



# **Capacity building of stakeholders involved in institutional linkage and monitoring of new farmers groups**

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## **Executive Summary**

In this assignment, four different tasks were executed: conducting 1 day workshops in 6 eastern Dzongkhags; linking 2-4 institutes with farmers groups in each of the 6 Dzongkhags; monitoring 18 new/weaker farmers groups growing vegetables; and determining vegetable requirement of all institutes having common mess in the country. The work was done from March to June 2014.

The objective of the Dzongkhag workshops was to build capacity of the main stakeholders in facilitating the process of linking farmers groups with institutes in supplying vegetables with the goal of linking all institutes with farmers groups from beginning of 2015. All Agriculture Extension Agents, Gups and Dzongkhag Agriculture and Education Officers participated in the workshop. The participants were appraised on the process of institutional linkage in detailed steps and made their roles and responsibilities clear. They were taken through the contractual agreement preparation and facilitation of price negotiation of vegetables. A role-play of buyers and sellers was acted out to make the process clear. The outcome of the workshop is an action plan by each geog in all the 6 eastern Dzongkhags on linking remaining institutes with farmers groups. The participants were also briefed by FCBL on physical marketing of RNR products.

It was planned to link 2-4 institutes with farmers group in each of the 6 Dzongkhags. The objective of this exercise was to provide on-the job coaching and support to the direct local facilitators to execute new contracts. But this couldn't be done for all Dzongkhags due to lack of farmers groups near institutes. Only 5 institutes were linked with farmers groups in 3 Dzongkhags. To make up for this, role-play of buyers and sellers was done; roles and responsibilities of all stakeholders was made clear; and action plan for all geogs in 6 eastern Dzongkhags was prepared in linking remaining institutes with farmers groups in the Dzongkhag workshops.

Monitoring of 13 new and 5 weaker farmers vegetable groups was done. The main objective of monitoring the selected groups was to motivate the five weaker groups and create awareness as how the groups should function for the 13 new groups. With assistance from Dzongkhag and Geog Agriculture Officers, meetings were scheduled with the groups. The groups were visited

with representatives from SNV, RAMCO and Geog Agriculture Extension Agents. The groups were briefed on various topics pertaining to group management and also issues about production and marketing of vegetables. Interactive sessions were held to further clarify on the questions, issues and constraints that the farmers groups were facing.

Realizing the market potential in institutes in the country, an exercise was carried out to identify all kinds of institutes in the country that have common mess requiring vegetables. The vegetable requirement of each institute was determined and expenditures for vegetables by each institute estimated. The findings are summarized in the box below:

<b>Institute</b>	<b>Annual requirement of veg (ton)</b>	<b>Annual expenditure on veg (Nu)</b>	<b>% requirement of veg by institutes</b>
Boarding Schools	2041	40,820,000	26
Religious Institutes	556	11,120,000	7
Colleges	273	5,460,000	3
Vocational Institutes	125	2,500,000	2
Hospitals	94	1,880,000	1
RBP	209	4,180,000	3
RBA	4563	91,260,000	58
<b>Total</b>	<b>7861</b>	<b>157,220,000</b>	<b>100</b>

The institutional market requires 7861 ton of vegetables annually and the farmers groups has the opportunity to earn an income of Nu.157,220,000 annually by supplying vegetables to the institutes. RBA has the maximum requirement of vegetables at 7861 tons annually (58%) followed by Boarding schools at 2041 tons annually (26%).

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I thank all the six eastern Dzongkhags DAOs and ADAOs for logistical arrangements and participation in the workshops. I am grateful to the Agriculture Extension Agents involved in monitoring of the groups in the geogs for their kind support.

The participation of DEOs in the workshops is highly appreciated and I acknowledge the support from the Principals and Mess Incharges of schools and institutes involved in linking with farmers groups.

I thank the participation of all the Gups of six eastern Dzongkhags in the workshops and my special thanks to the farmers groups whom I interacted during the monitoring exercises.

I thank all the individuals from various institutes who provided me with information on institutional requirement of vegetables.

I wish and hope that all the different institutes in the country are linked with farmers groups in supplying vegetables in the near future.



## **Chapter 1**

### **Linking farmers groups with institutes in supplying vegetables through legal contractual agreements**

#### **1.0 Concept**

Farmers groups near institutes undertake to meet all vegetable requirement of the institute through drawing up legal contractual agreement where prices of vegetables are fixed in the beginning for a fixed period. The institutes serve as sustainable market for the farmers as they require vegetables throughout the year. In turn the institutes get almost organic fresh vegetables every week which is nutritious for the consumers in the institutes.

#### **1.1 Background**

The aspiration of linking farmers groups to the local institutes to supply agricultural products had started in the late 1990s in the eastern region. However, due to lack of an enabling environment such as the Co-operative Act, it could not progress. Although the Cooperatives Act was passed in 2001, farmers' group registration was not covered by the Act. With the amendment of the Cooperatives Act in 2009 and framing of the Corporate Rules and Regulations in 2010 (CRR 2010), an enabling environment for farmers' group registration had been created.

A Memorandum of Understanding has been signed on 19<sup>th</sup> April 2012 between the Ministry of Education and the Ministry of Agriculture and Forests to pilot Gyelposhing HSS under Mongar Dzongkhag and Jaker HSS under Bumthang Dzongkhag in buying vegetables locally from farmers close to the respective schools and to scale up this model nationally in all the schools, if found feasible.

In the early part of 2012, sparked by the rupee crunch, the RGoB has decided to become self-sufficient in vegetables by 2014. Vegetable Production and Marketing Plan has been developed and is being pursued by Department of Agriculture and Department of Agricultural Marketing and Cooperatives. Coupled with the above developments, RAMCO and SNV Bhutan had been promoting the Off-season vegetable program from the

beginning of 2012 in eastern Bhutan (now called Vegetable Value Chain Programme for East: VVCP-E) with the aim of supplying to domestic market as well as exporting vegetables to Assam from May-September.

During the exploratory visits to Boarding schools in eastern region by SNV/RAMCO in 2012, all schools expressed the willingness to buy vegetables locally and it was found that some schools have already encouraged farmers to grow vegetables and supply to the schools. Some of the schools were following the directives of Ministry of Home and Cultural Affairs to buy vegetables from the farmers during vegetable season. During the monitoring of the VVCP-E, the clusters showed interest to link with the schools in their geogs since the markets in Assam were not reliable.

Drawing contractual agreements on supply of vegetables has mutual benefit to both farmers and schools as schools get fresh vegetables and farmers can save on transport and transaction cost compared to other markets. In fact the limited requirement of vegetables by the schools matches the lower production capacity of our farmers at the moment.

More institutes were linked with farmers groups towards end of 2012 by RAMCO & SNV and the linkage continued in 2013. By end of 2013, 31 institutes mainly schools were linked with 57 farmers groups covering 795 households. In 2013, the 31 institutes consumed 661,440 kg of vegetables equivalent of Nu.11,082,350. Schools alone require 149,921 kg or 150 tons of vegetables per month equivalent to Nu.2,352,998 in the eastern region.

By May 2014, 40 institutes had been linked with 89 farmers groups in the eastern region.

## **1.2 Objectives of the workshop**

Based on experiences from 2012-2013 of linking 31 institutes with 57 farmers groups, a guideline for facilitation of contractual supply of RNR products by farmers groups to institutes was developed. The objectives of the Dzongkhag workshop were:

- i) To train all the Agriculture Extension Agents and Gups of six eastern Dzongkhags in how to facilitate linkages between institutes and farmers groups

- ii) To draw up a workplan for each geog in all the six eastern Dzongkhags on institutional linkages by end of May 2014

The ultimate goal is, from beginning of 2015, vegetable requirements of all types of institutes in the six eastern Dzongkhags be met by farmers groups through contractual agreements and to scale up this model to the whole country, later.

### 1.3 Schedule of the workshops in the six eastern Dzongkhags

The workshops were held in all the six eastern Dzongkhags as scheduled in Table 1.3.1.

Table 1.3.1 Schedule of Dzongkhag workshops in the east

Dzongkhag	Workshop date	Venue	No. of participants
Tashigang	21 Apr 2014	DYT Hall	44
Tashi Yangtse	24 Apr 2014	DYT Hall	23
Pemagatshel	30 Apr 2014	DYT Hall	25
Samdrup Jongkhar	1 May 2014	DYT Hall	23
Mongar	7 May 2014	DYT Hall	46
Lhuentse	8 May 2014	DYT Hall	25

The list of participants of the workshops is given in annex 1.3.

### 1.4 Programme for the Dzongkhag workshop

The programme for the workshops was as given in Table 1.4.1.

Table 1.4.1 Programme for the Dzongkhag workshops

Time	Particular	Remarks
8:30-9:00	Registration	Karma Tenzin, RAMCO
9:00-9:15	Opening Remarks	Dzongkhag
9:15-9:45	Institutional supply of vegetables and lessons learnt	Karma Tenzin, RAMCO
9:45-10:30	Taking through the Guideline	Thinlay Wangchuk, NRM Consultancy Services
10:30-11:00	Tea break	

11:00-11:30	Contractual Agreement	Thinlay Wangchuk, NRM Consultancy Services
11:30-12:00	Roles & responsibilities of Geog & Dzongkhag	Thinlay Wangchuk, NRM Consultancy Services
12:00-13:00	Role Play on contracting process	Thinlay Wangchuk, NRM Consultancy Services
13:00-14:00	Lunch	
14:00-14:45	Preparation of action plan by each geog	Karma Tenzin, RAMCO
14:45-15:15	Briefing on Co-operatives & BOIC	Rinchen Dorji, RAMCO
15:15-15:30	Tea break	
15:30-16:15	Briefing from FCB on new developments	Karma Nidup, CEO, FCB

## 1.5 Output from the Dzongkhag workshop

The output from the Dzongkhag workshop is a geog plan on linking institutes with farmers groups for all the geogs in the six eastern Dzongkhags. The plans will be submitted to RAMCO Mongar by end of May 2014. The likely outcomes will be formation of new farmers groups to supply vegetables to the institutes. Linking farmers groups with institutes will take place by November 2014 so that farmers group can supply vegetable to the institutes from beginning of 2015.

The roles and responsibilities of Geog and Dzongkhag stakeholders were identified and briefed in the Dzongkhag workshops.

The compiled action plan of different Dzongkhags for linking farmers groups with institutes is given in Table 1.5.1. The action plan shall be executed in 2014 for supply of vegetables in the 2015 academic year.

Table 1.5.1 Action plan for linking farmers groups with institutes in supplying vegetables for the 2015 academic year

<b>Dzongkhag</b>	<b>Geog</b>	<b>Name of institute</b>	<b>New FGs to be formed</b>	<b>When? (month)</b>	<b>Linkage when?</b>	
Lhuntse	Tshenkhar	Tshochen PS	Barchu	Jul-Aug	Nov-Dec	
		Wambur	Khimgong	Jul-Aug	Nov-Dec	
		Autsho LSS	Fawan toe Kharphu	Jul-Aug	Jul-Aug	
	Kurtoed	Dungkhar PS	Dungkhar	Dungkhar Serphu Jatsabi	Jul-Aug	Nov-Dec
	Jarey	Ladrong PS	Ladrong	Aug-Sep	Nov-Dec	
		Zangkhar PS	Yabi	Aug-Sep	Nov-Dec	
			Changkhalala			
	Metsho	Gortsum PS	Gortsum	Jul-Aug	Nov-Dec	
Gangzur	Thimyul LSS	Linung	Aug-Sep	Nov-Dec		
Mongar	Shershong	Serzhong LSS	Aumtsu GonorGongphel Chithuen Detshen			
T/Yangtse	Teodtsho	Jangphutse Community School	Jangphu	Feb	Nov-Dec	
			Nangkhar			
		Nangkhar Gonpa Dratshang	Jangphu	Feb	Nov-Dec	
			Nangkhar			
Trashigang	Khaling	Jeri Primary School	Jeri farmers group	Jun	Aug	
		Barshong Karma Theaksum Dechoeling Dratshang	Thrizer and Drepangthang farmers group	Jun	Aug	
	Thrimshing	Thrimshing MSS	FG formed	Mar	Sep-Oct	
	Kangpara	Kangpara LSS	Kangpara vegetable group	May		
S/Jongkhar	Dewathang	Jigmi Namgay Polytechnic	Rikhey			
	Gomdar	Gomdar LSS	Rechangloo			
	Lauri	Lauri CPS	Lauri Women Chilli Group			
			Lauri Potato Group			
	Phunyshothang	Karmaling HSS	Khameythang Community Seed Bank Group			
	Serthi	Menjiwoong LSS	Deptshang			

From Table 1.5.1, most of the institutes listed were schools (only few religious institutes were listed). Since the strategy is to create market for our farmers through institutional supply, there is a need to explore all types of institutes and not only restricting to schools. Even some schools are missing for example Udzorong LSS in Tashigang. Therefore RAMCO and Dzongkhags should once again follow up with the geogs to ensure that all institutes in the geogs are linked with the farmers groups.

## **1.6 Other agendas of the Dzongkhag Workshops**

In addition to the institutional linking, a short briefing was done on Cooperatives and business opportunities information centre (BOIC).

The Food Corporation of Bhutan Limited (FCBL) made a detailed presentation about their mandates; roles and responsibilities; and new mandate of physical marketing for all RNR products from 2014. Their concept and proposal is excellent provided that it can be implemented as stated in the workshops.

Their proposal also has relevance not only to the institutional linkage but also to the VVCP-E as a whole.

In brief, they have a 3 window concept where in the first compartment all FCBL products would be made available to the farmers on credit. In the second compartment they would have all inputs required by farmers such as seeds, fertilizers, feeds, tools and implements. The third compartment would store products bought from the farmers to be transported to other markets. Such shops would be located in strategic locations.

Collection sheds would be constructed in strategic places and farmers groups and individual farmers can bring their products to the collection centre from where FCBL will buy on cash basis. FCBL will offer buy-back guarantee as well as prices will be fixed in the beginning of the season. This physical marketing by FCB is for all RNR products and these will solve the marketing problem faced by our farmers groups (FGs).

On the institutional linkage side, FCBL would be providing 9 non-perishable items to all the schools from July 2014. In addition they could also supply vegetables to the schools after buying from the farmers. In this way,

difficulty of supplying vegetables to the institutes from Feb-Apr could be avoided as FCBL can mobilize the vegetables easily during those months.

FCBL is also opening retail shops in the Dzongkhags to stabilize prices of commodities which is well received by all the consumers.

### **1.7 Awarding of certificates to FGs that performed well in 2013**

For Tashigang Dzongkhag those farmers groups that performed well in 2013 according to the Mock Audit exercise were awarded recognition certificates during the workshop by Dasho Dzondrab of Tashigang. The outstanding groups under Tashigang Dzongkhag were:

- i) Thragom Vegetable Group under Kanglung geog
- ii) Tshetsey Tshongdrel Detshen under Bartsham geog
- iii) Melphey Vegetable production and Marketing Group under Samkhar geog
- iv) Jomo Dangling Tshetsey Detshen under Khaling geog
- v) One Stop Farmers Shop in Khaling

The certificates for outstanding groups in other eastern Dzongkhags were handed over to the DAOs for awarding to the FGs.

### **1.8 Media coverage**

There was good coverage of the workshops in the media for Tashigang, Samdrup Jongkhar, Mongar and Lhuentse Dzongkhags both in Kuensel and BBS.

## **Chapter 2**

### **Linking farmers groups with institutes – practical training for facilitators**

#### **2.0 Introduction**

In following up to the Dzongkhag workshops, it was planned to link 2-4 new institutes with farmers groups per Dzongkhag. The objective of this exercise was to provide on-the job coaching and support to the direct local facilitators to execute new contracts.

However, this plan couldn't be executed fully due to lack of farmers groups near the institutes and some institutes having tendered out vegetable supply for the academic year. Therefore new strategies were devised to address the above issue as described below:

- i) We introduced a role-play during the workshop in which the whole process of making a contractual agreement was acted out. The linking exercise in selected geogs would have benefitted only the AEA and Gup of that particular geog but the role-play exercise was useful to all the participants of the given Dzongkhag.
- ii) All the Agriculture Extension Agents together with the Gups were asked to prepare a work plan for their geog for institutional linkage.
- iii) The roles and responsibilities of stakeholders involved in making contractual agreements were made clear to all the participants.

#### **2.1 Linking of institutes with available farmers groups**

- i) Three farmers groups of Chaling (22 hh), Shongphu (18 hh) and Dangrey (16 hh) under Shongphu geog of Tashigang Dzongkhag are linked with Technical Training Institute (TTI) of Rangjung and Rangjung Dratshang on 22<sup>nd</sup> April 2014. A total of 37 people participated in the linkage meeting. The requirement of vegetables for Technical Training Institute of Rangjung is 500 kg per week. The contract will come in effect from 1<sup>st</sup> August 2014 to 30<sup>th</sup> June 2015. Rangjung Dratshang requires 200 kg of vegetables per week and



the three farmers groups will supply from 1<sup>st</sup> June to 31<sup>st</sup> December 2014.

- ii) The Yemkhar group consisting of 10 households under Thrimshing geog of Tashigang Dzongkhag was linked with Thunkar LSS on 28<sup>th</sup> April 2014. A total of 17 people participated in the meeting. The school requires 410 kg vegetables per week. The contract is signed for the remaining of 2014 i.e. from 1<sup>st</sup> May 2014 to 18<sup>th</sup> Dec 2014.
- iii) The Thragom Tshetsey Thuenkey Tshongdrel Detshen consisting of 17 members under Yallang geog of Tashiyangtse Dzongkhag was linked with Thragom LSS on 26<sup>th</sup> April 2014. A total of 23 people participated in the meeting. The school requires 200 kg of vegetables per week and the contractual agreement has been drawn for the remaining period of 2014 i.e. from April to 18 Dec 2014.
- iv) The Wenghartsing (13 hh) and Bazoor (11 hh) FGs of Dremetse geog under Mongar Dzongkhag were linked with Dremetse MSS on 3<sup>rd</sup> May 2014. A total of 31 people participated in the meeting. The school requires 1138 kg of vegetables per week. The contract is signed for six months i.e., from Jul to 18 Dec 2014.

## **2.2 Lessons learnt from the linking exercise**

- i) The AEAs should prepare the farmers groups before the negotiation meeting. The AEAs need to discuss with farmers groups on linking program, disadvantages/advantages of institutional supply, and determining prices of the vegetables.
- ii) The FGs should be made aware of the cost of production of each vegetable so that they have a basis for their price. FGs should be made aware on wholesaling and retailing concepts. They shouldn't expect market retail price from institutes.

- iii) The FGs should, before the price negotiation, have an idea of minimum price they are going to charge for each vegetable based on cost of production and also acceptable price to them.
- iv) The institutes should decide range of prices per vegetable based on budget and quantity of vegetable required. However, it should be agreeable to the farmers (seller).
- v) Along with the passing of responsibilities to AEAs, they should be incentivized and their contribution recognized. For example, best performing AEAs could be given a certificate of recognition by the respective Dzongdags at the end of the vegetable season.

### **2.3 Role of different agencies in institutional linkage**

The roles of different stakeholders are given below for linking farmers groups with institutes in supplying vegetables.

#### **Dzongkhag Education Officer**

- i. To sensitize schools on VVCP school linkage programme
- ii. To advocate school linkage programme in Ministry of Education for replication in other areas

#### **Dzongkhag Agriculture Officer**

- i) Overall incharge for school linking programme in dzongkhag
- ii) To advocate school linkage programme in Ministry & other relevant projects for replication
- iii) Support EAs in identifying potential schools/ institutes
- iv) Support formation of new farmer groups
- v) Support strengthening of farmer groups (production, harvesting, post-harvest, planning process, infrastructure)
- vi) Provide monthly information on school linkage sales & income to RAMCO
- vii) Bi-annual monitoring visits to linked institutes and farmer groups
- viii) Profiling school linkage programme in media

#### **Agriculture Extension Agent**

- i) Identify potential institutes for linkages with support from gups
- ii) Form & support new farmer groups for linkage
- iii) Prepare farmer groups for contracting with institutes

- iv) Actual facilitation of contracting process between farmer groups & institutes
- v) Strengthen farmer groups in production, harvesting & supplying to institutes
- vi) Implement proper record & book keeping in farmer groups
- vii) Monthly monitoring & reporting to DAO of linked institutes and FGs
- viii) Minor mediation between institutes & farmer groups

**Geog administration (Gup, Mangmi, GAO)**

- i) Support in identifying potential institutes & forming new farmer groups
- ii) Advocate on school linkages for up scaling & replication
- iii) Support facilitation of contracting process between farmer groups & institutes
- iv) Support in monthly monitoring & reporting process
- v) Minor mediations between institutes & farmer groups

**RAMCO**

- i) To provide overall support to the program in terms of budget and inputs through MAGIP
- ii) To coordinate the VVCP-E through annual coordination meetings and other workshops as and when required
- iii) To build capacity of both farmers groups and EAs in many areas such as book-keeping, leadership, gender
- iv) Support in facilitation of institutional linkage processes and support

**FCBL**

Starting from 2014, FCBL will be heavily involved in physical marketing of RNR products. This will ease the marketing difficulties for our farmers. FCBL could even supply vegetables to the institutes along with the 9 products that they are already supplying to the schools after buying from the farmers. That way the farmers don't have to worry about not meeting vegetable requirement of the institutes.

## **Chapter 3**

### **Monitoring of the VVCP-E Farmers Vegetable Groups**

#### **3.0 Introduction**

Thirteen newly formed VVCP-E groups and five weaker groups (identified during Mock Auditing in 2013) were selected for monitoring in Apr-May 2014. The main objective of monitoring the selected groups was to motivate the five weaker groups and create awareness as how the groups should function for the 13 new groups.

#### **3.1 Methodology of monitoring**

The 2 men team (LCB of SNV) and Mr. Karma Tenzin from RAMCO Mongar visited each of the groups in their villages along with the respective geog AEs. The DAOs were informed through telephone and met prior to the monitoring exercises. The AEs of the respective geogs were requested to inform the groups and arrange meetings for the monitoring team and join the monitoring team during the monitoring exercise.

The monitoring was done in Apr-May 2014 as per schedule given in Annex 3.1.

#### **3.2 Discussion topics for monitoring meetings**

Since the main objective of monitoring was to motivate farmers groups and create awareness for them, the following topics were discussed with them in all the 18 groups. The meeting covered five main topics such as:

- i) Introduction
- ii) Production aspects
- iii) Harvesting and packaging techniques
- iv) Marketing aspects
- v) Issues/constraints

Under the introduction section, the following topics were covered:

- Background on the VVCP-E (how it started; highlights of 2012 & 2013)
- Economics of vegetables in Bhutan – plan & policies

- Depends heavily on veg imports which could be turned into opportunity for export especially from May-Sep
- Advantages of vegetable business – only 60% requirement met
- Logics of forming groups – results in increased volume & cut down on transport costs
- How groups should function (should have clear tangible objectives & function as per by-laws)
- Group management (by-laws, gender, cash book, stock register, account, receipts and seal of the FGs)
- Roles & responsibilities of RAMCO Mongar vis-à-vis DAMC and that of Department of Agriculture

The followings topics were discussed under the production aspects section:

- DoA (Dzongkhag & Geog Agriculture) is fully responsible for production aspects of vegetables
- Vegetables which can be harvested 3-4 times per year compared to annual crops is advantageous to farmers with small landholdings
- For vegetable business, farmers should be able to produce assorted vegetables at the same time
- Needs proper planning to produce assorted vegetables at the same time (seek help from AEAs)
- Production of vegetables is the main role of the farmers

Under the harvesting & packaging techniques section, the importance of proper harvesting, handling and packaging of vegetables was emphasized to all the groups.

- To maintain quality of the vegetables, it is very important to harvest, handle & package vegetables properly
- Proper harvesting & packaging vegetables videos were shown to all the 18 groups
- Further discussions were held after the video show to clear all doubts

The following topics were discussed under the marketing aspects section:

- RAMCO Mongar (DAMC) is responsible for facilitating marketing aspects and FCBL will be engaged in physical marketing
- Marketing is main role of FCBL/traders (not of farmers)

- Vegetable business should be based on quality & trust between producers and traders
- Should practice high volume & lower profit margin in vegetable business due to perishability nature of the products
- Need to form groups to have enough volume of assorted vegetables for marketing
- Internal market such as institutes are advantageous to producers as they can save on transport costs (results of transport costs discussed)
- External market for vegetables exist from May to Sep yearly in India but market requirements are specific for each type of vegetables
- Important to have Group Coordinator for marketing of vegetables
- Equally important to institute incentivizing Group Coordinators
- Important to reduce price of vegetables with time as quality of vegetables deteriorate (explained with examples)

### **3.3 Expected outcome of the monitoring exercise**

At the end of the monitoring exercise the following outcomes are expected through creation of awareness to the farmers groups:

- i) FGs realized that there is market for vegetables – both internal & external – as only 60% of requirement are met internally
- ii) FGs realized that groups should have clear tangible objectives and should function according to their by-laws
- iii) By forming into groups they can meet market requirement and save on transport costs and labour costs of marketing
- iv) FGs realized the roles and responsibilities of different stakeholders and knows whom to approach when faced with difficulties
- v) It is advantageous to cultivate vegetables (3-4 harvests per annum) given small landholdings
- vi) FGs realized importance of producing assorted vegetables at the same time in vegetable business which requires proper planning with support from AEAs and using cropping calendar produced by RDC Wengkhari
- vii) FGs realized importance of proper harvesting, handling and packaging of vegetables to maintain quality of vegetables
- viii) FGs realized that vegetable business should be based on quality & trust between producers and traders

- ix) FGs realized that they should practice high volume & lower profit margin in vegetable business
- x) FGs realized the roles of Group Coordinator & that they should be incentivized for their services to the groups

### 3.4 Outputs from monitoring of specific FGs

The 18 VVCP-E farmers groups were monitored and the outputs from the discussion of specific groups are described in this section.

Table 3.4.1 List of VVCP-E FGs monitored

No	Name of the FGs	Geog	Dzongkhag	Remarks
1	Pangkhar Vegetable Group	Khoma	Lhuentse	New
2	Domthang Tshetsey Detshen	Khamdang	Trashiyangtse	New
3	Thargom Tshetsey Thunkey Tshongdrel Detshen	Yallang	Trashiyangtse	New
4	Gochang Tshetsey Detshen	Ramjar	Trashiyangtse	Weak
5	Jangjangma Tshetsey Detshen	Phongmey	Trashigang	New
6	Karmi Goenpa Tshetsey Detshen	Phongmey	Trashigang	New
7	GazareeTrophel Tshetsey Detshen	Phongmey	Trashigang	New
8	Shokang Tshetsey Namdrel Detshen	Phongmey	Trashigang	New
9	Momnangkhar Tshetsey Detshen	Phongmey	Trashigang	New
10	Bargongpa Tshetsey Detshen	Phongmey	Trashigang	New
11	Bumtang Vegetable Group	Phongmey	Trashigang	New
12	Tshenkhar Tshetsey, Chithuen Detshen	Bidung	Trashigang	Weak
13	Bashong Vegetable group	Khaling	Trashigang	Weak
14	Gumchu Vegetable Group	Khaling	Trashigang	New
15	Yemkhar Vegetable Group	Thrimshing	Trashigang	New
16	Yalang Vegetable Group	Shumar	Pemagatshel	New

17	Bargonpa Rinzang Tshetsey Detshen	Nanong	Pemagatsel	Weak
18	Tokari Vegetable group	Nanong	Pemagatsel	Weak

The list of participants in each of the 18 monitoring meetings is given in annex 3.4.

Name of Farmers' Group	<b>Phuntsho Kuenphel Tshetsey Detshen (Pangkhar)</b>		
Name of Group Coordinator	<b>Jangchu Zangmo</b>		
Mobile # of Group Coordinator	<b>1792 7216</b>		
Number of Group Members	<b>2 M</b>	<b>9 F</b>	<b>11</b>
Geog	<b>Khoma</b>		
Dzongkhag	<b>Lhuentse</b>		
Date of monitoring	<b>9<sup>th</sup> May 2014</b>		

This is a new group formed towards end of 2013. The group has been linked with Khoma LSS and had been supplying vegetables to the school since beginning of 2014 through contractual agreement.

Their main constraint is lack of market for their vegetables as the Khoma LSS can take in only about 2231 kg vegetables per month and the group feels that they can produce much more than required by the school. Their Dzongkhag market (Lhuentse) is also quite far from their village and lack of transporters are a big issue especially in summer when their newly opened farm road often gets blocked.

The solution to this problem could be offered by FCBL when they take over physical marketing for all RNR products from this year.

The other issues mentioned were pest and disease; and lack of water for which the group was directed to approach DoA in their Geog/Dzongkhag.



Name of Farmers' Group	<b>Domthang Tshetsey Detshen</b>		
Name of Group Coordinator	<b>Tashi Wangchuk</b>		
Mobile # of Group Coordinator	<b>1738 0958</b>		
Number of Group Members	<b>7 M</b>	<b>4 F</b>	<b>11</b>
Geog	<b>Khamdang</b>		
Dzongkhag	<b>Tashiyangtse</b>		
Date of monitoring	<b>14<sup>th</sup> April 2014</b>		

This is a new group formed towards end of 2013. They are linked with Tshenkarla MSS along with two other groups from Thetsho geog. They have started supplying vegetables to Tshenkarla MSS from beginning of 2014.

Their main issue is the market price of potato is comparatively high (Nu.25-30) compared to what they get from the school (fixed at Nu.13/kg) for 2014. They fear that they may not be able to recover from the loss on potato.

It also appears that there is some problems in managing the group as some members were reluctant to support the Group Coordinator in arranging vegetables to supply to the school. Their by-laws need to be strengthened and the group requires training on book-keeping.

They have started sowing seeds but didn't get cauliflower seeds, yet (unfortunately the Agric EA could not participate in the meeting as he was involved in land survey).

Name of Farmers' Group	<b>Thragom Tshetsey Thuenkey Tshongdrel Detshen</b>		
Name of Group Coordinator	<b>Yeshey Tshewang</b>		
Mobile # of Group Coordinator	<b>1740 6524</b>		
Number of Group Members	<b>7 M</b>	<b>12 F</b>	<b>19</b>
Geog	<b>Yallang</b>		
Dzongkhag	<b>Tashiyangtse</b>		
Date of monitoring	<b>26<sup>th</sup> April 2014</b>		

This is a new group formed towards end of 2013 and is linked with the Thragom LSS. They would be supplying vegetables to the school from May 2014. As the group is newly formed, they didn't raise any issues or constraints. One possible risk for this group is coordination of the group as the houses are scattered in 3 different villages.

The FCBL representative briefed the group on physical marketing of RNR products by FCBL starting from 2014. It was made clear that if farmers could produce enough quantity and good quality vegetables and brought it to designated areas (collection points), FCBL will buy from the farmers and take to other areas for marketing.

Name of Farmers' Group	<b>Gochang Tshetsey Detshen</b>		
Name of Group Coordinator	<b>Jigme Dorji</b>		
Mobile # of Group Coordinator	<b>1758 6078</b>		
Number of Group Members	<b>10 M</b>	<b>2 F</b>	<b>12</b>
Geog	<b>Ramjar</b>		
Dzongkhag	<b>Tashi Yangtse</b>		
Date of monitoring	<b>8<sup>th</sup> April 2014</b>		

This is a weaker group (as identified by the Mock Auditing exercise in 2013) as the score of the group was 0 (zero) in both governance and book keeping indicators and also zero in overall indicator. The functioning of the group is business as usual i.e., they sell individually to Tashigang market. From 2014, they are linked with Ramjar MSS along with other groups from Ramjar geog.

The group doesn't feel that they have much issues or constraints except for wild animal damages.

The monitoring team visited the Ramjar MSS and the feedback from the school was positive that all the groups supplied despite difficulties in getting vegetables in Feb-Apr. The strategy to overcome difficulties in supply of vegetables in Feb-Apr is to grow vegetables in lower areas of the geog and to link with vegetable suppliers (traders).

The only problem was that their supply schedule was monthly and not weekly per group. We suggested the advantages of weekly schedule and the school agreed to try that idea after completion of one round of supply by all groups.

Name of Farmers' Group	<b>Jangjangma Tshetsey Detshen</b>		
Name of Group Coordinator	<b>Tshering Penjor</b>		
Mobile # of Group Coordinator	<b>1763 0434</b>		
Number of Group Members	<b>5 M</b>	<b>9 F</b>	<b>14</b>
Geog	<b>Phongmey</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>10<sup>th</sup> April 2014</b>		

This is a new group formed towards end of 2013 and is linked with Phongmey MSS along with 6 other groups from the geog. They have been supplying vegetables to the school from beginning of 2014 academic year.

They have sown seeds and except for pest and disease, there are no major issues/constraints, yet. Fortunately, the AEA has small stock of pesticides for the geog.

Name of Farmers' Group	<b>Karmigoenpa Tshetsey Detshen</b>		
Name of Group Coordinator	<b>Sonam Zangmo</b>		
Mobile # of Group Coordinator	<b>1764 7798</b>		
Number of Group Members	<b>0 M</b>	<b>10 F</b>	<b>10</b>
Geog	<b>Phongmey</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>11<sup>th</sup> April 2014</b>		

This is totally all female group formed towards end of 2013 and is linked with Phongmey MSS along with 6 other groups from the geog. They have been supplying vegetables to the school from beginning of 2014 academic year.

The interesting feature of this group is that most of the men are laymonks who provides religious services to the community and it is mostly women who take up agricultural activities.

They have water source but no pipes to bring the water to their kitchen gardens. To begin with it would be useful to supply 1 bundle of pipes to each group for watering the kitchen gardens. The farmers can then buy additional pipes once they start earning from the sales of vegetables. The main issue is

wild animal damages caused by boar, deer and porcupine for which there is no immediate solutions except for electric fencing.

Name of Farmers' Group	<b>Gazaree Trophel Tshetsey Detshen</b>		
Name of Group Coordinator	<b>Norbu Gyeltshen</b>		
Mobile # of Group Coordinator	<b>1770 1379</b>		
Number of Group Members	<b>1 M</b>	<b>15 F</b>	<b>16</b>
Geog	<b>Phongmey</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>10<sup>th</sup> April 2014</b>		

This is also a new group formed towards end of 2013 and is also a women's group except for 1 male member who is the group coordinator. The group is also supplying vegetables to Phongmey MSS on contractual basis along with 6 other groups from the geog.

They have observed poor germination of vegetable seeds but are not sure whether it is due to poor quality of seeds or poor soil fertility combined with lack of water. Proper management is important so they need to get advice from AEA. The group had sown the seeds that they got from the Agriculture Extension Agent.

Name of Farmers' Group	<b>Shokang Tshetsey Namdrel Detshen</b>		
Name of Group Coordinator	<b>Jamyang Dorji</b>		
Mobile # of Group Coordinator	<b>1758 5722</b>		
Number of Group Members	<b>9 M</b>	<b>5 F</b>	<b>14</b>
Geog	<b>Phongmey</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>12<sup>th</sup> April 2014</b>		

This is a new group formed towards end of 2013 and is linked with Phongmey MSS along with 6 other groups from the geog. They have been supplying vegetables to the school from beginning of 2014 academic year.

They have sown seeds and except for lack of water, there are no major issues/constraints, yet. To address the water issue, they need pipes so that water can be conducted to the kitchen gardens. Once water is brought near kitchen gardens, then sprinklers can be used for watering. This will not only assure uniform supply of water but also save labour.

Name of Farmers' Group	<b>Momnangkhar Tshetsey Detshen</b>		
Name of Group Coordinator	<b>Mrs. Sangay</b>		
Mobile # of Group Coordinator	<b>1757 6746</b>		
Number of Group Members	<b>4 M</b>	<b>8 F</b>	<b>12</b>
Geog	<b>Phongmey</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>11<sup>th</sup> April 2014</b>		

This is also new group formed towards end of 2013 and is linked with Phongmey MSS along with 6 other groups from the geog. They have been supplying vegetables to the school from beginning of 2014 academic year.

As they are new group, no issues/constraints were raised during the monitoring meeting. But constraints expressed by other groups of the geog would be applicable to them such as shortage of water and wildlife damage.

Name of Farmers' Group	<b>Bargoenpa Tshetsey Detshen</b>		
Name of Group Coordinator	<b>Mr. Tenzin</b>		
Mobile # of Group Coordinator	<b>1774 9066</b>		
Number of Group Members	<b>2 M</b>	<b>7 F</b>	<b>9</b>
Geog	<b>Phongmey</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>11<sup>th</sup> April 2014</b>		

This is also new group formed towards end of 2013 and is linked with Phongmey MSS along with 6 other groups from the geog. They have been supplying vegetables to the school from beginning of 2014 academic year.

The group has water source but it is not enough for all especially during dry season. Collection or harvesting of the scarce water would be useful for vegetable production. Sprinklers could be used to apply the water as sprinklers are water efficient. They have sown the seeds received from Geog/Dzongkhag through the AEA.

Name of Farmers' Group	<b>Bumtang Vegetable Group</b>		
Name of Group Coordinator	<b>Dorji Lhamu</b>		
Mobile # of Group Coordinator	<b>1787 6553</b>		
Number of Group Members	<b>0 M</b>	<b>10 F</b>	<b>10</b>
Geog	<b>Phongmey</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>10<sup>th</sup> April 2014</b>		

This is yet another women vegetable group formed later than other groups in 2014. They are also supplying vegetables to Phongmey MSS along with 6 other groups.

They have sown the seeds received from Geog/Dzongkhag through AEA in batches to ensure steady production to supply to the school. No issues /constraints were raised in the meeting.

Name of Farmers' Group	<b>Tsheykhari Tshetsey Chithuen Detshen</b>		
Name of Group Coordinator	<b>Thinley Namgyel</b>		
Mobile # of Group Coordinator	<b>1764 5300</b>		
Number of Group Members	<b>1 M</b>	<b>7 F</b>	<b>8</b>
Geog	<b>Bidung</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>8<sup>th</sup> April 2014</b>		



This is an old VVCP-E group formed in 2011 but identified as weak group by the Mock Auditing exercise in 2013. From 2013, they have been supplying vegetables to both Bidung LSS and Rangjung HSS along with other groups from Bidung geog. Supplying vegetables to schools have eased their marketing problem. However, when the requirement of the Rangjung HSS is less than 1 Bolero load, then they incur loss on transport cost.

The group feels that they have done quite well as a group and no marketing problems were faced. We clarified the criteria as why they were labelled as weak group and what should be done to improve group management, book keeping and ensure transparency in the group.

Name of Farmers' Group	<b>Bashong Vegetable Group</b>		
Name of Group Coordinator	<b>Pelden Dorji</b>		
Mobile # of Group Coordinator	<b>1772 1524</b>		
Number of Group Members	<b>5 M</b>	<b>8 F</b>	<b>13</b>
Geog	<b>Khaling</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>15<sup>th</sup> April 2014</b>		

This group was formed towards end of 2012 and had been linked with Jigme Sherubling HSS in Khaling. This group was identified as weak group by the Mock Auditing in 2013. During the monitoring meeting we found out that the group had already submitted application for discontinuing as a group. Their reasons for discontinuation were shortage of land and labour. They claimed that the group was formed on trial basis and as group business is not progressing well, they want to dismantle the group.

They want to grow soyabean along with potato and sell those individually.

Although they were linked with Jigme Sherubling HSS, they claimed that they got chance to supply only twice to the school. There were signs that they didn't understand the contractual agreement. Their group management had not gone well. For example, the members don't know even about the business development fund provided by RAMCO & SNV in their group account. They blamed that they couldn't supply to the school due to frequent farm road blocks but the community is located just below the Tashigang-Samdrup Jongkhar highway (about 15 minutes-walk to the highway).

We briefed them on the consequences of stopping the group functioning and may not get support in future. They were informed that the business development fund and greenhouse given to the group will be taken back and given to the newly formed group of Gumchu called "Shelkhar Tshetsey Detshen" in which two members (Pelden Dorji & Tashi Dorji) of Bashong group has also joined.

The AEA of Khaling geog was reminded to send a copy of the letter submitted by Bashong Vegetable Group for discontinuation of their group to RAMCO, Mongar.

Name of Farmers' Group	<b>Shelkhar Tshetsey Detshen (Gumchu Veg Group)</b>		
Name of Group Coordinator	<b>Kezang Dorji</b>		
Mobile # of Group Coordinator	<b>1771 7965</b>		
Number of Group Members	<b>3 M</b>	<b>3 F</b>	<b>6</b>
Geog	<b>Khaling</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>16<sup>th</sup> April 2014</b>		

This is the newest VVCP-E farmers group formed in 2014. Some of the members withdrew from Dawzur group and 2 joined from the dismantled

Bashong Vegetable Group. The group is also supplying vegetables to the Jigme Sherubling HSS in Khaling.

The group expressed lack of water and wild animal damage as main constraints. Water source is there but has been disrupted by road widening project.

Name of Farmers' Group	<b>Yemkhar Vegetable Group</b>		
Name of Group Coordinator	<b>Tenzin Dorji</b>		
Mobile # of Group Coordinator	<b>1768 0774</b>		
Number of Group Members	<b>8 M</b>	<b>2 F</b>	<b>10</b>
Geog	<b>Thrimshing</b>		
Dzongkhag	<b>Tashigang</b>		
Date of monitoring	<b>28<sup>th</sup> April 2014</b>		

This is also a very new group formed in 2014 and they have been linked with Thunker LSS to supply vegetables on contractual basis. The group would start supplying vegetables from May 2014. The group expressed need of storage facilities for potato to supply to the school. No other issues/ constraints were raised.

The FCBL representative briefed the group on physical marketing of RNR products by FCBL starting from 2014.

Name of Farmers' Group	<b>Yalang Vegetable Group</b>		
Name of Group Coordinator	<b>Pema Deki</b>		
Mobile # of Group Coordinator	<b>1779 0242</b>		
Number of Group Members	<b>1 M</b>	<b>10 F</b>	<b>11</b>
Geog	<b>Shumar</b>		
Dzongkhag	<b>Pemagatshel</b>		
Date of monitoring	<b>29<sup>th</sup> April 2014</b>		

This is also a women's group except for 1 male member. This group was formerly formed for availing drinking water as scarcity of water is a huge problem in Pemagatshel. Recently they have started vegetable as a group activity. They have not used pesticides on vegetables and consequently no summer vegetables. They have sold some vegetables in winter.

The FCBL representative briefed the group on physical marketing of RNR products by FCBL starting from 2014.

Name of Farmers' Group	<b>Bargoenpa Rinzang Tshetsey Detshen</b>		
Name of Group Coordinator	<b>Tenzin</b>		
Mobile # of Group Coordinator	<b>1774 9066</b>		
Number of Group Members	<b>10 M</b>	<b>1 F</b>	<b>11</b>
Geog	<b>Nanong</b>		
Dzongkhag	<b>Pemagatshel</b>		
Date of monitoring	<b>16<sup>th</sup> April 2014</b>		

This group had been formed from 2011 but found to be weak by the Mock Auditing exercise in 2013. They are still not very clear about the group's office bearers and their roles and responsibilities. The Group Management topics were explained to them in detail.

The group expressed that plastic crates are not convenient for transport of vegetables as they are bulky and incurs transportation costs while bringing it back.

The group didn't express other issues/constraints in the meeting.

Name of Farmers' Group	<b>Tokari Vegetable Group</b>		
Name of Group Coordinator	<b>Sangay</b>		
Mobile # of Group Coordinator	<b>1770 2729</b>		
Number of Group Members	<b>14 M</b>	<b>4 F</b>	<b>18</b>
Geog	<b>Nanong</b>		
Dzongkhag	<b>Pemagatshel</b>		
Date of monitoring	<b>16<sup>th</sup> April 2014</b>		

This group had been formed from 2011 but found to be weak by the Mock Auditing exercise in 2013. They are also still not very clear about the group's office bearers and their roles and responsibilities. The Group Management topics were explained to them in detail.

As the houses of the group members are scattered, it is quite difficult for the Group Coordinator to estimate quantity of vegetables of each member. Therefore each member should estimate their vegetables and inform the Group Coordinator for marketing.

The group didn't express other issues/constraints in the meeting.

### 3.5 Action points that emerged from the monitoring exercise

During the review and planning workshop in Sep 2013, it was agreed that monitoring would be done by the AEA in their respective geogs. It is very important to follow up with the groups how they are performing. A monthly monitoring would be done by the respective AEAs and submitted to DAOs and RAMCO Mongar. The DAOs and RAMCO Mongar should respond to the reports to ensure that AEAs will do it regularly.

Some of the actions that need to be taken immediately are as follows:

- i) The 13 new groups should be provided with business development fund to enable them to market their vegetables. **Action: RAMCO Mongar**
- ii) The 13 new groups should be provided Cash Memo and Seal of their groups immediately especially for those groups that are linked with institutes. **Action: RAMCO Mongar**
- iii) The VVCP-E groups that didn't receive book keeping and leadership training earlier should be trained. **Action: RAMCO Mongar to coordinate**
- iv) The business development fund and greenhouse given to Bashong Vegetable Group should be reallocated to Shelkhar Tshetsey Detshen (Gumchu Veg Group) both under Khaling geog as the former group is dismantled. **Action: RAMCO Mongar for business development fund and Khaling Geog AEA for greenhouse**
- v) There is a need to follow up on the monitoring report which would be submitted by the AEA per month to keep things rolling. **Action: RAMCO Mongar & DAOs**
- vi) The responsibility of monitoring has been passed to the AEAs but how to do monitoring should be taught to the AEAs. **Action: RAMCO Mongar & DAOs to mobilize support for the AEAs** (the formats used by RAMCO from 2012-2014 would be useful to the

AEAs plus a training on conducting monitoring exercises should be given to the AEAs).

## **Chapter 4**

### **Database of institutes at national level for supply of vegetables**

#### **4.0 Introduction**

Based on the experiences gained from the six eastern Dzongkhags on linking farmers' groups with institutes, it was realized that there is huge market potential for farmers groups to supply vegetables to the institutes. Therefore this exercise was undertaken to create an inventory of all the institutes in the country that have a common mess requiring vegetables.

Broadly the institutes can be grouped under Schools (160), Religious Bodies (82), Colleges (11), Vocational Institutes (7), Hospitals (30), Royal Bhutan Police (7), Royal Bhutan Army (16) and Royal Body Guard (1). The religious bodies can be further sub-divided under rabdeys (18), shedra/lobdra (21), nunneries (21) and private religious organizations (22). In total, there are 314 institutes in the country that have common mess requiring vegetables daily.

Supply of vegetables to institutes not only favors the farmers groups but also some institutes which have difficulties in getting fresh vegetables. Therefore the supply of vegetables to the institutes through contractual agreement creates win-win situations for both parties (seller and buyer).

The details of vegetable requirement for different institutes are given in the following sections. For institutes such as RBA, RBP, Vocational institutes and Colleges, the vegetable requirements are actual figures gathered from the institutes. For other institutes, the requirement of vegetable are estimated based on daily minimal requirement of 200g per person. For the determination of amount spent on vegetables, an average cost of Nu.20 per kg of any vegetable was used.

#### **4.1 Vegetable requirements in Boarding Schools**

Although vegetables are required in WFP assisted schools, it is not included in this exercise as those schools don't have separate budget for vegetables. The vegetables are met through contributions from the parents. Therefore only 160 boarding schools (both public & private) are considered in this exercise.



Table 4.1.1 Weekly vegetable requirement and expenditure for Boarding Schools that have common mess

<b>Name of the Institute</b>	<b>No. of consumer</b>	<b>Qty of veg per week (kg)</b>	<b>Amount spent for veg per week (Nu)</b>
Jakar HSS, Bumthang	254	356	7112
Chumey MSS, Bumthang	164	230	4592
Tang MSS, Bumthang	199	279	5572
Ura LSS, Bumthang	73	102	2044
Sonam Kuenphen HSS (Pvt)	151	211	4228
<b>Sub-total for Bumthang</b>	<b>841</b>	<b>1178</b>	<b>23,548</b>
Chukha HSS, Chukha	462	647	12,936
Chapcha MSS, Chukha	305	427	8540
Kamji MSS, Chukha	337	472	9436
Pakshikha MSS, Chukha	561	785	15,708
Dungna LSS, Chukha	193	270	5404
Lokchina LSS, Chukha	181	253	5068
Bongo PS, Chukha	53	74	1484
Chimuna PS, Chukha	93	130	2604
Chungkha PS, Chukha	142	199	3976
Sinchula PS, Chukha	116	162	3248
Reldri HSS (Pvt), Chukha	289	405	8092
<b>Sub-total for Chukha</b>	<b>2732</b>	<b>3824</b>	<b>76,496</b>
Daga HSS, Dagana	344	482	9632
Drujeygang HSS, Dagana	527	738	14,756
Geserling MSS, Dagana	430	602	12,040
Tsangka LSS, Dagana	221	309	6188
Phuensumgang PS, Dagana	160	224	4480
<b>Sub-total for Dagana</b>	<b>1682</b>	<b>2355</b>	<b>47,096</b>
Bjishong MSS, Gasa	175	245	4900
Laya LSS, Gasa	96	134	2688
Lunana PS, Gasa	75	105	2100
<b>Sub-total for Gasa</b>	<b>346</b>	<b>484</b>	<b>9688</b>
Gongzim Ugyen Dorji HSS, Haa	378	529	10,584
Tshaphel LSS, Haa	185	259	5180
Jyenkana PS, Haa	240	336	6720
Rangtse PS, Haa	154	216	4312
Sombekha PS, Haa	40	56	1120
Jampel HSS (Pvt), Haa	346	484	9688
<b>Sub-total for Haa</b>	<b>1343</b>	<b>1880</b>	<b>37,604</b>
Lhuentse HSS,	312	437	8736
Autsho MSS, Lhuentse	273	382	7644
Tangmachu MSS, Lhuentse	286	400	8008
Khoma LSS, Lhuentse	290	406	8120
Dungkhar PS, Lhuentse	65	91	1820
Wambur PS, Lhuentse	58	81	1624
Zangkhar PS, Lhuentse	108	151	3024

<b>Sub-total for Lhuentse</b>	<b>1392</b>	<b>1948</b>	<b>38,976</b>
Mongar HSS	346	484	9688
Gyelposhing HSS, Mongar	563	788	15,764
Yadi HSS, Mongar	409	573	11,452
Drametse MSS, Mongar	268	375	7504
Kidheykhar MSS, Mongar	83	116	2324
Kengkhar LSS, Mongar	192	269	5376
Nagor LSS, Mongar	219	307	6132
Serzhong LSS, Mongar	123	172	3444
Dhaksa PS, Mongar	65	91	1820
Jurmey PS, Mongar	136	190	3808
Narang PS, Mongar	103	144	2884
Silambi PS, Mongar	45	63	1260
Zunglen PS, Mongar	84	118	2352
Thangrong PS, Mongar	139	195	3892
Tsakaling PS, Mongar	56	78	1568
Tsamang PS, Mongar	89	484	9688
Sherub Rheldri HSS (Pvt), Mongar	201	281	5628
<b>Sub-total for Mongar</b>	<b>3121</b>	<b>4728</b>	<b>94,584</b>
Drukgyel HSS, Paro	546	764	15,288
Bitekha MSS, Paro	209	293	5852
Dawakha LSS, Paro	163	228	4564
Drukgyel LSS (Deaf), Paro	58	81	1624
Gonyetsawa PS, Paro	33	46	924
Kuenga HSS (Pvt), Paro	245	343	6860
Tenzin HSS (Pvt), Paro	327	458	9156
Utpal Academy (Pvt), Paro	175	245	4900
Yoezerling HSS (Pvt), Paro	304	426	8512
<b>Sub-total for Paro</b>	<b>2060</b>	<b>2884</b>	<b>57,680</b>
Nangkor HSS, Pemagatshel	571	799	15,988
Nganglam HSS, Pemagatshel	298	417	8344
Pemagatshel MSS	255	357	7140
Decheling LSS, Pemagatshel	126	176	3528
Gonpasingma LSS, Pemagatshel	225	315	6300
Nganglam LSS, Pemagatshel	157	220	4396
Tsebar LSS, Pemagatshel	145	203	4060
Yurung LSS, Pemagatshel	148	207	4144
Chimong PS, Pemagatshel	58	81	1624
Dungmin PS, Pemagatshel	65	91	1820
Mikuri PS, Pemagatshel	59	83	1652
Thongsa PS, Pemagatshel	59	83	1652
Tsatse PS, Pemagatshel	67	94	1876
<b>Sub-total for Pemagatshel</b>	<b>2233</b>	<b>3126</b>	<b>62,524</b>
Punakha HSS	485	679	13,580
Tashidingkha MSS, Punakha	498	697	13,944
Dechentsemo MSS, Punakha	383	536	10,724
Shengana LSS, Punakha	111	155	3108
Thinleygang PS, Punakha	134	188	3752

Ugyen Academy, Punakha	767	1074	21,476
<b>Sub-total for Punakha</b>	<b>2378</b>	<b>3329</b>	<b>66,584</b>
Orong HSS, SJongkhar	517	724	14476
Martshala MSS, SJongkhar	296	414	8288
Gomdar LSS, SJongkhar	265	371	7420
Minjiwoong LSS, SJongkhar	364	510	10192
Orong LSS, SJongkhar	230	322	6440
Lauri PS, SJongkhar	171	239	4788
Martshala PS, SJongkhar	193	270	5404
Dungsam Academy (Pvt), SJ	388	543	10,864
<b>Sub-total for SJongkhar</b>	<b>2424</b>	<b>3393</b>	<b>67,872</b>
Tendruk HSS, Samtse	233	724	14476
Dorokha MSS, Samtse	351	414	8288
Sengdhyen PS, Samtse	410	371	7420
Mindruling (Dumtey) PS, Samtse	106	510	10,192
<b>Sub-total for Samtse</b>	<b>1100</b>	<b>2019</b>	<b>40,376</b>
Sarpang HSS	360	504	10,080
Norbuling MSS, Sarpang	76	106	2128
Losel Gyatsho Academy, Sarpang	165	231	4620
<b>Sub-total for Sarpang</b>	<b>601</b>	<b>841</b>	<b>16,828</b>
Yangchen Gatshel LSS, Thimphu	30	42	840
Genekha LSS, Thimphu	150	210	4200
Lingzhi PS, Thimphu	62	87	1736
<b>Sub-total for Thimphu</b>	<b>242</b>	<b>339</b>	<b>6776</b>
Rangjung HSS, Tashigang	453	634	12,684
Jigme Sherubling HSS, Tashigang	400	560	11,200
Jampeling HSS, Tashigang	214	300	5992
Bartsham MSS, Tashigang	259	363	7252
Dungtse MSS, Tashigang	385	539	10,780
Gongthung MSS, Tashigang	182	255	5096
Bidung LSS, Tashigang	257	360	7196
Bikhar LSS, Tashigang	165	231	4620
Kangpar LSS, Tashigang	271	379	7588
Thungkhar LSS, Tashigang	281	393	7868
Uzorong LSS, Tashigang	265	371	7420
Wamrong LSS, Tashigang	209	293	5852
Jonkhar PS, Tashigang	53	74	1484
Lumang PS, Tashigang	102	143	2856
Merak PS, Tashigang	11	15	308
Nivi Khaling PS, Tashigang	41	57	1148
Tokshingmang PS, Tashigang	125	175	3500
Tashitse HSS, Tashigang	502	703	14,056
<b>Sub-total for Tashigang</b>	<b>4175</b>	<b>5845</b>	<b>116,900</b>
Baylling HSS, Tashiyangtse	364	510	10,192
Ramjar MSS, Tashiyangtse	130	182	3640
Tsenkharla MSS, Tashiyangtse	375	525	10,500
Bumdeling LSS, Tashiyangtse	251	351	7028
Kheni LSS, Tashiyangtse	121	169	3388

Thragom LSS, Tashiyangtse	203	284	5684
Tongmijangsa LSS, Tashiyangtse	235	329	6580
Tarpheh PS, Tashiyangtse	88	123	2464
<b>Sub-total for Tashiyangtse</b>	<b>1767</b>	<b>2473</b>	<b>49,476</b>
Sherubling HSS, Trongsa	205	287	5740
Taktse MSS, Trongsa	499	699	13,972
Samcholing MSS, Trongsa	201	281	5628
Langthel LSS, Trongsa	107	150	2996
Tsangkha LSS, Trongsa	200	280	5600
Bemji PS, Trongsa	35	49	980
Jangbi PS, Trongsa	40	56	1120
Korphu PS, Trongsa	37	52	1036
<b>Sub-total for Trongsa</b>	<b>1324</b>	<b>1854</b>	<b>37,072</b>
Damphu HSS, Tsirang	372	521	10,416
Mendregang MSS, Tsirang	450	630	12,600
Tsirangtoe LSS, Tsirang	157	220	4396
<b>Sub-total for Tsirang</b>	<b>979</b>	<b>1371</b>	<b>27,412</b>
Phobjikha MSS, Wangdue	208	291	5824
Samtengang MSS, Wangdue	418	585	11,704
Gaselo LSS, Wangdue	132	185	3696
Nobding LSS, Wangdue	187	262	5236
Nahi PS, Wangdue	85	119	2380
Sha Tasha PS, Wangdue	106	148	2968
Singye Namgyel PS, Wangdue	134	188	3752
<b>Sub-total for Wangdue</b>	<b>1270</b>	<b>1778</b>	<b>35,560</b>
Zhemgang HSS	291	407	8148
Buli MSS, Zhemgang	312	437	8736
Sonam Thang MSS, Zhemgang	365	511	10,220
Yebilaptsa MSS, Zhemgang	338	473	9464
Gomphu LSS, Zhemgang	134	188	3752
Bardo PS, Zhemgang	49	69	1372
Barpong PS, Zhemgang	20	28	560
Bjoka PS, Zhemgang	97	136	2716
Goshing PS, Zhemgang	90	126	2520
Khomshar PS, Zhemgang	78	109	2184
Langdurbi PS, Zhemgang	37	52	1036
Panbang PS, Zhemgang	64	90	1792
Pantang PS, Zhemgang	58	81	1624
Shingkar PS, Zhemgang	115	161	3220
Tashibi PS, Zhemgang	55	77	1540
<b>Sub-total for Zhemgang</b>	<b>2103</b>	<b>2945</b>	<b>58,884</b>
<b>Total for schools in Bhutan</b>	<b>34,113</b>	<b>48,594</b>	<b>971,936</b>

According to the Annual Education Statistics 2013, there are 53,307 students benefitting from the school feeding programme of which 33,489 are boarding students and 19,818 are day feeding students. The weekly

requirement of vegetables for boarding schools in the whole country is 48,594 kg at a cost of Nu.971,936 or 2041 ton/academic year (42 weeks) costing about Nu.40,820,000.

From Table 4.1.1, boarding schools in Tashigang Dzongkhag has the highest requirement of vegetables (5845 kg/week costing Nu.116,900 per week) followed by Mongar Dzongkhag (4728 kg/week equivalent to Nu.94,584) and Chukha Dzongkhag (3824 kg/week equivalent to Nu.76,496). Boarding schools in Dzongkhags such as Paro, Punakha, Pemagatshel, Samdrup Jongkhar and Zhemgang require close to 3000 kg per week while boarding schools in other Dzongkhags require more than 1000 kg per week except for Gasa and Thimphu Dzongkhags which require less than 500 kg per week.

#### **4.2 Vegetable requirements by religious institutes**

There are 82 religious institutes in the country that have common mess requiring vegetables. The institutes can be further sub-divided into 18 Rabdeys & Zhung Dratshang (consists of monks residing in district headquarters); 21 Shedras & Lobdras (equivalent to colleges & schools); 21 Nunneries; and 22 private religious organizations which has both shedras and lobdras.

An important point has to be mentioned about residence of monks i.e. monks could be registered in any Dzongkhag but their actual residence could be in some other place. Therefore one cannot go by registration for head counts as the physical presence of the monk could be elsewhere. For example, half of the monks registered under Chukha Dzongkhag are residing outside the Dzongkhag mostly in Shedras. Therefore for the present exercise, the concerned incharge in each institute was contacted to get the information on number of monks residing there at present. The same strategy has to be followed in the future for contractual agreements and not merely going by the registration data.

For the present exercise, the contact information was obtained from the Dratshang Lhentshog Office in Tashichoedzong. For actual number of monks residing in a particular institute, the information was obtained from the concerned incharge in that particular institute through telephone. The information on the nunneries was obtained from a guidebook on nunneries in

Bhutan. The information on private religious organizations was obtained from Department of Culture under the Ministry of Home and Cultural Affairs and through contact with each of the institutes through telephone.

Although there are 82 religious institutes having common mess, the requirement of vegetables is low especially in the nunneries and the private religious institutes as given in fig.4.2.1.

The vegetable requirements for Rabdeys and Zhung Dratshang are given in Table 4.2.1.

Table 4.2.1 Weekly vegetable requirement and expenditure for Rabdeys & Zhung Dratshang that has common mess

<b>Name of the Institute (Rabdey)</b>	<b>No. of consumer</b>	<b>Qty of veg per week (kg)</b>	<b>Amount spent for veg per week (Nu)</b>	<b>Contact details (Rabdey Drungchen)</b>
Wangdue	150	210	4200	Thinley Yoezer 17626544
Rimpong (Paro)	105	147	2940	Doley 17610552
Dagana	125	175	3500	Daw Wangdi 17608677
Choetsey (Trongsa & Bumthang)	110	154	3080	Kinley 17113811 Sonam Yeshey 17601887
Zhemgang	85	119	2380	Lham Dorji 17120044
Trashigang	120	168	3360	Karma Dupchu 17118383
Mongar	70	98	1960	Tandin Tshering 17663612
Tsirang	115	161	3220	Lab Tshering 17856878
Gelephu (Sarpang)	60	84	1680	Yonten Jamtsho 17615520
Haa	90	126	2520	Tshewang 17604638
Pemagatshel	95	133	2660	Dupchu Wangdi 17697919
Samtse	100	140	2800	Sonam Dendup 17641846
Chhukha	100	140	2800	Yangka Penjor 17111935
Gasa	120	168	3360	Dawa Tenzin 17664856
Tashi Yangtse	110	154	3080	Sherab Gyeltshen 17604786
S/Jongkhar	95	133	2660	Pema Tashi 17881169
Lhuentse	115	161	3220	Chimmi Tshewang 17116233/545170
Zhung Dratshang	300	420	8400	Lop Dorji Thimphu/Punakha
<b>Total</b>	<b>2065</b>	<b>2891</b>	<b>57,820</b>	

The total vegetable requirement for Rabdeys and Zhung Dratshang is 2891 kg per week equivalent to Nu.57,820 or 150 ton per year equivalent to

Nu.3,000,000 annually. Among the Rabdeys, the Zhung Dratshang (Thimphu and Punakha) has the highest requirement for vegetables (420 kg per week equivalent to Nu.8400) followed by Wangdue Rabdey at 210 kg per week equivalent to Nu.4200. 10 Rabdeys has between 100 to 125 monks requiring 140-175 kg per week while six Rabdeys has less than 100 monks.

In addition to the vegetables, the Zhung Dratshang requires 500 balls of local cheese and 2 cartoons (420) eggs per week.

The vegetable requirement in Shedras and Lobdras are given in Table 4.2.2.

Table 4.2.2 Weekly vegetable requirement and expenditure for Shedras & Lobdras that has common mess

<b>Name of the Institute</b> <b>Shedra/Lobdra</b>	<b>No. of consumer</b>	<b>Qty of veg per week (kg)</b>	<b>Amount spent for veg per week (Nu)</b>	<b>Contact details</b> <b>(Shedra/Lobdra Udzin)</b>
Tango Shedra	360	504	10,080	Sangay Dorji 17604336 Kabisa geog, Thimphu
Simtokha Shedra	130	182	3640	Tshering Dorji 77640393 Chang geog, Thimphu
Dordedra Shedra	175	245	4900	Kinley Tenzin 17140561 Chang geog Thimphu
Sangchhokhor Shedra	140	196	3920	Phuntsho 17114792 Lamgong geog, Paro
Leksheyjungney Shedra	104	146	2912	Gyeltshen 17757843/584450 Chubhu geog, Punakha
Sewla Shedra	95	133	2660	Nima 17643426 Chubhu geog, Punakha
Nalanda Shedra	135	189	3780	Tshewang 17353449 Talo geog, Punakha
Talo Shedra	105	147	2940	Dorji 17643708 Talo geog, Punakha
Rinchenling Shedra	245	343	6860	Tenzin Choda 77101441 Bjena Geog, Wangdue
Tshangkha Shedra	28	39	784	Pema Chopel 17634531 Tangsibe geog, Trongsa
Keydheykhar Shedra	115	161	3220	Ngawang Tenzin 17172707 Mongar geog, Mongar
Kanglung Shedra	250	350	7000	Karma Rangdrol 17644802 Kanglung geog, Tashigang
Tali Shedra	94	132	2632	Ugyen Lhendup 17989297 Nangkor geog, Zhemgang
Sangchen Dorji Lhendup Shedra	85	119	2380	Kunzang Thinley 17672823 Guma geog, Punakha

Phuntsholing Shedra	70	98	1960	Tashi Tshering 17119255 Phuntsholing geog, Chhukha
Cheri Dupdey	107	150	2996	Lop Passang 17645888 Kabisa geog, Thimphu
Dechen Phodrang Zherim Tewa	200	280	5600	Kencho Tshering 17111925 Kabisa geog, Thimphu
Pangrizampa Tsizhung Lobdra	65	91	1820	Ugyen Dorji 17676742 Kabisa geog, Thimphu
Gongthong Lobdra	17	24	476	Ugyen Tashi 17648363 Yangneer geog, Tashigang
Talakha Lobdra	33	46	924	Choeten 17606854/77606854 Chang geog, Thimphu
Phajoding Lobdra	50	70	1400	Chhimi Dorji 17118313 Chang geog, Thimphu
<b>Total</b>	<b>2603</b>	<b>3645</b>	<b>72,884</b>	

Unlike Rabdeys and Zhung Dratshang, Shedras and Lobdras has about one month break in winter. Therefore their requirement for vegetables is for about 11 months or 48 weeks. From Table 4.2.2, the total vegetable requirement for Shedras and Lobdras is 3645 kg per week equivalent to Nu.72,884 or 175 ton for 11 months equivalent to Nu.3,500,000 annually.

Tango Shedra has the highest number of monks (360) requiring 504 kg of vegetables per week equivalent to Nu.10,080 while Gongthong Lobdra under Yangneer geog in Tashigang has the least number of monks at 17 requiring only 24 kg of vegetables per week. The Gongthong Lobdra is under renovation from the 2009 earthquake. 15 of its monks are temporarily housed in Gomphukora under Tashiyangtse Dzongkhag.

The vegetable requirements for the nunneries in the country are given in Table 4.2.3. The total requirement of vegetables in the nunneries is 1419 kg per week at a cost of Nu.28,352 or 74 ton per year equivalent to Nu.1,480,000 annually.

The Pema Thegchok Choling Nyingmapa College in Bumthang has the highest number of nuns at 150 requiring 210 kg of vegetables per week at a cost of Nu.4200 or 10,920 kg per annum equivalent to Nu.218,000 annually. Besides the above nunnery, there are only two other nunneries (Shechen Ugyen Chozong and Karma Drupdey Palmo Chokyi Dingkhag) which has slightly over 100 nuns. The rest of the nunneries have less than 100 nuns per respective nunnery.



Table 4.2.3 Weekly vegetable requirement and expenditure for Nunneries in Bhutan that have common mess

<b>Name of the Institute</b>	<b>No. of consumer</b>	<b>Qty of veg per week (kg)</b>	<b>Amount spent for veg per week (Nu)</b>	<b>Contact details</b>
Pema Thegchok Choling Nyingmapa College	150	210	4200	Ani Pema Dechen 17835984/17712704 Tang Bezur, Bumthang
Tsamang Shedrup Chokorling	17	24	476	Khenpo Thinley Namgyal 17875513 Tsamang geog, Mongar
Tormashong Nunnery	10	14	280	Lopen Samten Lhamo 17671680 Tormashong, Tsakaling geog, Mongar
Kila Dechen Yangtse	45	63	1260	Lama Yonten 77241859 Kila Gonpa (below Chelela), Paro
Chodpa Gonpa Yoesel Choling	9	13	252	Ani Drupchu Zangmo 17720583 Gayri Woong Chelu, Nanong, Pemagatshel
Gayri Gonpa Ugyen Phuntshok Choling	9	13	252	Ani Nyima 17818216 Gayri Woong Chelu, Nanong, Pemagatshel
Jashar Lhundrup Choling	45	63	1260	Ani Norbu Lhaden 17703367 Jashar Woong, Zobel geog, Pemagatshel
Ugyen Thegchok Yangtse Gonpa	32	45	896	Ani Drilam Zangmo 17724258 Todpalung, Shumar geog, Pemagatshel
Paljor Choling Shedra	44	62	1232	Ani Pema Seldon 17113088 Dorangthang, Bap geog, Punakha
Ugyen Zangdok Palri Gonpa	45	63	1260	Ani Chodon 17683089 Ani Ugyen 17696509 Dorangthang, Bap geog, Punakha
Sangchen Dorji Lhundrup Choling	98	137	2744	Khenpo Kunzang Thinley 17672823 Wolakha, Guma geog, Punakha
Ngagyur Drolma Lhaxhang	15	21	420	Ani Dungchen Dolma 17286264 Tshothang, Lauri geog, Samdrup Jongkhar
Ugyen Samten Choling	4	6	112	Ani Samten Lhamo 17978648 Keptang, Martsala geog, Samdrup Jongkhar
Sherab Yoesel Choling	20	28	560	Ani Woesel Wangmo 17602823 Pelrithang, Martsala, Samdrup Jongkhar
Sherab Choling Dingrim Shedra	37	52	1036	Khenpo Tshering 17150571/77411311 Chuzodgang, Sershong geog, Sarpang
Ngagyur Shedrup Choling Dratshang	31	43	868	Lama yeshey Dorji 17150572/77150572 Tashiphug, Sershong geog, Sarpang
Thekchok Kunzang	95	133	2660	Ani Jinpa Lhamo 17619342/17130947 Khardung, Radhi geog, Tashigang

Choden Nyingmapa College				
Samten Choling	18	25	504	Head nun 17725967 Mukhazor, Lumang geog, Tashigang
Shechen Ugyen Chozong	105	147	2940	Bikshuni Kencho Wangmo 17600095 Wangsisina, Mewang geog, Thimphu
Dewachen Drupthop Gonpa	45	75	1500	Ani Ngawang Pal 17625609, office 0232414 Ani Pema 17653433 Zilukha, Thimphu
Karma Drupdey Palmo Chokyi Dingkhang	130	182	3640	<a href="mailto:kdrubdey@gmail.com">kdrubdey@gmail.com</a> Office 17664131 <a href="http://www.karmadrubdeynunnery.bt">www.karmadrubdeynunnery.bt</a> Kuenga Rabten, Dragten geog, Trongsa
<b>Total</b>	<b>1004</b>	<b>1419</b>	<b>28,352</b>	

The requirement of vegetables in private religious organizations is given in Table 4.2.4. The total requirement of vegetables in the private religious organizations is 3273 kg per week equivalent to Nu.65,464 or 157 ton per annum costing Nu.3,140,000 annually. Among the private religious organizations, Kharchu Dratshang has the highest number of monks at 522 requiring 731 kg of vegetables per week costing Nu.14,616 followed by Gangtey Shedra at 285 and Dremetse Terser Dratshang at 200 monks.

Table 4.2.4 Weekly requirement of vegetables and expenditure for private religious institutes registered under Department of Culture

<b>Name of the Institute</b>	<b>No. of consumer</b>	<b>Qty of veg per week (kg)</b>	<b>Amount spent for veg per week (Nu)</b>	<b>Contact details</b>
Kharchu Dratshang	522	731	14,616	333912/17716302 Bumthang
Rangjung Dratshang	143	200	4004	324313 Shongphu geog, Tashigang
Chador Lhakhang	75	105	2100	338037 Bartsham geog, Tashigang
Mahayana org	65	91	1820	77289934 Khen Buli, Nangkor, Zhemgang
Tein Choekhor	95	133	2660	08271866 Sasamchoeten, Tsento geog, Paro
Jamyang Khentsey org	85	119	2380	07260123 Deothang, Orong geog, Samdrup Jongkhar
Doeyjung Terling	120	168	3360	17751395 Jomotshangkhar, Samdrup Jongkhar
Jamgoen	70	98	1960	17530453

Zhitsag				Jomotshangkhar, Samdrup Jongkhar
Pemasambhava Samdrupcholing	55	77	1540	17616319 Samdrupcholing Dungkhag, S/Jongkhar
Phachog Samdrup Choling	25	35	700	17834899 Jomotshangkhar, Samdrup Jongkhar
Peling Chokey Gatsel (Gangtey Gonpa)	60	84	1680	HO: Pedling Hotel 17686299 Gangtey geog, Wangdue Phodrang
Gangtey Shedra	285	399	7980	HO: Pedling Hotel 17686299 Gangtey geog, Wangdue Phodrang
Kiliya Zhitshog	130	182	3640	17114111 Barshong Khaling geog, Tashigang
Paytseyling Gonpa	70	98	1960	334022 Bumthang
Pema Yoesel Choling	65	91	1820	17605831 Bjimina, Mewang geog, Thimphu
Kadoling Choetsey	55	77	1540	03540310 Kuenga Rabten, Dragten geog, Trongsa
Dremetse Terser Dratshang	200	280	5600	17953122 Dremetse geog, Mongar
Kathog Yoesel Samten Choling	45	63	1260	77325088 Kazhi geog, Wangdue
Araya-tarey Zhitshog	53	74	1484	17890263 Zhemgang
Thoenphu Gonpa	35	49	980	07441212 Tsebar geog, Pemagatshel
Nimalung	45	63	1260	Bumthang
Tharpaling	40	56	1120	Bumthang
<b>Total</b>	<b>2338</b>	<b>3273</b>	<b>65,464</b>	

The weekly vegetable requirement and expenditures for different types of religious institutes are summarized in fig.4.2.1.

The total number of consumers in religious institutes is 8010 which requires 11,228 kg of vegetables per week equivalent to Nu.224,500 weekly. On an annual basis, the requirement translates to 584 ton of vegetables at a cost of Nu.11,680,000.

Among the religious institutes, Shedras and Lobdras has the highest requirement of vegetables (3645 kg per week) followed by private religious institutes (3273 kg per week). Nunneries have the least requirement of vegetables at 1419 kg per week.

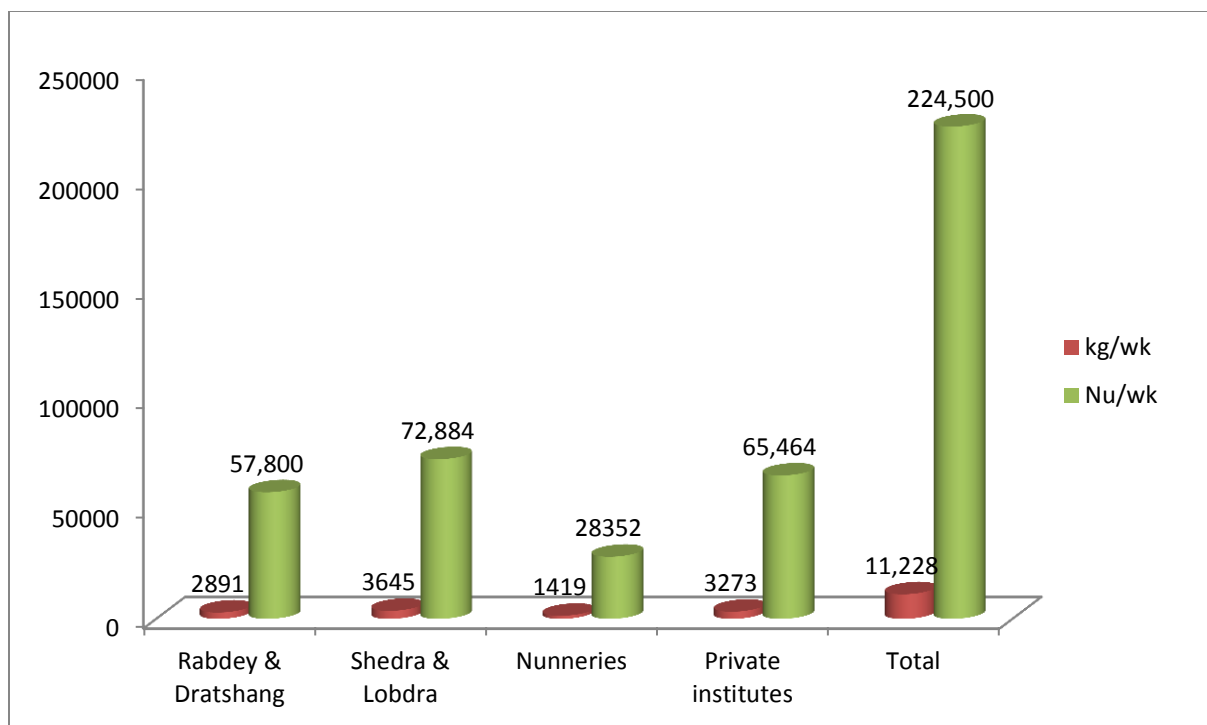


Fig.4.2.1 Weekly vegetable requirement (kg) and expenditures by different types of religious institutes

### 4.3 Vegetable requirement in Colleges under RUB and private college

The requirements of vegetables for colleges under RUB and in a private college are given in Table 4.3.1. Although there is potential to supply vegetables to the self-catering students, only boarding students are considered in this exercise.

From Table 4.3.1, the total requirement of vegetables in the 11 colleges is 6498 kg per week equivalent to Nu.129,976 or 273 ton per academic year which would costs Nu.5,460,000 annually.

Royal Thimphu College has the highest number of boarding students (578) followed by Sherubtse College (535) and Institute of Language and Cultural Studies (504). The National Institute of Traditional Medicine has the least number of boarding students at 61.

Table 4.3.1 Weekly vegetable requirement in Colleges under Royal University of Bhutan and private college that has common mess

<b>Name of the Institute</b>	<b>No. of consumer</b>	<b>Qty of veg per week (kg)</b>	<b>Amount spent for veg per week (Nu)</b>
College of natural resources	300	420	8400
College of Science & Technology	450	630	12600
Institute of Language & Cultural Studies	504	706	14112
Jigme Namgyel Polytechnic	400	560	11200
National Institute of Traditional Medicine	61	85	1708
Paro College of Education	708	991	19824
Royal Institute of Health Sc	250	350	7000
Samtse College of Education	450	630	12600
Sherubtse College	535	749	14980
Gaeddu College of Business Studies	406	568	11368
Royal Thimphu College	578	809	16184
<b>Total</b>	<b>4642</b>	<b>6498</b>	<b>129,976</b>

#### **4.4 Vegetable requirements in Vocational Institutes (TTI & IZC)**

There are five Technical Training Institutes (TTI) and two Institutes for Zorig Chusum (IZC) under the Ministry of Labour and Human Resources that have common mess. Their vegetable requirements are given in Table 4.4.1.

The total weekly vegetable requirement in the vocational institutes is 2600 kg at a cost of Nu.76,605 or 125 ton per academic year equivalent to Nu.2,500,000 annually.

Among the Vocational institutes, the vegetable requirements and expenditures are actual figures collected from the institutes. Therefore although Samthang TTI has highest number of students (321), their requirement of vegetables is only 450 kg per week with an expenditure of Nu.18,651 while Khuruthang TTI with only 240 students had higher requirement of vegetables (500 kg per week) but with less expenditure (Nu.18,490 per week).

Thimphu IZC has the lowest number of students at 87 requiring only 130 kg per week.

Table 4.4.1 Weekly vegetable requirement and expenditure for TTI and IZC under MoLHR that have common mess

Name of the Institute	No. of consumer	Qty of veg per week (kg)	Amount spent for veg per week (Nu)
Khuruthang TTI	240	510	18,490
Samthang TTI	321	450	18,651
Rangjung TTI	235	500	13,000
Sershong TTI	171	391	10,092
Chumey TTI	164	230	4592
Thimphu IZC	87	130	6000
Tashi Yangtse IZC	170	389	7780
<b>Total</b>	<b>1388</b>	<b>2600</b>	<b>78,605</b>

#### 4.5 Vegetable requirement in Hospitals

Although there are 30 hospitals serving meals to patients, the quantity of vegetables required is much lower compared to other institutes except for JDWNRH in Thimphu which requires 490 kg of vegetables weekly amounting to Nu.9800 (Table 4.5.1).

Table 4.5.1 Estimated weekly vegetable requirement and expenditure for Hospitals that require vegetables for patients

Name of the Institute (Hospitals)	No. of consumer (Available bed)	Qty of veg per week (kg)	Amount spent for veg per week (Nu)	Contact details (Adm/Store Incharge of respective hospitals)
Tsimalakha	26	36	728	Chhukha
Phuntsholing	50	70	1400	Chhukha
Gedu	20	28	560	Chhukha
Damphu	20	28	560	Tsirang
Dagapela	20	28	560	Dagana
Yebilaptsa	60	84	1680	Zhemgang
Bumthang	20	28	560	Bumthang
S/Jongkhar	45	63	1260	S/Jongkhar
Deothang RBA	40	56	1120	S/Jongkhar
Lhuentse	20	28	560	Lhuentse
Yangtse	22	31	616	Yangtse
Mongar RR	80	112	2240	Mongar
Trashigang	45	63	1260	Trashigang
Riserboo	10	14	280	Trashigang
Youngphula RBA	10	14	280	Trashigang
Pemagatshel	20	28	560	Pemagatshel

JDWNRH	350	490	9800	Thimphu
IBF Thimphu	10	14	280	Thimphu
Lungtenphu RBA	50	70	1400	Thimphu
Gidakom	64	90	1792	Thimphu
Bajo	30	42	840	Wangduephodrang
Tencholing RBA	20	28	560	Wangduephodrang
Samtse	60	84	1680	Samtse
Gomtu	15	21	420	Samtse
Sibsoo	15	21	420	Samtse
Punakha	40	56	1120	Punakha
Gelephu	60	84	1680	Sarpang
Sarpang	15	21	420	Sarpang
Paro	40	56	1120	Paro
IMTRAT Haa	10	14	280	Haa
<b>Total</b>	<b>1287</b>	<b>1802</b>	<b>36,036</b>	

The vegetable requirement of the hospitals is determined from the number of beds in each hospital. Therefore the actual requirement of vegetables would vary a lot depending on admission of patients. Therefore quantity of vegetables required by hospitals would vary from week to week. The estimated vegetable requirement for hospitals is given in Table 4.5.1.

The estimated total weekly vegetable requirements in the hospitals is 1802 kg which would cost Nu.36,036. This would translate to 94 ton per annum equivalent to Nu.1,880,000 annually.

#### **4.6 Vegetable requirement in Royal Bhutan Police (RBP)**

For security reasons, the number of consumers is not revealed for RBP and other security forces. The total weekly requirements of vegetables of RBP (including prisons) is 4018 kg at a cost of Nu.80,360 weekly (Table 4.6.1) which translates to 209 ton per annum which is equivalent to Nu.4,180,000 annually.

From the RBP institutes, Chamgang Central Jail has the highest requirement of vegetables (2171 kg per week costing Nu.43,420) followed by Jigmeling Training Centre in Gelephug at 703 kg per week equivalent to Nu.14,060. The rest of the institutes require less than 500 kg of vegetables per week (Table 4.6.1).

Table 4.6.1 Weekly requirement of vegetables and expenditure for RBP and prisons that have common mess

Name of the Institute	No. of consumer	Qty of veg per week (kg)	Amount spent for veg per week (Nu)
RBP Thimphu	-	187	3740
Training Centre Gelephu	-	703	14,060
Chamgang Central Jail	-	2171	43,420
Thimphu Jail	-	439	8780
Lungzor Jail Tashigang	-	127	2540
Samtse Jail	-	205	4100
Samdrup Jongkhar Jail	-	186	3720
<b>Total</b>	<b>-</b>	<b>4018</b>	<b>80,360</b>

#### 4.7 Vegetable requirement of Royal Bhutan Army (RBA)

The requirement of vegetables by the 16 RBA institutes is significantly high compared to other institutes. In some of the remote institutes such as SI in Haa Damthang, they are facing shortages of vegetable supply. Therefore contractual supply of vegetables would ease the problem.

Table 4.7.1 Weekly requirement of vegetables and expenditure by RBA that have common mess

Name of the Institute	No. of consumer	Qty of veg per week (kg)	Amount spent for veg per week (Nu)
Wing I Tendu	-	1081	21,620
Wing II Phuntsholing	-	7274	145,480
Wing V Sibsoo	-	2773	55,468
Wing VII Shaba	-	9125	182,509
Wing VIII Samtse	-	3936	78,711
Wing IX Gelephu	-	6829	136,580
Wing X Deothang	-	6689	133,784
Wing XI Damthang	-	3871	77,420
Wing XII Tencholing	-	3254	65,080
MTC Tencholing	-	8968	179,369
SI Haa	-	694	13,880
BHQ Phuntsholing	-	945	18,900
19 (I) Coy Daifam	-	816	16,315
22 (I) Coy Chhukha	-	1509	30,718
OP Dagapela	-	294	5872
AHQ Lungtenphu	-	29,686	593,728
<b>Total</b>	<b>-</b>	<b>87,744</b>	<b>1,755,434</b>



From Table 4.7.1, the total weekly vegetable requirement of RBA institutes is 87,744 kg which would cost Nu.1,755,434. On annual basis, the institutes would require 4563 ton of vegetables incurring expenditure of Nu.91,260,000

Among the RBA institutes, Army Headquarter (AHQ) in Lungtenphu has the highest requirement of vegetables at 29,686 kg per week equivalent to Nu.593,728 followed by Wing VII Shaba at 9125 kg per week and expenditure of Nu.182,509. The third highest consumption is by Military Training Centre (MTC) in Tencholing at 8968 kg per week with an expenditure of Nu.179,360 weekly.

#### **4.8 Vegetable requirement of Royal Body Guard (RBG)**

Although there is common mess in the RBG the requirement of vegetables is very erratic as they are always on the move on VIP duties. Therefore it is not advisable to make contractual agreement to supply vegetables to the RBG.

Their weekly requirement of vegetables and expenditure is given in Table 4.8.1 below.

Table 4.8.1 Weekly requirement of vegetables and expenditure in RBG Dechencholing

<b>Name of the Institute</b>	<b>No. of consumer</b>	<b>Qty of veg per week (kg)</b>	<b>Amount spent for veg per week (Nu)</b>	<b>Contact details</b>
RBG	-	98	1960	Dechencholing, Thimphu

#### **4.9 Analysis of vegetable requirements in various institutes**

The total annual requirement of vegetables for all the institutes in the country is 7861 ton with expenditure of Nu.157,220,000 (fig.4.9.1) which implies that there is market for 7861 ton of vegetables where farmers can earn an income of Nu.157,220,000 annually by supplying vegetables to the institutes.

From fig.4.9.1, among the various institutes, vegetable requirement is highest for RBA at 4563 ton with an expenditure of Nu.91,260,000 annually. In terms of percentage, RBA constitutes 58% of all the vegetable requirements of institutes (fig.4.9.2).

Boarding schools requires the second highest quantity of vegetables at 2041 ton annually with an expenditure of Nu.40,820,000 and constitutes 26% of all vegetable requirement by the institutes. Religious institutes at 556 ton per annum with expenditure of Nu.11,120,000 and 7% is third highest in terms of vegetable requirement.

The rest of the institutes constitute 9% of vegetable requirement (fig.4.9.2).

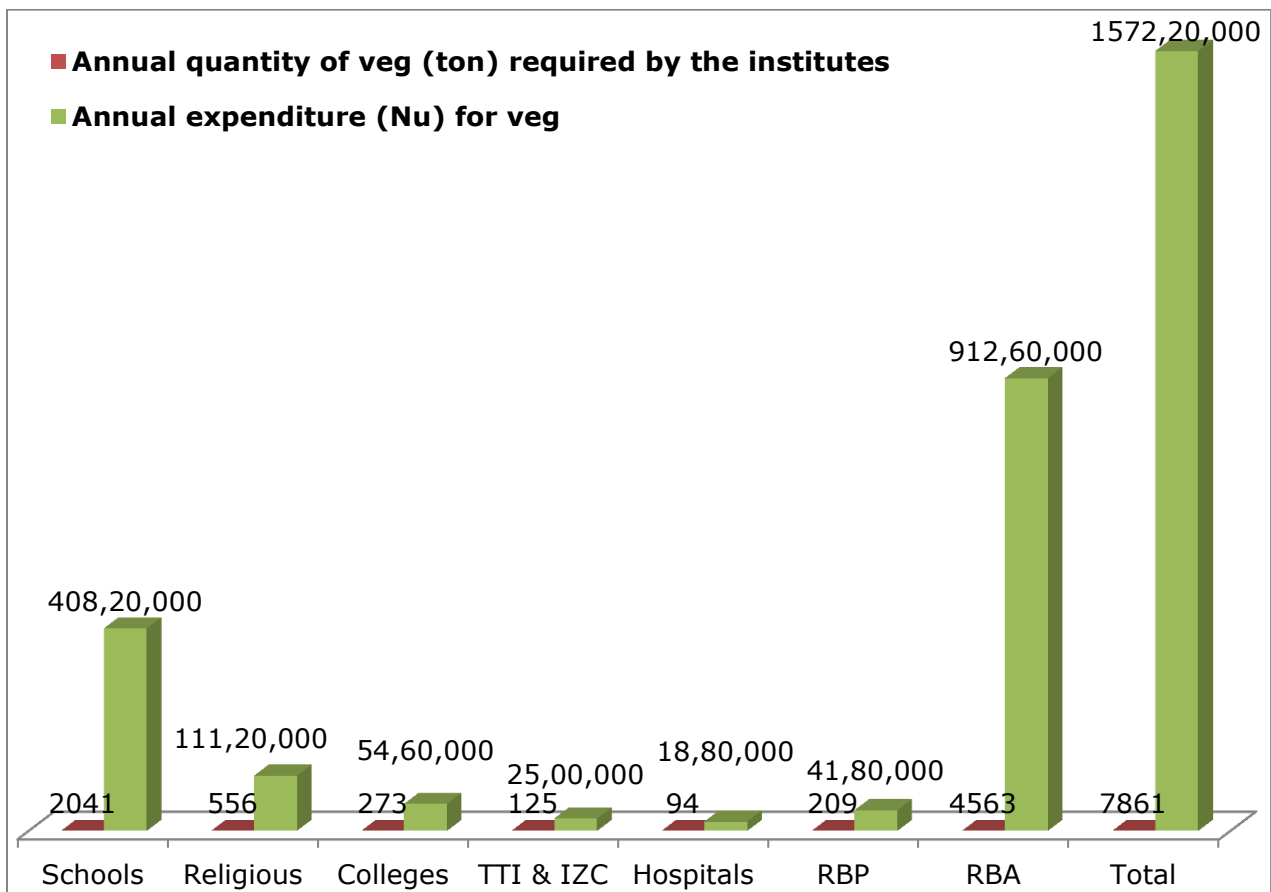


Fig.4.9.1 Annual requirement of vegetable (ton) and expenditures (Nu) for various institutes in the country

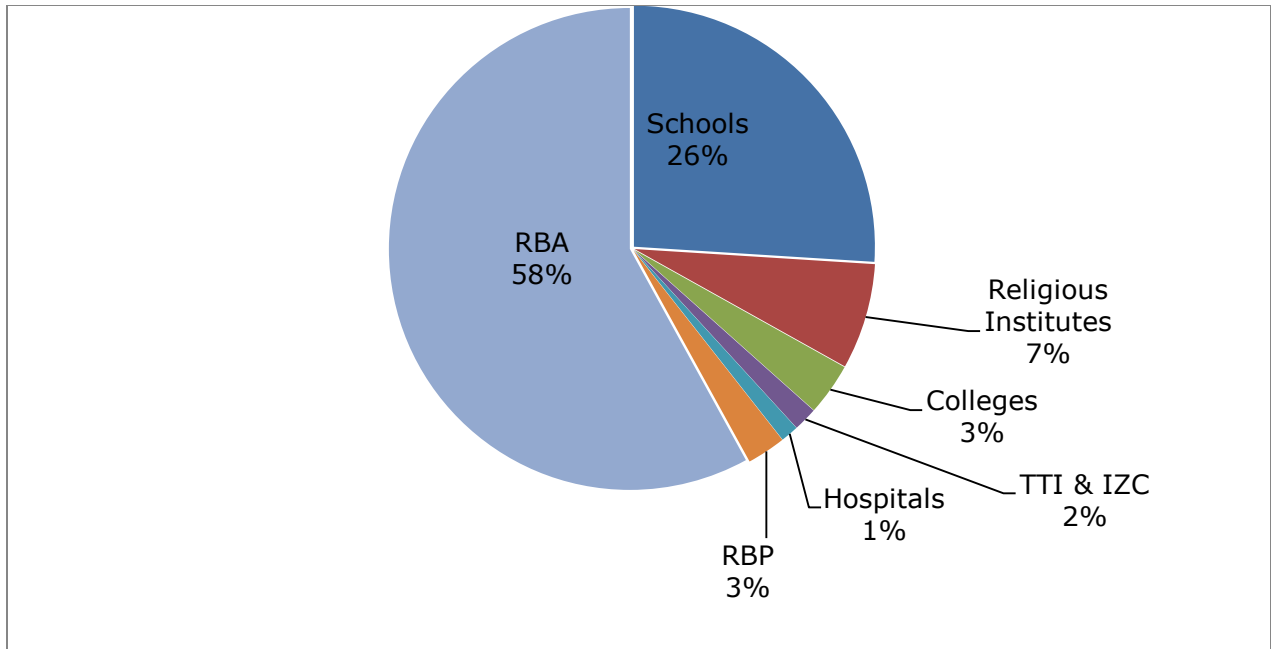


Fig.4.9.2 Percent requirement of vegetables in various institutes

#### 4.10.0 Way forward

As described under section 4.9, there is huge market potential in the institutes for vegetables. Taking cue from the success of six eastern Dzongkhags in supplying vegetable to the institutes through contractual agreement, the model should be up-scaled at the national level to take advantage of the available institutional markets.

The following recommendations are suggested for up-scaling the institutional supply model in the whole country:

- i) Create awareness among the main stakeholders (Agriculture Extension Agents (AEA), Dzongkhag Agriculture Officers, Gups and Geog Administrative officers through Dzongkhag workshops
- ii) Support the AEAs to form farmers vegetable groups or encourage existing farmers groups to grow vegetables for institutional supply
- iii) Build capacity of especially the AEAs of the geogs to facilitate linking process of contractual agreement

- iv) Support AEAs in preparing action plan for institutional linkage and in implementing the linking process
- v) It is strongly recommended to follow the “Guidelines for facilitation of contractual supply of RNR products by farmers’ groups to institutes” developed by SNV Bhutan and Regional Agricultural Marketing Office in Mongar in 2014.

## **5.0 References**

1. Annual Education Statistics 2013: Policy & Planning Division, Ministry of Education. Royal Government of Bhutan.
2. Annual health Bulletin 2013: Towards generating quality Health Information. Ministry of Health. Royal Government of Bhutan.
3. Guidelines for facilitation of contractual supply of RNR products by farmers' groups to institutes (2014). SNV Bhutan & RAMCO. Ministry of Agriculture and Forests. Royal Government of Bhutan.
4. Guidelines on Nunneries in Bhutan 2012.
5. The Royal University of Bhutan: Reaching New Heights. Annual Report 2013.

## **6.0 Annexures**

Annex 1.3: List of participants who attended the Dzongkhag level workshops in the six eastern Dzongkhags

Annex 3.1: Schedule of monitoring of the 18 new/weak farmers groups

Annex 3.4: List of participants who attended the monitoring meetings of the 18 farmers groups