute to Beanteay Meanchey, Preah Vihear, Ratanakiri, and Stueng Treng, which quite far from the wholesale point (Neak Meas market, Phnom Penh).

Figure 11: Destination of wholesale distribution [# wholesalers that report]



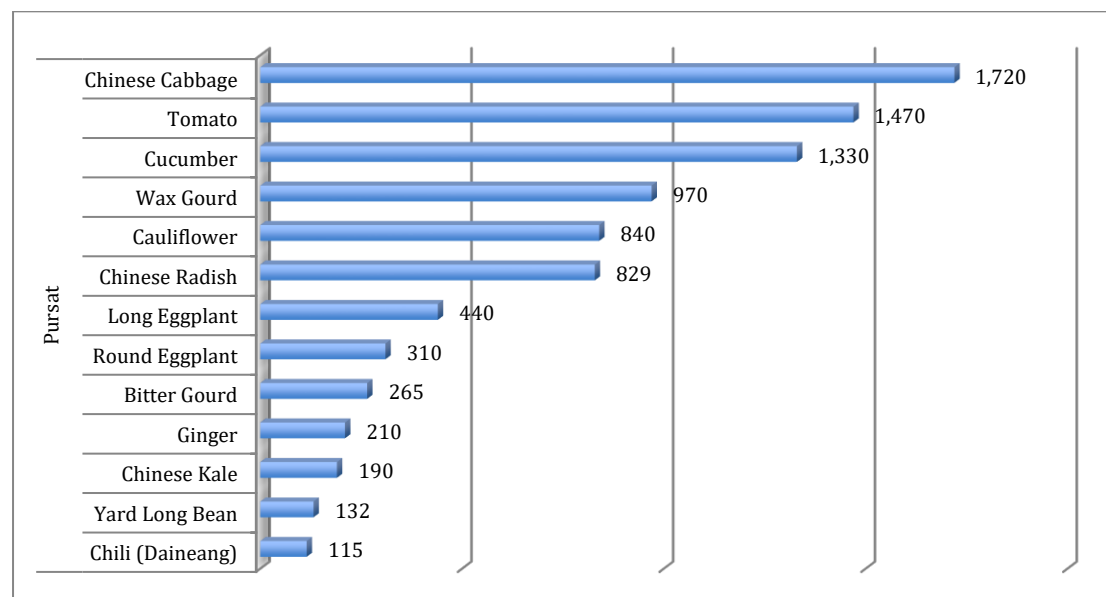
Source: Survey conducted by CPS [Dec, 2016]

3.6 Pursat Market, Pursat

3.6.1 Wholesale Volume

In total, there are 16 wholesalers at the market, all of which were approached for interview, 6 rejected the request for interview. From the 10 wholesalers, all 13 commodities were traded during the survey.

Figure 12: Wholesale Volume at Pursat Market, Pursat [kg/day, 10 stands]



Source: Survey conducted by CPS [Dec, 2016]

Six commodities that take the largest share of the traded volume kg terms are Chinese cabbages, tomatoes, cucumbers, wax gourd, cauliflower, and Chinese radishes. These six commodities account for 81% of the total traded volumes. Taking into consideration the 16 wholesalers stands in the market, the total wholesale volume for Pursat market would stand around 15 tonnes per day. In other words, this market could each day absorb up to 15 tonnes of the 13 vegetable commodities.

3.6.2 Supply Source for Wholesales

As presented in Table 8, the overall pattern of supply source seems to be different from the first 3-market, but similar to the one in Battambang. The supply is more reliant on local producers. More importantly, it is produced within the province of the market situated. Imports from Vietnam share only 7% of the total sale.

Table 8: Supply Source for Wholesales in Pursat Market

No.	Commodities	Wholesale volume(Kg/day)	From the same province	From other provinces	From Vietnam	From Thailand
1	Chinese Cabbage	1,720	44%	38%	17%	0%
2	Tomato	1,470	60%	20%	20%	0%

3	Cucumber	1,330	92%	8%	0%	0%
4	Wax Gourd	970	94%	6%	0%	0%
5	Cauliflower	840	86%	14%	0%	0%
6	Chinese Radish	829	87%	13%	0%	0%
7	Long Eggplant	440	86%	14%	0%	0%
8	Round Eggplant	310	81%	19%	0%	0%
9	Bitter Gourd	265	81%	19%	0%	0%
10	Ginger	210	38%	62%	0%	0%
11	Chinese Kale	190	3%	97%	0%	0%
12	Yard Long Bean	132	77%	23%	0%	0%
13	Chili Daineang	115	35%	48%	17%	0%
Total		8,821	71%	22%	7%	0%

Source: Survey conducted by CPS [Dec, 2016]

Although the overall supply is dependent on local produces, few commodities, Chinese cabbages, tomato, and Chili are slightly imported from Vietnam. Cucumbers, wax gourds, cauliflowers, chinese radishes, long eggplant, round eggplants, bitter gourds, gingers, chinese kales, and yard long bean are 100% supplied by the domestic producers.

3.6.3 Destination of Wholesale Distribution

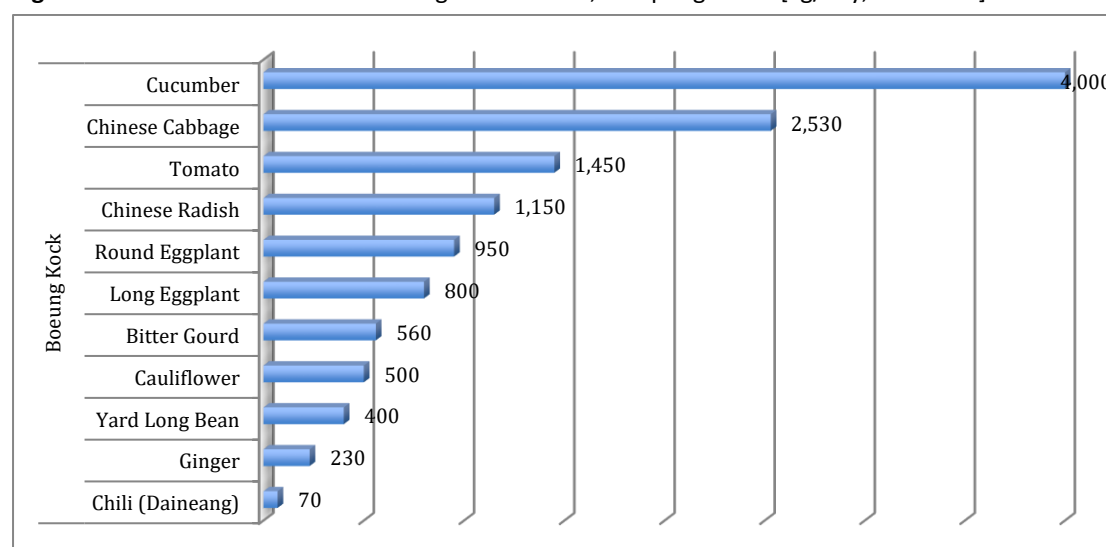
Samaki wet market is located in the provincial town of Siem Reap. It is a vital location for northwestern Cambodia, which comprises other nearby provinces such as Preah Vihear and Oddar Meanchey. Figure 8 clearly confirms this expectation. The wholesale from this market point goes to feed destinations in the region, which include Siem Reap itself as a major destination, followed by Preah Vihear, Oddar Meanchey, and Kampong Thom. Kampong Cham is also reported as a distribution destination, but to a much less extent compared to others.

3.7 Boeung Kock, Kampong Cham

3.7.1 Wholesale Volume

In total, there are 12 wholesalers at the market, all of which were approached for interview. From the 12 wholesalers, only 11 commodities were traded during the survey.

Figure 14: Wholesale Volume at Boeung Kock Market, Kampong Cham [kg/day, 12 stands]



Source: Survey conducted by CPS [Dec, 2016]

Five commodities that takes the largest share of the traded volume kg terms are Cucumbers, Chinese cabbages, Chinese radishes, and round eggplant. These five commodities account for 80% of the total traded volumes, about 13 tonnes each day for all 12 wholesale stands.

3.7.2 Supply Source for Wholesales

As presented in Table 9, the overall pattern of supply source seems to be similar to that of the one in Pursat. The supply is more dependent on the local produces rather than imports from Vietnam and Thailand. As seen, imports from Vietnam and Thailand contribute only 2% and 1% respectively. Meanwhile, local produces from the province that market located account for 88%. It significantly indicates that Kampong Cham likely reach the safeguard against importing vegetable from other provinces or countries. Since vegetable production is very seasonal base, interventions are needed to maintain this level.

Table 9: Supply Source for Wholesales in Boeung Kock Market

No.	Commodities	Wholesale volume(Kg/day)	From the same province	From other provinces	From Vietnam	From Thailand
1	Cucumber	4,000	95%	5%	0%	0%
2	Chinese Cabbage	2,530	88%	12%	0%	0%
3	Tomato	1,450	84%	14%	2%	0%
4	Chinese Radish	1,150	83%	17%	0%	0%

5	Round Eggplant	950	100%	0%	0%	0%
6	Long Eggplant	800	100%	0%	0%	0%
7	Bitter Gourd	560	73%	27%	0%	0%
8	Cauliflower	500	60%	40%	0%	0%
9	Yard Long Bean	400	100%	0%	0%	0%
10	Ginger	230	0%	0%	87%	13%
11	Chili Daineang	70	0%	0%	29%	71%
Total		12,640	88%	10%	2%	1%

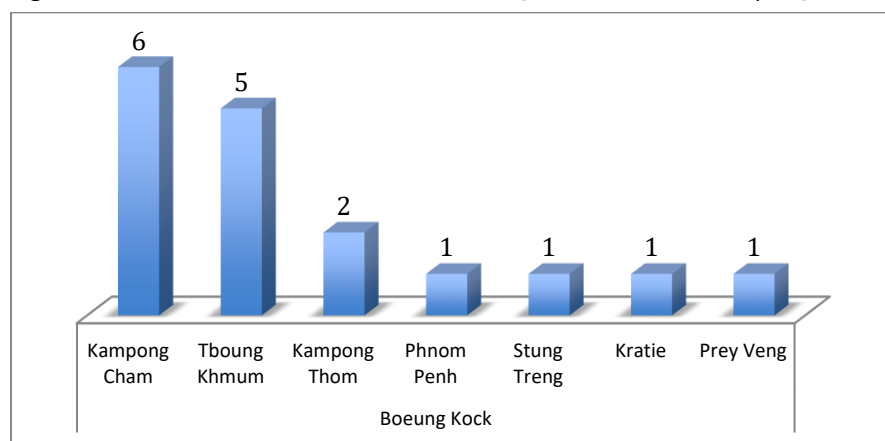
Source: Survey conducted by CPS [Dec, 2016]

Although the overall supply is dependent on local produces, gingers and chilies are exclusively imported. In contrast, there are actually several commodities that are 100% supplied by the domestic producers. They are cucumbers, chinese cabbages, chinese radishes, round eggplants, long eggplants, bitter gourds, cauliflowers, and yard long beans. All these reveal a much stronger role of the domestic supply in Boeung Kock market, Kampong Cham.

3.7.3 Destination of Wholesale Distribution

Samaki wet market is located in the provincial town of Siem Reap. It is a vital location for northwestern Cambodia, which comprises other nearby provinces such as Preah Vihear and Oddar Meanchey. Figure 8 clearly confirms this expectation. The wholesale from this market point goes to feed destinations in the region, which include Siem Reap itself as a major destination, followed by Preah Vihear, Oddar Meanchey, and Kampong Thom. Kampong Cham is also reported as a distribution destination, but to a much less extent compared to others.

Figure 9: Destination of wholesale distribution [# wholesalers that report]



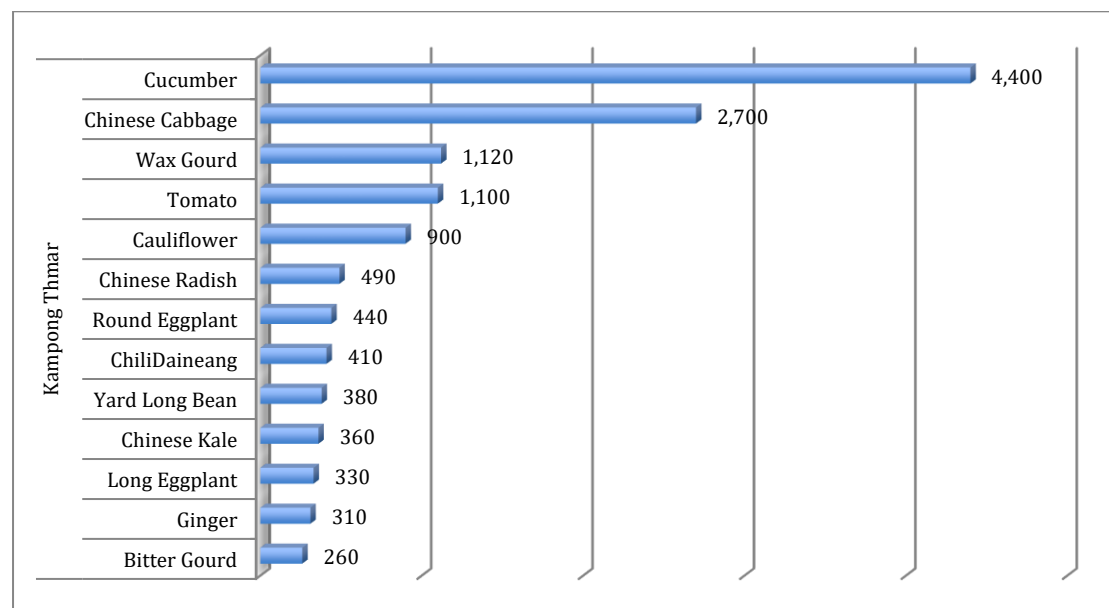
Source: Survey conducted by CPS [Dec, 2016]

3.8 Kampong Thmar Market, Kampong Thom

3.8.1 Wholesale Volume

In total, there are 5 wholesalers at the market, all of which were approached for interview. From the 5 wholesalers, all 13 commodities were traded during the survey.

Figure 15: Wholesale Volume at Kampong Thmar Market, Kampong Thom [kg/day, 5 stands]



Source: Survey conducted by CPS [Dec, 2016]

Five commodities that takes the largest share of the traded volume kg terms are cucumbers, chinese cabbages, wax gourds, tomatoes, and cauliflowers. These five commodities account for 77% of the total traded volume, around 13 tonnes each day for all 5 wholesale stands. That can be estimated to 13 tonnes traded per day in Kampong Thmar market.

3.8.2 Supply Source for Wholesales

As presented in Table 10, the overall pattern of supply source seems to be different from that of previous ones. The supply from local sources accounts account for 100% of the total, 49% from the same province and 51% from other parts of Cambodia.

Table 10: Supply Source for Wholesales in Kampong Thmar Market

No.	Commodities	Wholesale volume(Kg/day)	From the same province	From other	From Vietnam	From Thailand

				provinces		
1	Cucumber	4,400	75%	25%	-	-
2	Chinese Cabbage	2,700	0%	100%	-	-
3	Wax Gourd	1,120	31%	69%	-	-
4	Tomato	1,100	64%	36%	-	-
5	Cauliflower	900	89%	11%	-	-
6	Chinese Radish	490	29%	71%	-	-
7	Round Eggplant	440	20%	80%	-	-
8	Chili Daineang	410	0%	100%	-	-
9	Yard Long Bean	380	66%	34%	-	-
10	Chinese Kale	360	97%	3%	-	-
11	Long Eggplant	330	97%	3%	-	-
12	Ginger	310	0%	100%	-	-
13	Bitter Gourd	260	77%	23%	-	-
Total		13,200	49%	51%	0%	0%

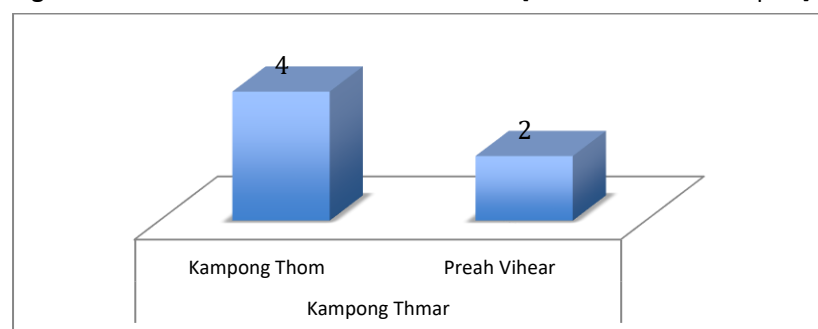
Source: Survey conducted by CPS [Dec, 2016]

Although the overall supply is dependent on local produces, chinese cabbages, chilies, and gingers are exclusively imported from other parts of the country. All these reveal a much stronger role of the domestic supply in Kampong Thmar market, Kampong Thom province.

3.8.3 Destination of Wholesale Distribution

Samaki wet market is located in the provincial town of Siem Reap. It is a vital location for northwestern Cambodia, which comprises other nearby provinces such as Preah Vihear and Oddar Meanchey. Figure 8 clearly confirms this expectation. The wholesale from this market point goes to feed destinations in the region, which include Siem Reap itself as a major destination, followed by Preah Vihear, Oddar Meanchey, and Kampong Thom. Kampong Cham is also reported as a distribution destination, but to a much less extent compared to others.

Figure 9: Destination of wholesale distribution [# wholesalers that report]



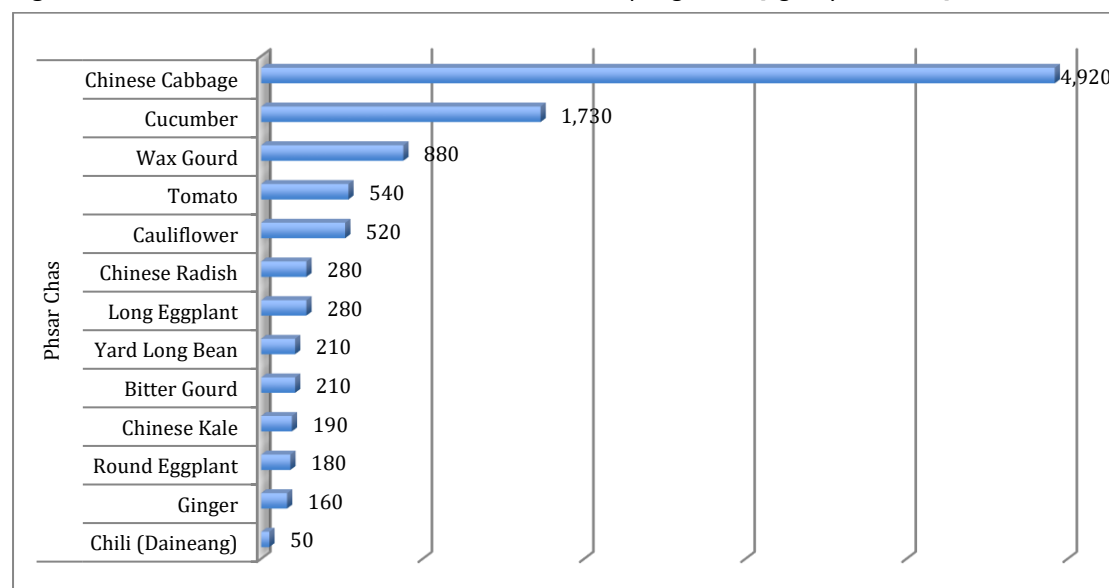
Source: Survey conducted by CPS [Dec, 2016]

3.9 Phsar Chas Market, Kampong Thom

3.9.1 Wholesale Volume

In total, there are 7 wholesalers at the market, all of which were approached for interview. From the 26 wholesalers, all 13 commodities were traded during the survey.

Figure 16: Wholesale Volume at Phsar Chas Market, Kampong Thom [kg/day, 7 stands]



Source: Survey conducted by CPS [Dec, 2016]

Five commodities that take the largest share of the traded volume kg terms are Chinese cabbages, cucumbers, wax gourds, tomatoes, and cauliflowers. They five commodities account for 85% of the total traded volume. That can be estimated to 10 tonnes traded per day in Phsar Chas market

3.9.2 Supply Source for Wholesales

As presented in Table 11, the overall pattern of supply source seems to be not different from Pursat, Boeung Kock, and Kampong Thmar markets. The supply is mainly reliant on local produces rather than imports from Vietnam and Thailand. It is worth mentioning that only tomatoes is imported from Vietnam in this market and it shares very small proportion to its total volume. The supply from local sources

accounts account for 97% of the total, 10% from the same province and 87% from other parts of Cambodia, while the imports from Thailand share only 3%.

Table 11: Supply Source for Wholesales in Phsar Chas Market

No.	Commodities	Wholesale volume(Kg/day)	From the same province	From other provinces	From Vietnam	From Thailand
1	Chinese Cabbage	4,920	2%	98%	0%	0%
2	Cucumber	1,730	17%	83%	0%	0%
3	Wax Gourd	880	2%	98%	0%	0%
4	Tomato	540	9%	72%	9%	9%
5	Cauliflower	520	10%	60%	0%	31%
6	Chinese Radish	280	0%	64%	0%	36%
7	Long Eggplant	280	21%	79%	0%	0%
8	Bitter Gourd	210	29%	71%	0%	0%
9	Yard Long Bean	210	76%	24%	0%	0%
10	Chinese Kale	190	32%	68%	0%	0%
11	Round Eggplant	180	33%	67%	0%	0%
12	Ginger	160	0%	81%	0%	19%
13	Chili Daineang	50	0%	100%	0%	0%
Total		10,150	9%	87%	0%	3%

Source: Survey conducted by CPS [Dec, 2016]

3.9.3 Destination of Wholesale Distribution

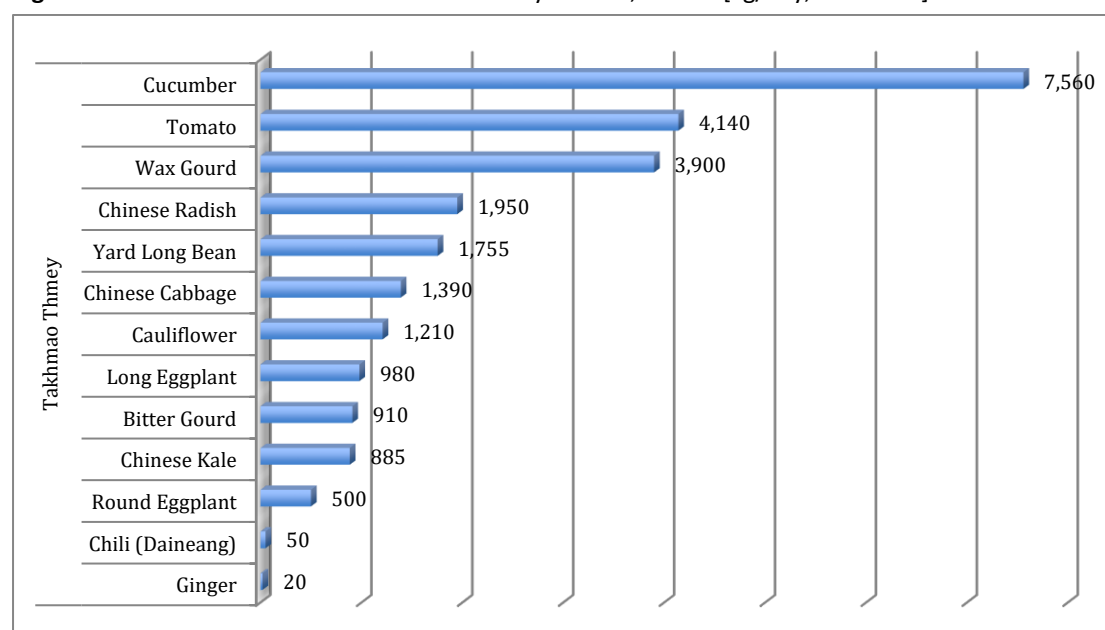
Samaki wet market is located in the provincial town of Siem Reap. It is a vital location for northwestern Cambodia, which comprises other nearby provinces such as Preah Vihear and Oddar Meanchey. Figure 8 clearly confirms this expectation. The wholesale from this market point goes to feed destinations in the region, which include Siem Reap itself as a major destination, followed by Preah Vihear, Oddar Meanchey, and Kampong Thom. Kampong Cham is also reported as a distribution destination, but to a much less extent compared to others.

3.10 Takhmao Thmey Market, Kandal

3.10.1 Wholesale Volume

In total, there are 38 wholesalers at the market, 26 of which were approached for interview, 4 rejected the request for interview, and 8 was not present at their stands. From the 26 wholesalers, all 13 commodities were traded during the survey.

Figure 17: Wholesale Volume at Takhmao Thmey Market, Kandal [kg/day, 22 stands]



Source: Survey conducted by CPS [Dec, 2016]

Five commodities that takes the largest share of the traded volume kg terms are cucumbers, tomatoes, wax gourds, chinese radishes, and yard long bean. These five commodities account for 82% of the total traded volume, 25 tonnes each day for all 22 wholesale stands. That can be estimated to 25 tonnes traded per day in Takhmao Thmey market.

3.10.2 Supply Source for Wholesales

As presented in Table 12, the overall pattern of supply source seems to be similar to that of Pursat, Kampong Thmar, Phsar Chas, and Boeung Kock markets. The supply is more reliant on local produces rather than imports from Vietnam and Thailand. Local produces account for 84% from the same province and 7% from other parts of Cambodia, while imports shares only 5% and 4% from Vietnam and Thailand respectively.

Table 12: Supply Source for Wholesales in Samaki Market

No.	Commodities	Wholesale volume(Kg/day)	From the same province	From other provinces	From Vietnam	From Thailand
1	Cucumber	7,560	95%	5%	0%	0%
2	Tomato	4,140	74%	2%	1%	24%
3	Wax Gourd	3,900	89%	8%	3%	0%
4	Chinese Radish	1,950	77%	23%	0%	0%

5	Yard Long Bean	1,755	100%	0%	0%	0%
6	Chinese Cabbage	1,390	14%	12%	73%	0%
7	Cauliflower	1,210	91%	5%	4%	0%
8	Long Eggplant	980	94%	6%	0%	0%
9	Bitter Gourd	910	96%	4%	0%	0%
10	Chinese Kale	885	79%	19%	2%	0%
11	Round Eggplant	500	86%	10%	4%	0%
12	Chili Daineang	50	80%	0%	20%	0%
13	Ginger	20	50%	0%	50%	0%
Total		25,250	84%	7%	5%	4%

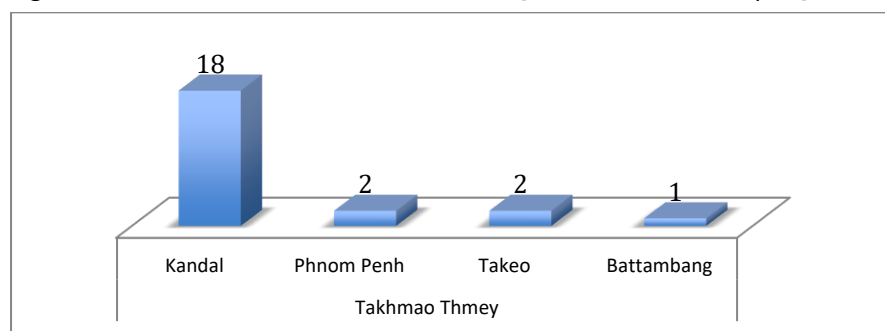
Source: Survey conducted by CPS [Dec, 2016]

Although the overall supply is dependent on domestic produces, Chinese cabbages are highly imported from Vietnam. In contrast, the other 12 commodities are particularly supplied by the local producers from the same province. It clearly indicates that vegetable production in Kandal province plays very significant role Takhmao Thmey market. As seen, yard long beans, cucumbers, and tomatoes are extremely traded.

3.10.3 Destination of Wholesale Distribution

Samaki wet market is located in the provincial town of Siem Reap. It is a vital location for northwestern Cambodia, which comprises other nearby provinces such as Preah Vihear and Oddar Meanchey. Figure 8 clearly confirms this expectation. The wholesale from this market point goes to feed destinations in the region, which include Siem Reap itself as a major destination, followed by Preah Vihear, Oddar Meanchey, and Kampong Thom. Kampong Cham is also reported as a distribution destination, but to a much less extent compared to others.

Figure 9: Destination of wholesale distribution [# wholesalers that report]



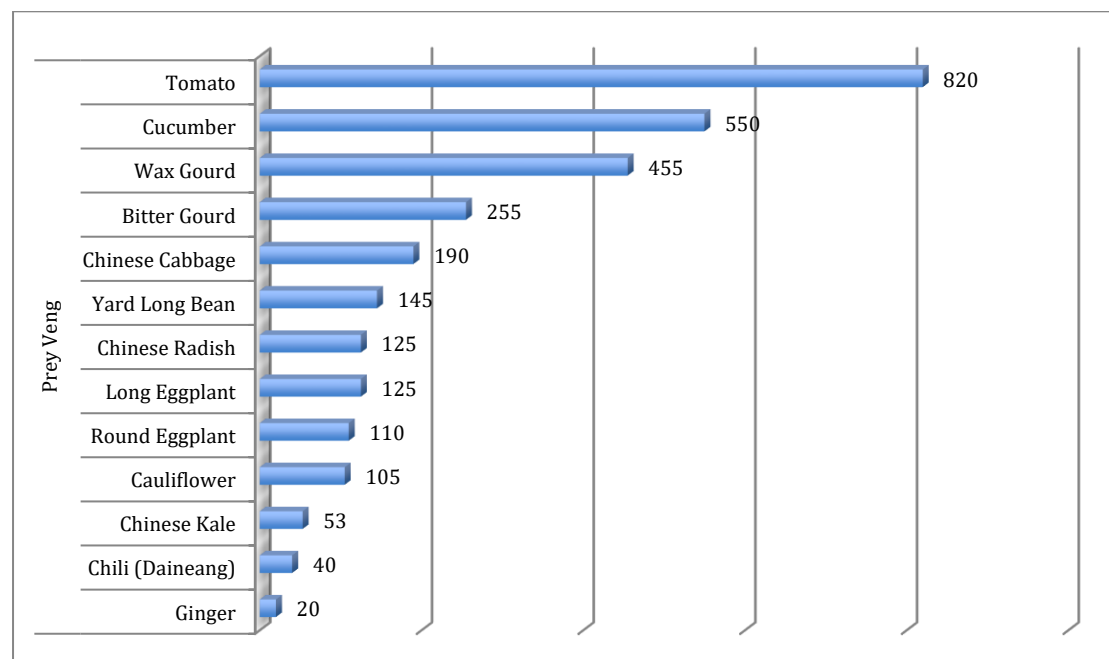
Source: Survey conducted by CPS [Dec, 2016]

3.11 Prey Veng Market, Prey Veng

3.11.1 Wholesale Volume

In total, there are 5 wholesalers at the market, all of which were approached for interview. From the 5 wholesalers, all 13 commodities were traded during the survey.

Figure 8: Wholesale Volume at Prey Veng Market, Prey Veng [kg/day, 5 stands]



Source: Survey conducted by CPS [Dec, 2016]

Five commodities that take the largest share of the traded volume kg terms are tomatoes, cucumbers, wax gourds, bitters gourds, and Chinese cabbages. They five commodities account for 76% of the total traded volume, 3 tonnes each day for all 5 wholesale stands. That can be estimated to 5 tonnes traded per day in Prey Veng market.

3.11.2 Supply Source for Wholesales

As presented in Table 13, the overall pattern of supply source seems to be not different from that of Pursat, Boeung Kock, Kampong Thmar, Phsar Chas, and Takhmao Thmey. The supply is more reliant on domestic produces rather than imports from Vietnam. It is worth mentioning that there is no single commodity is imported from Thailand, while the imports from Vietnam share only 9% of the total

sale volume. In contrast, domestic supply from other parts of the Cambodia accounts account for 91% of the total.

Table 13: Supply Source for Wholesales in Samaki Market

No.	Commodities	Wholesale volume(Kg/day)	From the same province	From other provinces	From Vietnam	From Thailand
1	Tomato	820	0%	88%	12%	0%
2	Cucumber	550	0%	100%	0%	0%
3	Wax Gourd	455	0%	100%	0%	0%
4	Bitter Gourd	255	0%	100%	0%	0%
5	Chinese Cabbage	190	0%	47%	53%	0%
6	Yard Long Bean	145	0%	100%	0%	0%
7	Chinese Radish	125	0%	100%	0%	0%
8	Long Eggplant	125	0%	100%	0%	0%
9	Round Eggplant	110	0%	100%	0%	0%
10	Cauliflower	105	0%	86%	14%	0%
11	Chinese Kale	53	25%	75%	0%	0%
12	Chili Daineang	40	0%	38%	63%	0%
13	Ginger	20	0%	0%	100%	0%
Total		2,993	0%	91%	9%	0%

Source: Survey conducted by CPS [Dec, 2016]

Although the overall supply is dependent on domestic produces, there is no single produce supplied from the same province, except Chinese kale. In contrast, there are actually several commodities that are 100% supplied by the domestic producers from other parts of Cambodia. They are round cucumbers, wax gourds, bitter gourds, yard long beans, Chinese radishes, long eggplants, and round eggplants. All these reveal a much stronger role of the domestic supply in Prey Veng market, Prey Veng, but it might indicate there is not much potential for or interventions on vegetable production.

3.11.3 Destination of Wholesale Distribution

Samaki wet market is located in the provincial town of Siem Reap. It is a vital location for northwestern Cambodia, which comprises other nearby provinces such as Preah Vihear and Oddar Meanchey. Figure 8 clearly confirms this expectation. The wholesale from this market point goes to feed destinations in the region, which include Siem Reap itself as a major destination, followed by Preah Vihear, Oddar Meanchey, and Kampong Thom. Kampong Cham is also reported as a distribution destination, but to a much less extent compared to others.

3.5 Behavior of Wholesalers toward BFP

3.5.1 Wholesalers' willingness to buy vegetables under BFP

Overall, interviewees react positively when asked whether they are keen to buy some produces from local producers under BFP's support. In response, all interviewed wholesalers, except one in Samaki market, express their interest to buy. They tend to prefer local agricultural produces than the imported ones, but express concern about irregular supply by local producers. Plus, they also concern about the quality and quantity of supply because local producers are generally seasonal and small-scale. All these could severely affect the schedule of wholesalers to ensure constant availability of produces for their clients.

Table 7: Wholesalers' willingness to buy produces from BFP's producers

Name of Market or village	# wholesalers interviewed	# wholesalers keen to buy from BFP's producers
Neak Meas	27	27
Phsar Doermkor	4	4
Soung	11	11
Samaki SRP	26	25
Phu Puy (BTB)	59	57
Pursat	19	19
Boeung Kock	12	12
Kampong Thmar	5	4
Phsar Chas (KPT)	7	7
Takhmao Thmey	22	20
Prey Veng	5	5

Source: Survey conducted by CPS [Dec, 2016]

3.5.2 Wholesalers' interest to cooperate with BFP

With aim to seek their cooperation, the contacted wholesalers were asked with two questions. The first question was if they want to participate with BFP in order to get cooperation with local producers that are supported by BFP program. The majority (61 out of 68) reacted positively to the question. However, the response is much lower to the second question asking if they (or their representatives) are interested

in attending the meeting or workshop with other stakeholders on this cooperation. Only 36 of them, which is around 50%, showed their interest. Time was expressed as a major concern for them to attend the meeting.

Table 8: Wholesalers’ interest to cooperate with BFP

Names of Market	# wholesalers interviewed	# wholesalers keen to participate with BFP	# wholesalers interested to attend meetings with BFP
Neak Meas	27	25	5
Phsar Doermkor	4	4	3
Soung	11	10	9
Samaki SRP	26	22	19
Battambang	59	57	43
Pursat	19	10	9
Boeung Kock	12	12	9
Kampong Thmar	5	4	3
Kampong Thom	7	7	5
Takhmao Thmey	22	20	11
Prey Veng	5	5	5

Source: Survey conducted by CPS [Dec, 2016]

From the interview, some wholesalers are dealing with only the imported vegetables that cannot even be substituted by local produces and/or grown all year round in Cambodia. More importantly, they have already built their business network for a certain period of time. Therefore, they seem to just stick to their existing network rather than consider a shift as it will simply cost them more time and effort.

3.5.3 Wholesalers’ prospect for contractual arrangement with producers under BFP

Table 9 below shows the reaction of the surveyed wholesalers on a question seeking if they want to have contractual arrangement with vegetable producers supported by BFP program. The responses didn’t turn out good. Only 7 out of 60 respondents (that is just 10%) shows the interest. The other 90% are not interested and their major reasons for this take are: irregularity of supply, high and volatile price of the local vegetables, and no confidence in local producers. All these factors create a lot of fear for wholesalers at these wet markets.

Table 9: Wholesalers’ prospect for contractual arrangement with producers under BFP

Names of Market	# wholesalers interviewed	# wholesalers interested in contractual arrangement
Neak Meas	27	0
Deumkor	4	3
Suong	11	3
Samaki	26	1
Total	68	7 [10% of total]

Source: Survey conducted by CPS [Dec, 2016]

III. Conclusion

As revealed by the survey, the 13 vegetable commodities considered by BFP are generally available at these local markets. These local markets are vital and strategic location as wholesale points for further distribution of vegetables to various destinations in Cambodia. Markets in Phnom Penh are central points with a wide distribution channels to not only the southern part, but also many other parts, of the country.

Although all 13 vegetable commodities can generally be found in these wholesale markets, the supply sources differ quite significantly, especially with regard to dependency on imports from neighboring countries. The degree of dependence on imports is quite high for markets in Phnom Penh, around 70% and Vietnam is responsible for a high share given Phnom Penh stay closer to southern Vietnam. The role of domestic supply appears highly significant for Suong market that is located near the Mekong plains. 75% of the supply comes from local producers, 30% from the same province and other 45% from other parts of Cambodia, while the import from Thailand is almost none. For Samaki market in Siem Reap, the degree of domestic supply is still limited and the role of supply from Thailand becomes more significant in relation to that from Vietnam.

Despite high reliance on imports, there is still quite a room for domestic producers to increase their role in the supply chain for these wholesales of commodities. Many of these commodities not totally dependent on imports. There are already share of supply from domestic sources for many of these commodities. Of note, such share of domestic supply is even higher for Suong market (Tbaung Khmum) and Samaki

market (Siem Reap). Therefore, the role of domestic supply could be increased by expanding the existing production.

With regard to cooperation with BFP program, the surveyed wholesalers are generally willing to engage with BFP program. 90% of them express the interest to participate with BFP for possible cooperation with local vegetable producers, but much fewer of them (around 50%) are keen to come to meetings or workshops as they concern with their time. Interestingly, all of the surveyed wholesalers (except one in Samaki market) consider to buy vegetables from local producers if available. However, very few of them are willing to enter into contractual arrangement with local producers. Just 10% express such interest. The other 90% simply do not consider such contractual mode and their main concerns are irregular supply of the local produces and both the quantity and quality.

ល.រ	q2.1 ប្រភេទបង្កើត	ប្រភេទផ្គត់ផ្គង់ (គម/ថ្ងៃ)					q2.x.6 ការវិនិយោគ (គម/ថ្ងៃ)
		សេវាសម្រាប់ប្រជាជន		សេវាសម្រាប់		q2.x.5 ទឹកស្អាត	
		q2.x.1 ធនធាន ប្រើប្រាស់	q2.x.2 ធនធាន សម្រាប់ប្រើប្រាស់	q2.x.3 ធនធាន សម្រាប់ប្រើប្រាស់	q2.x.4 ធនធាន សម្រាប់ប្រើប្រាស់		
1	ប្រាសាទ						
2	ប្រាសាទ						
3	សំណង់ប្រាសាទ						
4	ប្រាសាទ						
5	សំណង់ប្រាសាទ						
6	សំណង់ប្រាសាទ						
7	ប្រាសាទ						
8	សំណង់ប្រាសាទ						
9	ប្រាសាទ						
10	ប្រាសាទ						
11	សំណង់ប្រាសាទ						
12	ប្រាសាទ						
13	សំណង់ប្រាសាទ						
14							
១៥							
១៦							
១៧							

q3) តើអ្នកដឹងឬអត់អ្នកដឹងថា ប្រភេទផ្គត់ផ្គង់ណាមួយដែលអ្នកដឹងត្រូវបានប្រើប្រាស់ក្នុងការសាងសង់ប្រាសាទ?

1=ទិញ 2=ទិញ

q4) ម៉ែមិនឱញ អើហេតុអ្វី?

.....
.....
.....
.....
.....

q5) អើអ្នកចង់ចូលរួមជាមួយកម្មវិធី ដើម្បីធានាសហការជាមួយអ្នកផលិតផលកម្រិតខ្ពស់ជាងគេទៀតដែររឺទេ?

1=ប្រាកដ 2=មិនប្រាកដ

q6) ម៉ែចូល អើអ្នក រំលឹកនូវការងារសម្រាប់អ្នកផលិតផលកម្រិតខ្ពស់ និងសិក្ខាសាលាជាមួយអ្នកផលិតផលកម្រិតខ្ពស់ទៀតដែររឺទេ?

1=ប្រាកដ 2=មិនប្រាកដ (ជាមួយអ្នកផលិតផលកម្រិតខ្ពស់ និងសិក្ខាសាលាជាមួយអ្នកផលិតផលកម្រិតខ្ពស់ទៀតដែររឺទេ ហើយអ្នកមិនធ្លាក់ចុះទេ)

q7) ម៉ែមិនចូល អើ ហេតុអ្វី?

.....
.....

q8) ម៉ែចូល អើអ្នកចង់ធ្វើកិច្ចសហការជាមួយអ្នកផលិតផលកម្រិតខ្ពស់ជាងគេទៀតដែររឺទេ?

1=ប្រាកដ 2=មិនប្រាកដ

q9) ម៉ែមិនចង់ អើហេតុអ្វី?

.....
.....

4.2 Appendix 2: Survey Activities



Interviews with Wholesalers at Neak Meas Market, Phnom Penh



Interviews with Wholesalers at Deumkor Market, Phnom Penh



Interviews with Wholesalers at Suong Market, Tbaung Khmum



Interviews with Wholesalers at Samaki Market, Siem Reap