

BASELINE STUDY REPORT ON THE STATUS OF AGRICULTURE YIELD, FOREST, SOCIO-ECONOMIC SITUATION AND BIODIVERSITY IN THE CONTEXT OF REDD+



ROYAL SOCIETY FOR PROTECTION OF NATURE
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ACRONYMS

CF- Community Forest

GHG- Green House Gas Emission

NFE- Non-Formal Education

NWFP- Non-Wood Forest Product

RCC- Reinforced Cement Concert

GLOSSARY

Buli Tsho- Buli Lake

Buli tsho Monmo- Mermaid

Chiwog- Lowest Adminstrative Block

Damru- *Elatostema* sp. Consumed as vegetable

Gewog- Adminstrative Block

Ladham- Prohibited/restricted period during which people are not allowed to visit mountains

Pipla- *Piper pedicellatum* economically important species collected from wild

Ridham- Prohibited/restricted period during which people are not allowed to visit forest and rocky area

Tsho Dham- Prohibited/restricted period during which peoples are not allowed to visit at Lake

Tshogpa- Democratically elected village representative



INTRODUCTION

In Bhutan, the REDD-plus program was initiated through a two-day seminar in June 2010 with support from the UN-REDD program. Thereon, a scoping study on the feasibility of REDD+ was carried out. The Watershed Management Division in consultation with all the relevant stakeholders submitted REDD+ Readiness phase to Forest Carbon Partnership Facility in July 2010 (WMD, 2015).

Similarly, for the Royal Society for Protection of Nature, REDD+ readiness project to upscale the capacity building program for communities in Buli, Zhemgang was provided. The project specifically aims to build capacity of the indigenous people of Buli to develop national REDD+ readiness plans and strategies in relation to benefit sharing and carbon accounting.

Although Buli region has been regarded as having one of the richest biodiversity in the country, lack of proper management due to poor knowledge has led to the degradation of forest resources. The poor management of the forest resources is further augmented by their non-participation in the decision-making process of resource management.

Most of the households in Buli depend directly on forest resources for their livelihood involving use of fuel wood, fodder, timber for construction and wild food and so forth. Additionally, with the access to proper road, communication and regional markets, the area's natural resources is becoming vulnerable to exploitation for commercial purpose. This has also increased the rate of illegal resource extraction with only few households are benefiting. The increasing demand for land, food and infrastructural development has also led to increasing trend of encroachment and pressure to the wetland and forests. Clearance of such forests has created ideal environment for alien invasive species like *Ageratina adenophora*, *Conyzoides*, and *Parthenium* to invade the area, posing threat to the native floristic composition and sustainability of the wetland. Therefore, it is important for the people to understand and participate in the decision making on sustainably managing their forest resources.

Through this project, we aim to educate the indigenous people on the carbon and non-carbon benefits of sustainable forest resource management and conservation in relation to REDD+ and empower them to partake in such mechanism in future. As a basis for future engagement in benefit sharing, the project will also develop knowledge-base through field studies in benefit sharing and forest resource assessment. It is expected that such mechanisms will help enhance community interest and support for forest conservation and significantly reduce the current and potential threats to forest degradation.

Buli is a village under Nangkhoh gewog in Zhemgang district. Located at an altitude of approximately 1,670 meters above sea level, the area is surrounded by cool broad leaf forest vegetation, and inhabited by over 600 people living in over 95 households. With exquisite landscape and spectacular greenery, Buli is regarded as one of the most beautiful village in the country. The village is connected with feeder road and gridline electricity. The village has Gewog Administration office, Renewable Natural Resources Extension Centre, Community Centre, Agriculture Machinery Centre and the Basic Health Unit. The area is warm in winter and hot and very humid with heavy rainfall during summer season.

Agriculture and livestock rearing is the main occupation in the village. Every household has both wet and dryland holdings. Rice is extensively grown in the village and the dryland is mostly used for the cultivation of maize, wheat and Potato.

The village is well known for popular Buli Tsho (Lake), which is half an hour walk from main village. It is worshiped as a protecting deity of the community. The Buli Lake lies serene and fresh situated in the middle of the forest that has been protected by the communities with the spiritual belief of not disturbing the abode of the Buli Monmo.





PURPOSE AND SCOPE

2.1 Purpose

The purpose of this assignment is to come out with a baseline information on agriculture yield, forest cover and its utilization, and socio-economic status of the village in the context of REDD+ (ToR Annex I).

2.2 Specific Task

2.2.1 Develop a comprehensive baseline questionnaire covering all the parameters that project intends to capture in the context of REDD+ refereeing project objectives, activities, outputs and outcome.

2.2.2 Do the analysis of survey using excel or SPSS software and submit the report to RSPN, however do the review in consultation with RSPN and WMD before finalization.

2.3 Scope

In close consultation with the RSPN and Watershed Management Division (WMD) under Department of Forests and Park Services (DoFPS), the proposed task is to be carried out in Buli village under Nangkhor Gewog in Zhemgang Dzongkhag.

The time period of the task has been from 8 April till 30 June 2019 and the duty station is in Thimphu.



METHODOLOGY

The following approaches and methods have been adopted to achieve the above tasks:

3.1 Literature review

Available literature on REDD+ activities in Bhutan were reviewed to complement and supplement the field work.

3.2 Primary data collection

Primary data for this socio-economic survey will be collected through questionnaire survey, focus group discussion and key informant interview. The intent of this socio-economic survey is also to provide current situation and profile of sample households of Buli. Also, this survey will identify few indicators for measuring the outcomes stipulated in the REDD+ project proposal.

3.2.1 Sample Size and Sampling Technique

Buli Chiwog falls under the Nangkhoh Gewog and has a population of 1168 with 629 male and 539 females. The total number of households in Buli is around 90 and the sample size will be identified through simple random sampling. A total of 61 households were identified and numbered 1 through 90 on a piece of paper and was folded to be put in a basket. From the basket around 61 numbers of household were picked and survey questionnaire were administered.

The questionnaire consisted of 35 question related to social information, demographic characteristics, academic qualification and forest resource management system (Annex II). The socio-economic survey was conducted by the RSPN field staff over a period of one month.

3.3 Data analysis

Informational data either qualitative or quantitative generated through literature review, consultation has been compiled, and cleaned and analyzed using excel to derive descriptive statistics that has been presented in the form of figures, tables, and charts. All analysis has been carried out using Microsoft Excel.



RESULTS OF THE SOCIO-ECONOMIC ASSESSMENT

Deforestation and forest degradation, which occur mainly in low-income tropical countries, account for an estimated 12 to 17 percent of annual anthropogenic greenhouse gas emissions (GHG) [G. R. Van Der Werf,]. To address this issue, the 15th Conference of the Parties (COP15) of the United Nations Framework Convention on Climate Change (UNFCCC) decided that reducing emissions from deforestation and forest degradation (REDD+) would be the mitigation strategy to slowdown land use change, with a focus on conserving and enhancing carbon stocks through sustainable forest management.

A survey was carried out in Buli village in order to understand the socio-economic status of the village by the Royal Society for Protection of Nature in 2019. The primary purpose of the study is to collect baseline socio-economic information in order to implement REDD+ program in the area. The following sections presents the findings of the survey from the village:

4.1 Profile of Zhemgang and Buli Chiwog

Available literature on REDD+ activities in Bhutan were reviewed to complement and supplement the field work.

4.1.1 Zhemgang

Zhemgang Dzongkha is located in central part of Bhutan and it is a part of biological corridor that connects Royal Manas National Park, the Jigme Singye Wangchuck National Park and Phrumshingla National Park. Zhemgang Dzongkhag has a Drungkhag in Panbang, and eight Gewogs, that is; Bardo, Bjoka, Nangkor, Nangla, Phangkhar, Shingkhari and Trong. According to the Population and Housing Census of Bhutan (PHCB), 2017, Zhemgang's total population is 17,763 with 9195 males and 8,568 females. The age group of 0-14 is 5138, 15-64 years is 11,054 and above 65 years is 1,571. The literacy rate of Zhemgang district is 62.5%. Under the 12th FYP, Zhemgang Dzongkhag has identified 10 Local Government Key Result Areas (LGKRA) of which LGKRA 9: "carbon neutral, climate and disaster resilient development enhanced" is directly relevant to this project. There are five other LGKRAs that is indirectly related to this REDD+ initiative.

Buli falls under Nangkhor gewog and is located in the upper part of Zhemgang. Buli is one of the five chiwogs of Nangkhor gewog. The gewog is located at an altitude of around 1670 m, surrounded by cool broad-leaf forest. Agriculture is the mainstay activity for the community, growing maize, wheat and potato as some of the main crops.

4.1.2 Characteristic of the Respondent

Out of 61 respondents (Figure 1), 16 percent constituted within the age bracket of 20 to 29 years, then 20 percent were from the age of 30 to 39 years, in the age bracket of 40 to 49 years there were 23 percent, 23 percent were in the age group of 50 to 59 years and 18 percent were above the age of 60 years.

The figure 2 below shows the gender of the respondents. In total 20 percent of the respondents were female and 80 percent of them were male. The female respondents were much higher than the male and they take active role participating in discussions and decision-making platforms.

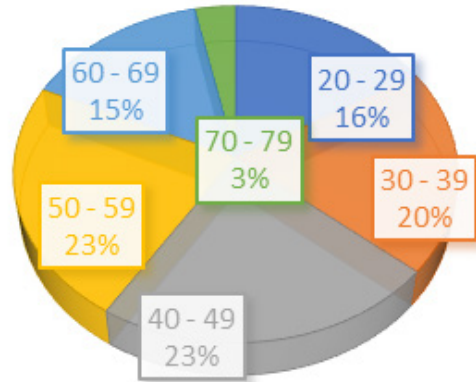
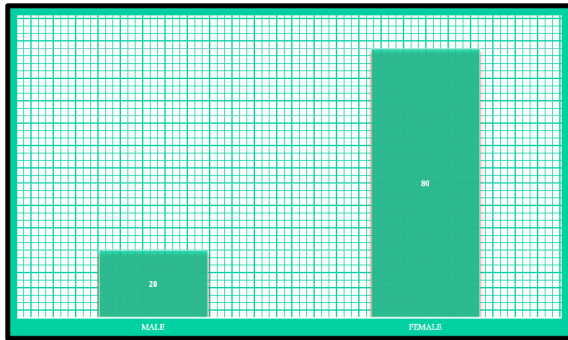
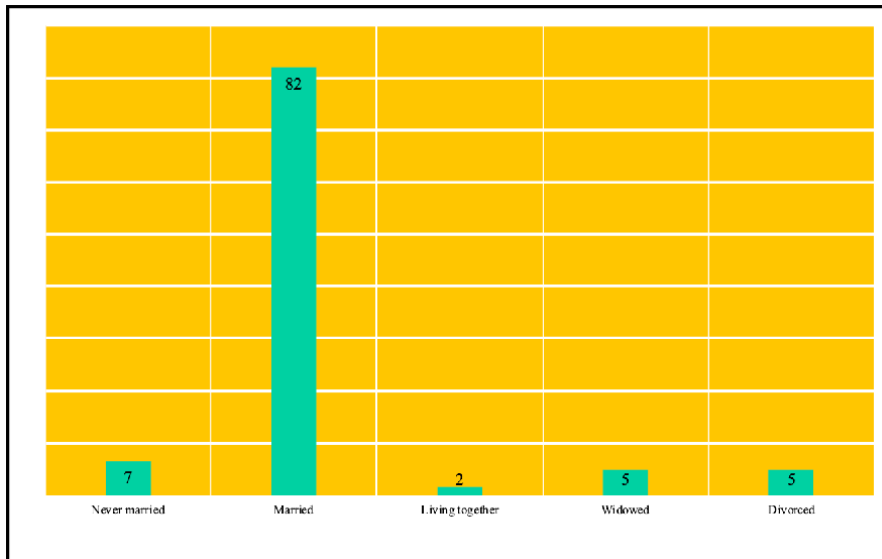


Figure 1: Broad age group of respondents



From the respondents interviewed, 82% of them were married, seven percent were never married, two percent were living together, five percent were widowed and 5 percent were divorcee.

Figure 2: Gender of the respondents



There is high percentage of married population and the divorce rate is significantly low.

Figure 3: Marital status of the respondents

4.1.3 Education

In the context of formal education, more than two percent of the respondents had above college degree, nine percent of them had college degree, 15 percent of the respondents had high school level education, 17 percent had middle school level education and 34% of the respondents were farmers.

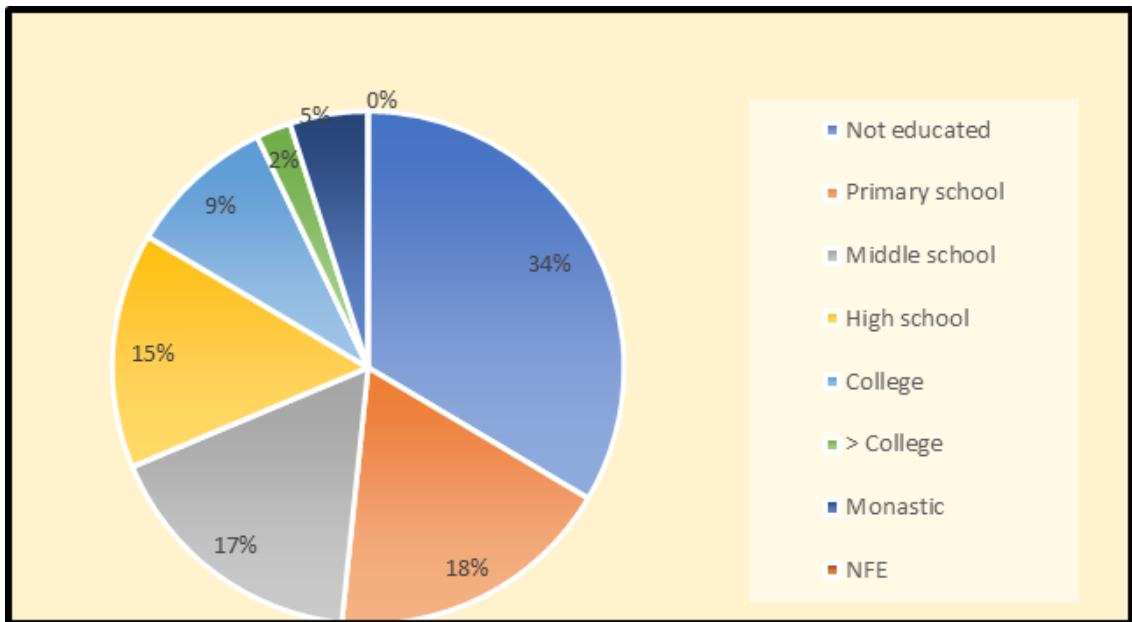


Figure 4: Formal education level of respondents

The level of education isn't impressive. Only 2.1% of the respondent achieved above college and 9.3% of college level. However, Middle Secondary to Primary level education number is substantial and encouraging.

4.1.4 Ownership of Electronics and Farm Equipment

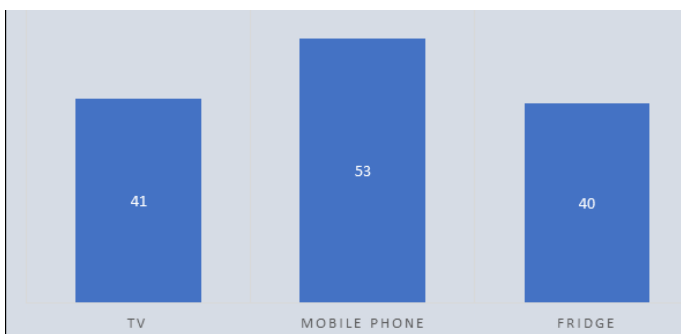


Figure 5: Ownership of electronics

78% of the respondent have luxurious gadgets like mobile phone, television and refrigerator. This indicates that the people of Buli have more buying capacity which also means that they have more income.

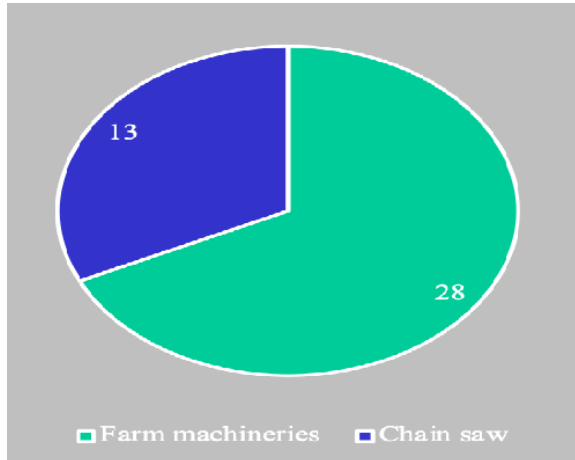


Figure 6: Ownership of Farm Equipment

In terms of the ownership, 28% owned some type of farm machineries and 28% of the respondents owned chain saws.

4.2 Socio-economic Information

This section covers the occupation of the people; their income, income type and source; type of house they are living in; land holding and income from the land; type of non-wood forest resources and income from it.

4.2.1 Type of houses

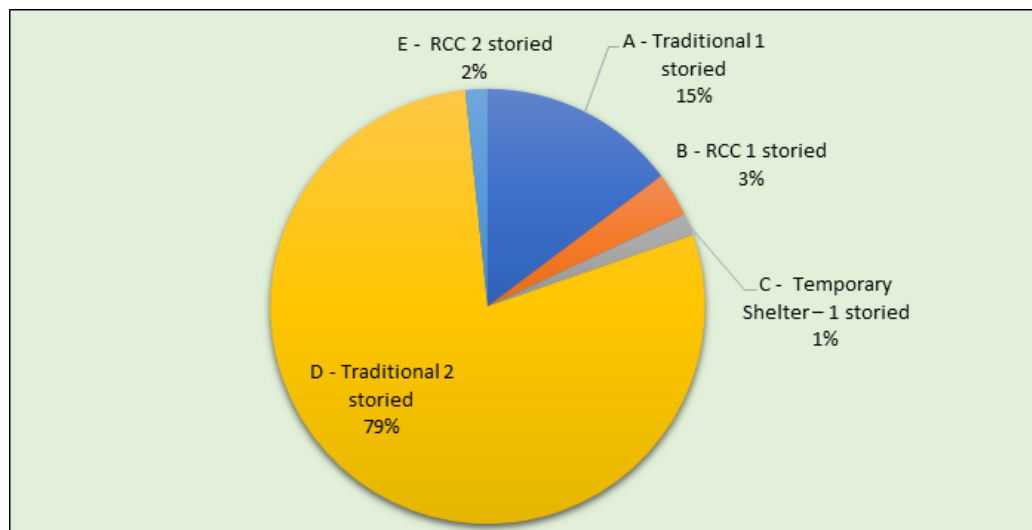


Figure 7: Type of residential houses

79 % of the respondent live in a standard village house and only 1% of the respondent live in a temporary shelter. 5% of the respondent also have RCC type house. On an average, the Buli communities resided in a more than average standard house.

4.2.2 Occupation of the people

The respondents were asked about the occupations of their family member, residing either in the village or outside the village. It was reported that 45 percent of their family members were residing outside their village and were working in with the Royal Government of Bhutan as civil servant. 10 percent of their family were doing business, 13 percent were carpenter, three percent were monks and three percent were working abroad. Only 26 percent of their family members were working as farmer, (Fig 7). The family members residing outside Buli and earning livelihood other than farming in relational context to the respondent are either sons, brothers, spouses and parents.

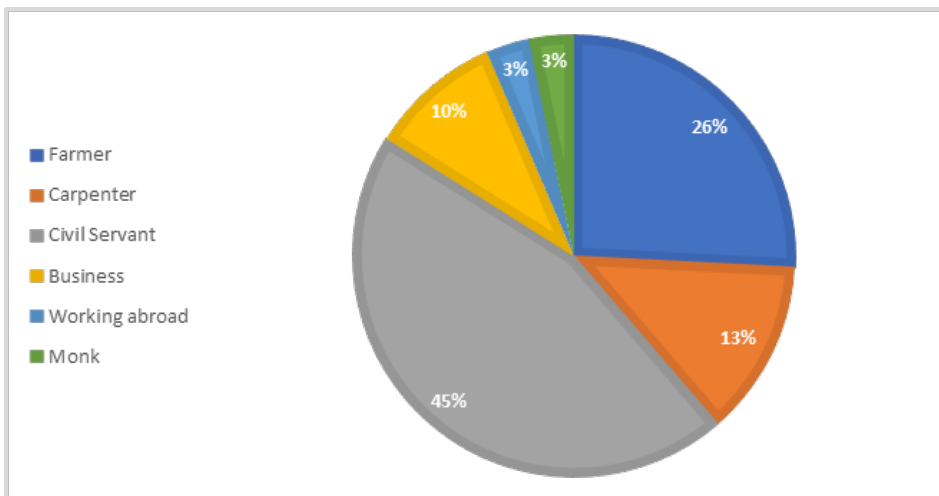


Figure 8: Occupation of Family Members Residing Outside Buli Village

From the 61 household respondents, (Fig 8) 92 percent of them were farmers, two percent were tshogpas, three percent were students, two percent were electrician and two percent were shopkeepers.

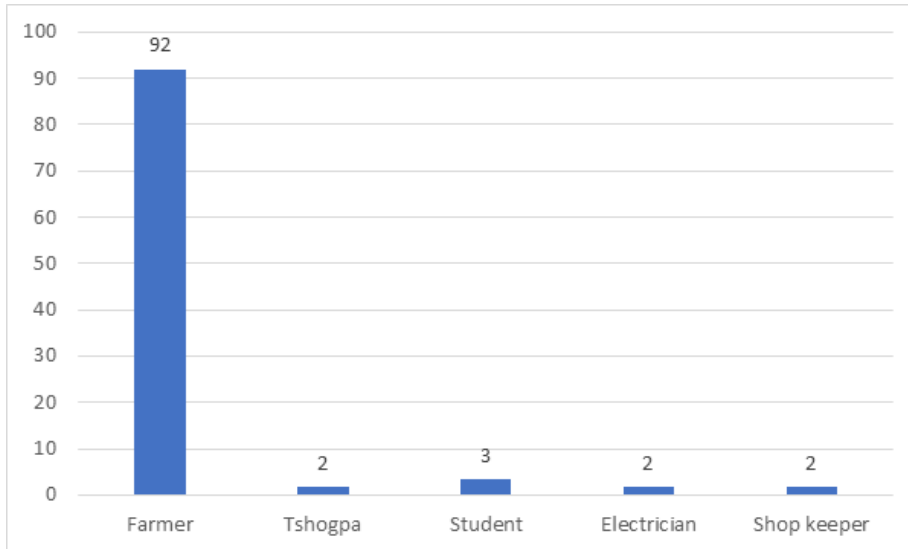


Figure 9: Occupation of respondents

Respondents were also asked as to how long they have been residing in Buli village? The maximum number of years a resident has been living in Buli is almost 75 years. 56 percent of the respondents have lived in Buli for more than 40 years and only 13 percent of them have lived in Buli from one to 15 years.

4.2.3 Average annual income and its source

In ascertaining the average income of the respondents, 62 percent of the respondents were making between Ngultrum (Nu.) 10,000 to 20,000 annually. And around 18 percent were earning around Nu. 20,000 to 50,000, around eight percent were making between Nu. 50,000 to 100,00 and 11 percent were earning more than Nu.100,000 per annum.

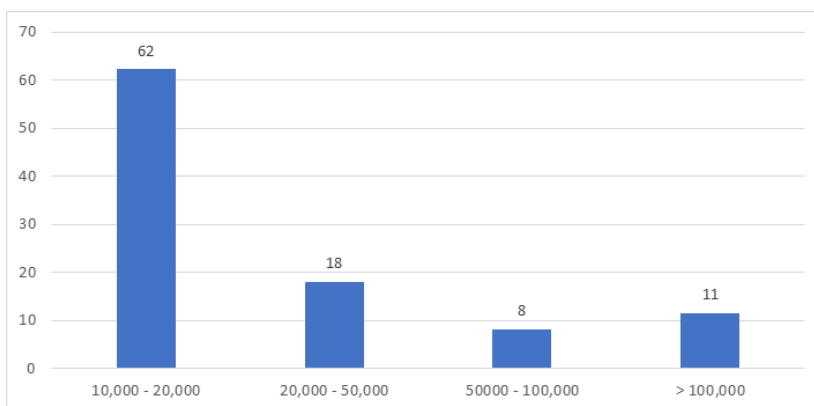


Figure 10: Occupation of respondents

The figure below shows the source of income for the respondents. 64 percent of the respondents stated that their income is for crop.

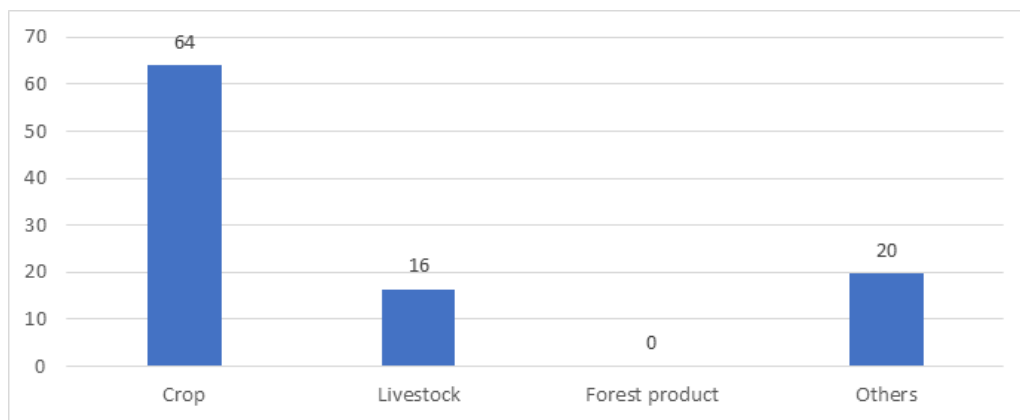


Figure 11: Source of Income of the Respondents

Also, around 16 percent of the respondents stated that they generate their income from sale of livestock products and 20 percent of the respondents stated that they earn their income for other sources (off farm labor, business and support from family members working in other parts of Bhutan).

4.2.4 Land Holding

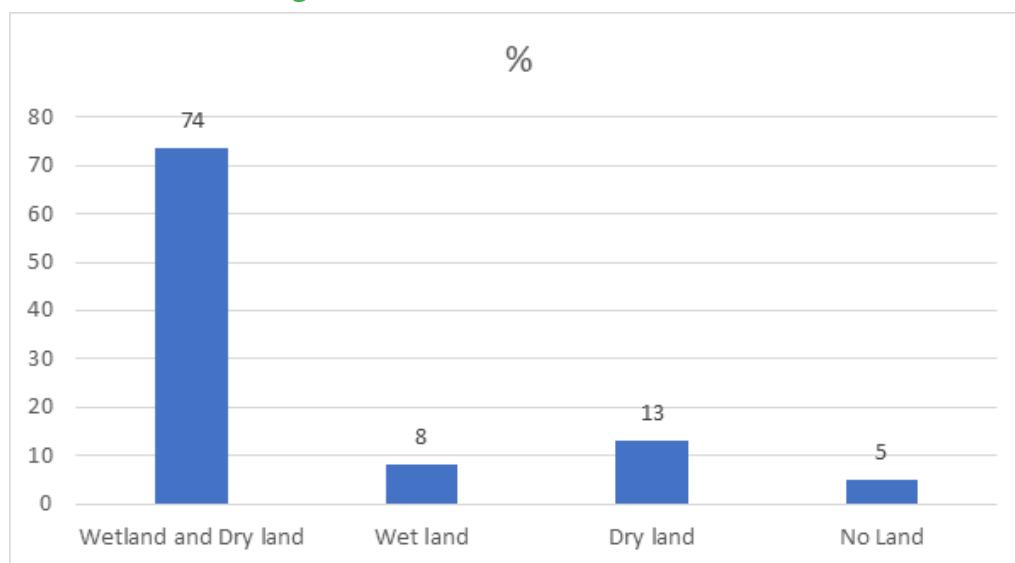


Figure 12: Land Holding by Category

Agriculture is the dominant activity in Buli village. 74 percent out of 61 respondents have agriculture land that consist of both dry and wet land. Eight percent of the respondents hold wetland only and 13 percent own dryland only. No respondent had land on lease and only five percent of the respondents did not own any land. However, we were not able to collect the crop yield data.

4.2.5 Cattle Holding

From the total of 61 respondents only 70% of the respondent had ownership of cattle and they were kept for different purposes. Only 30% did not own any cattle. Traditionally, rearing cattle is part of village culture and at the same time benefits the community from dairy products like milk, cheese, curd; cattle also help in making farm manure and thereby enriching the soil fertility. Having more cattle also indicates agriculture prosperity.

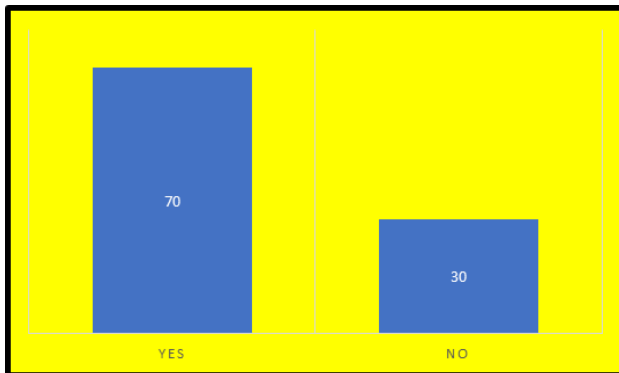


Figure 13: Cattle Ownership of the Respondents

In the figure it shows that out of the 70 percent of respondents who owned cattle, 84% of them had their herd size between 1 to 5, whereas 12 percent of the respondents had between 6 to 10 cattle and only five percent of the respondents had more than 10 cattle.

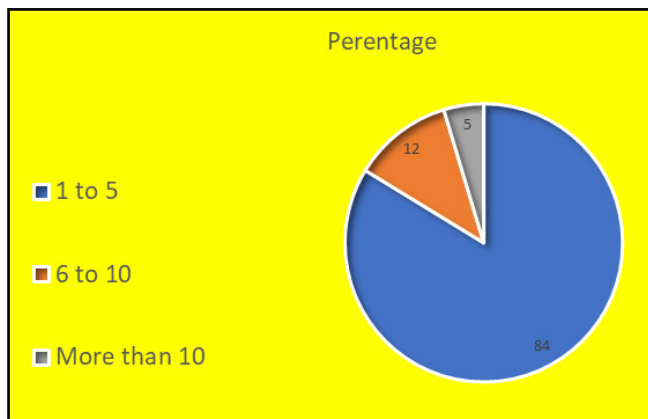


Figure 14: Cattle ownership by size

4.3 Forest Resource Management

From the 70% who owned cattle around 58% of the respondent did not practice free grazing of the cattle in the forest. However, 42% of the respondents stated that they send their cattle into forest for free grazing.

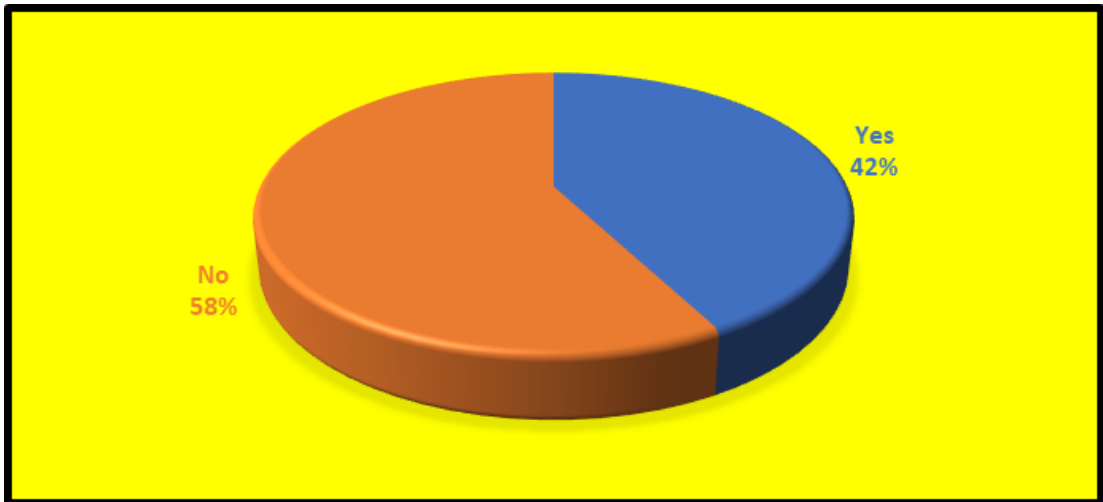


Figure 15: Practice of Free Grazing in Forest

4.3.1 Forest Resources

The respondents were asked if the forest size in their village had decreased and 49 percent of them agree that the forest size to be decreasing and eight percent strongly agree to the forest size decreasing. However, 28 percent of the respondents are not sure and 15 percent disagree.

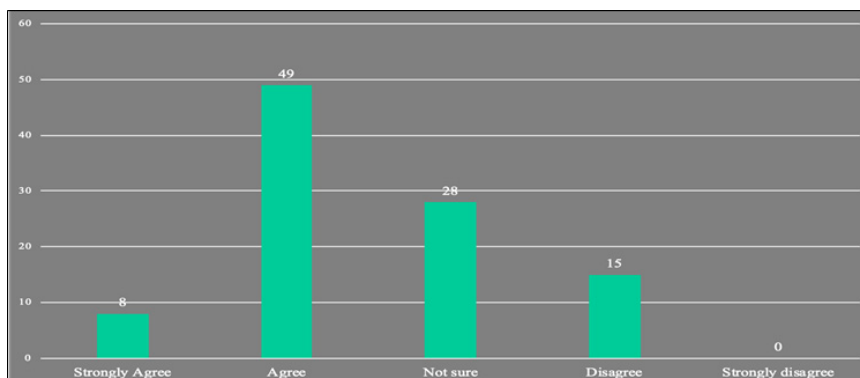


Figure 16: Decrease in Forest Size

Majority of the respondents believe that the forest degradation is a combination of climate change, population growth and poor land-use practices. However, 61% percent of the respondent have opinion that the population growth is the main cause for decrease of forest size

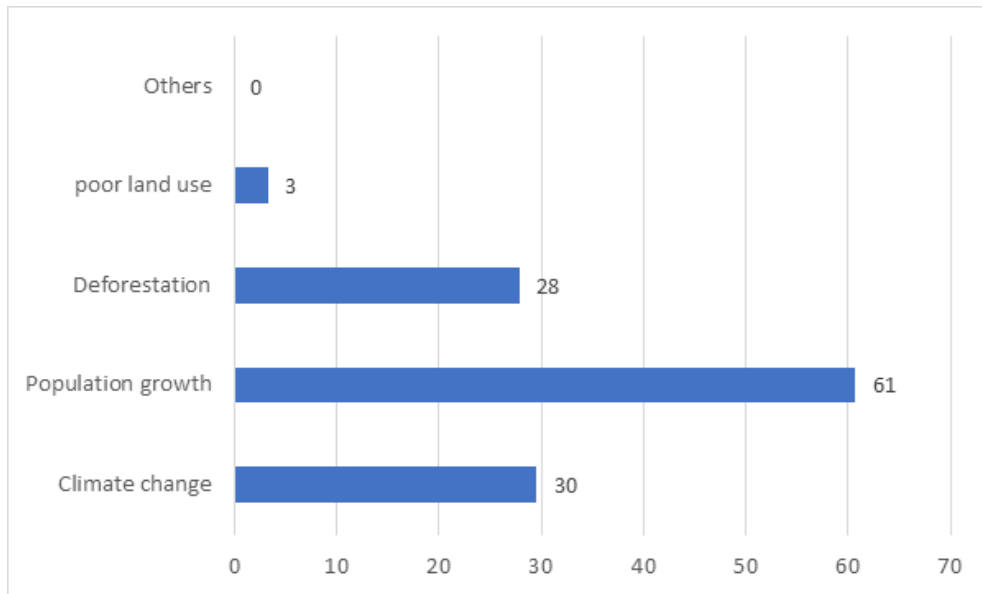


Figure 17: Factors Contributing to Forest Degradation

4.3.2 Non-wood forest resources

Buli has variety of Non-Wood Forest Products (NWFP) that people harvest and the dominant one is mushroom. When the respondents were asked if they generate income through sale of NWFP, 55 (90%) of them said they don't and on 6 (10%) of the said yes. Through sale of NWFP, the respondents make around Nu. 700/day to Nu. 50,000 a year.

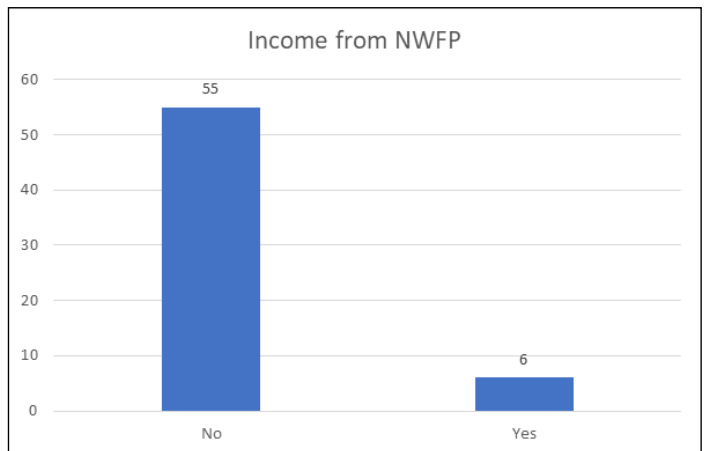


Figure 18: NWFP as Income Source

These products are found within 2 to 7 km range around the village. The following are the NWPF found in their locality.

Table 1: Non-Wood Forest Resources

Sl no.	Non-Wood Forest Resources	Season(s) Found	Range (km)
1	Mushroom	Spring/Summer	2 to 7
2	Fern	Spring/Summer	2 to 7
3	Cane	Spring/Summer	2 to 7
4	Fiddle head	Spring/Summer	2 to 7
5	Timber	Spring/Summer	2 to 7
6	Damru	Spring/Summer	2 to 7
7	Pipla	Spring/Summer	2 to 7

Nonetheless, the figure below shows the NWFP collection by age category. 28 percent of adult men and 34 percent adult women are engaged in collecting NWFP. Whereas, 10 percent elderly men and 14 percent elderly women go to collect NWFP. Only six percent boys and eight percent girls are engaged in the collection of NWFP.

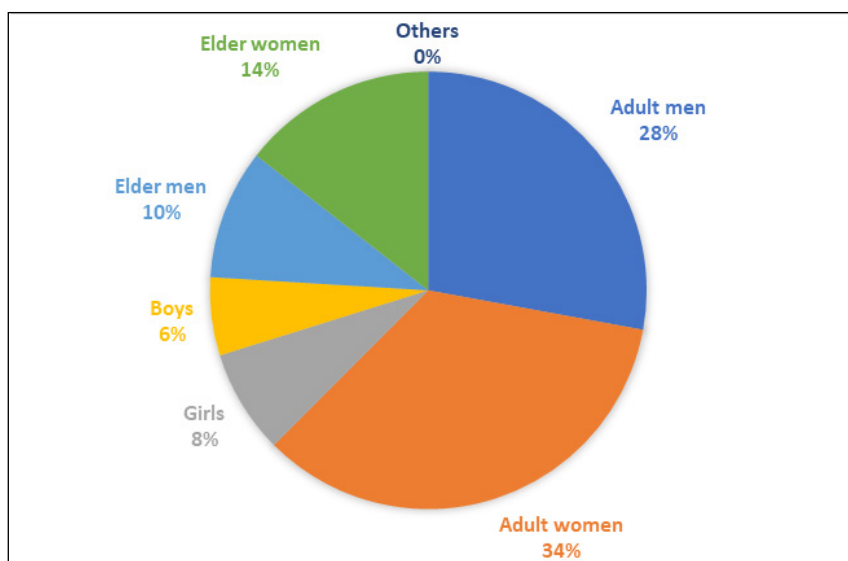


Figure 19: NWFP Collection by Age Category

It can be assumed from the figure 18 above that most respondents collect NWFP for self-consumption and local use only. Nonetheless, when asked if the NWFP availability is decreasing it was reported by 48 percent of them agrees that the NWFP has declined in the natural habitat and another 42 percent are not sure. Therefore, the overall opinion is more towards an agreement that NWFP is decreasing in the natural forest.

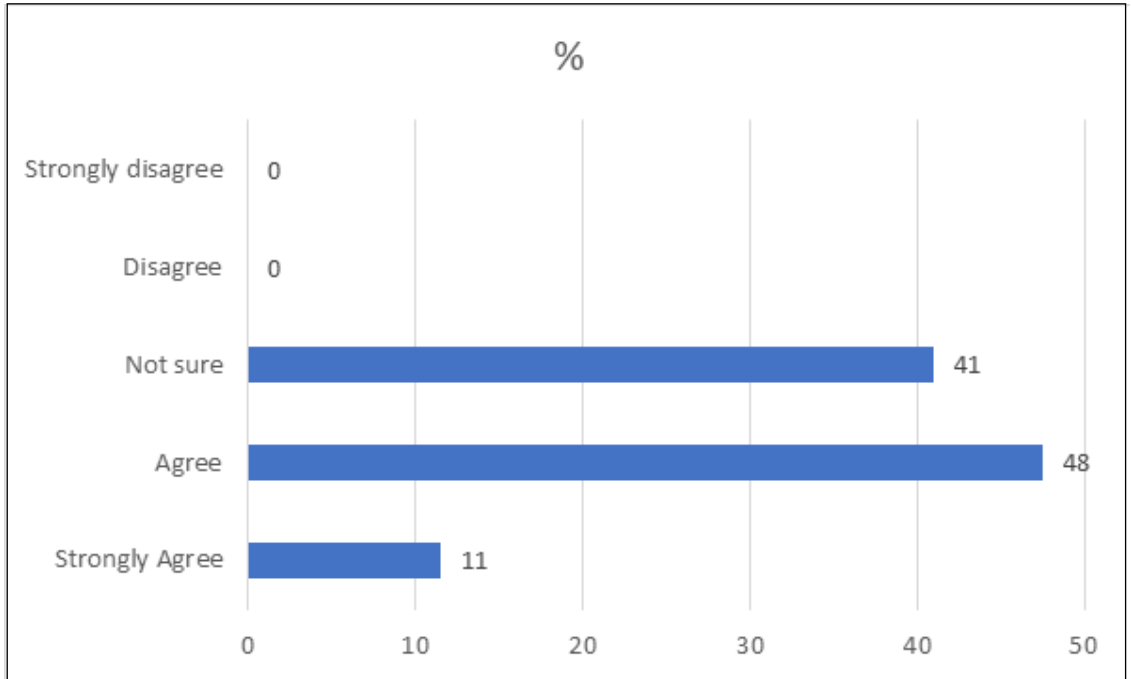


Figure 20: Availability of NWFP in the Natural Forest

4.3.3 Forest resource management group

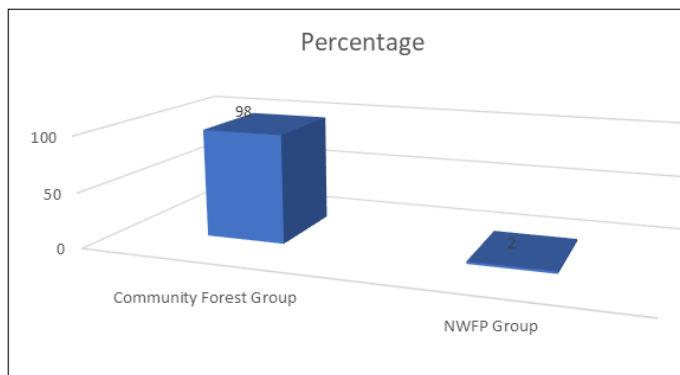


Figure 21: CF and NWFP Group Membership

Community Forest seem to be a successful program in Buli. 98% of the respondent belong to the Community Forest Group and around 2% in the NWFP group. This indicates the importance of being member of Community Forest Group. Information on availability of other groups need to be done.

4.3.4 Traditional practices for Forest resource management

The traditional practices such as Ladham and Ridham are strongly believed and practiced in the community. Buli Tsho (lake) is one landmark that has high spiritual and cultural significance and strongly followed. Such practices may have contributed to the conservation of the natural forest and the lake.

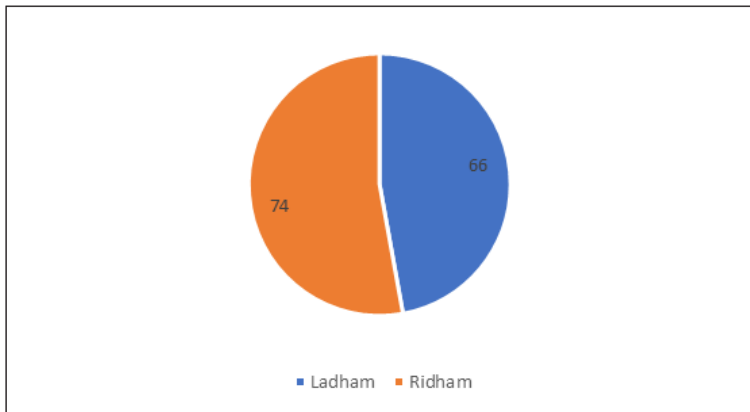


Figure 22:
Traditional/Cultural Practice

4.4 Climate Change and REDD+

4.4.1 Understanding Climate Change

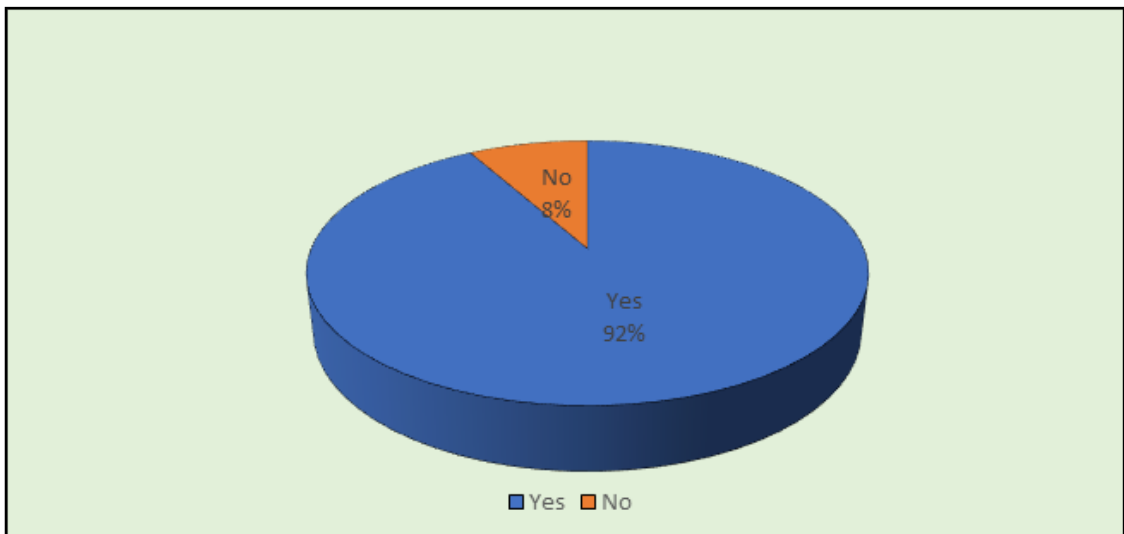


Figure 23: Understanding of Climate Change

92% of the respondents are aware of what Climate Change is and how it has impacted human beings and the environment at large. The respondents believed that a lot of changes in the climate and weather pattern; in biodiversity including water resources, etc. have been caused by the changing climate. Some of the pertinent issues which have direct effect on Buli are: drying of water sources that have led to decrease in crop production, erratic weather and unpredictable rainfall, landslides and seasonal drought, frequent forest fire etc. Therefore, Climate change is been a concern in Buli.

36 percent of the respondents reported that due to changing climate pattern the crop yield has decreased and 64 percent stated that climate change has brought about natural hazards (erratic weather, landslides, drought and frequent forest fires)

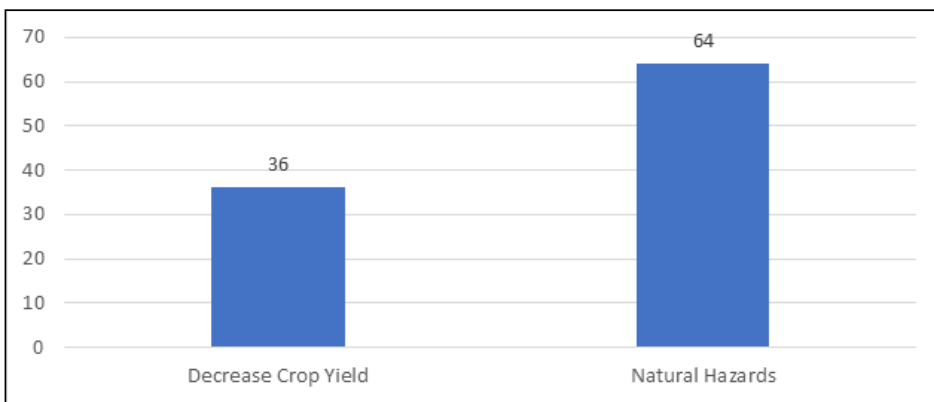


Figure 24: Perceived Impacts of Climate Change

The respondents were asked if they understood what REDD+ was and 90 percent of them stated that they had some basic understanding and 10 percent did not know what REDD+ was.

4.4.2 Understanding REDD+

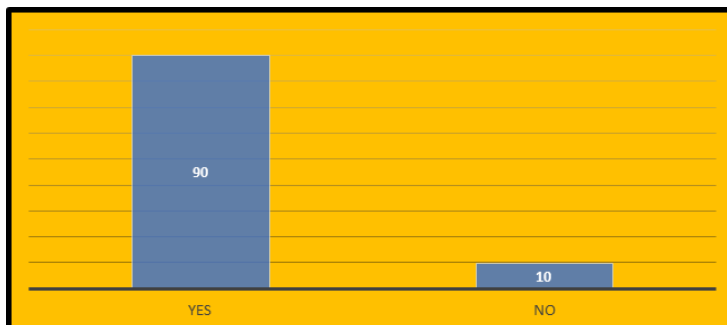


Figure 25: Community Understanding of REDD+

Several capacity building initiatives have been conducted in Buli by Watershed Management Division and RSPN. In this context the respondents were asked if they received any form of training related to REDD+. Fifty-four or 90 percent of the respondents said that they received REDD+ related training and only 10 percent (7 respondents) said they did not.

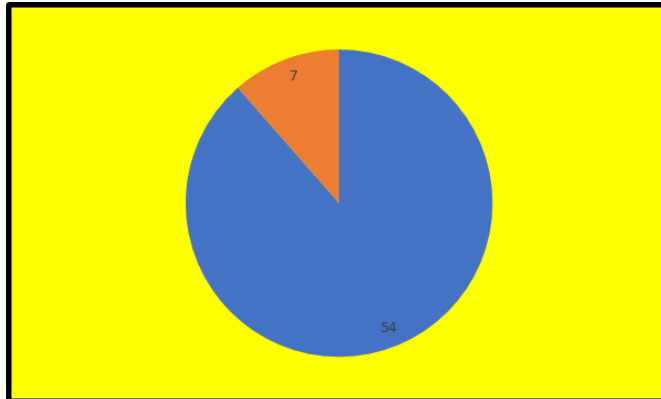


Figure 26: Training Received on REDD+ by Respondents

There was a wide range of learning among the respondents. Learning on climate change and its impact on forests and water resources seem to be the key understanding. Some of the participants could also grasp concepts on the carbon sink linking to forest resources. 100% (54) of the respondent that received some sort of training on REDD+ and they said that the training was useful.

The interventions recommended by the community are all REDD+ related activities. It is evident that REDD+ sensitization was well received by Buli community and therefore, people have good understanding of the program.

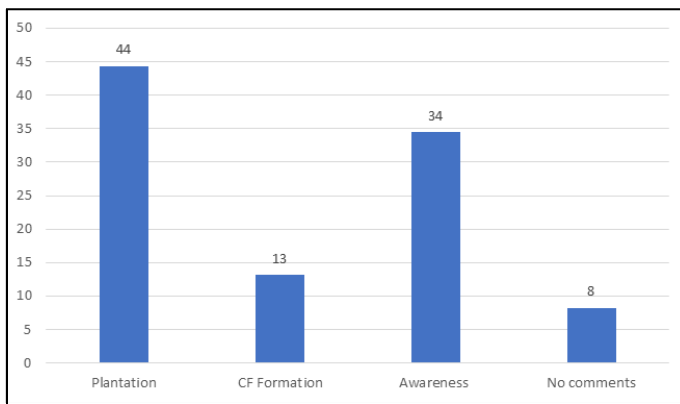
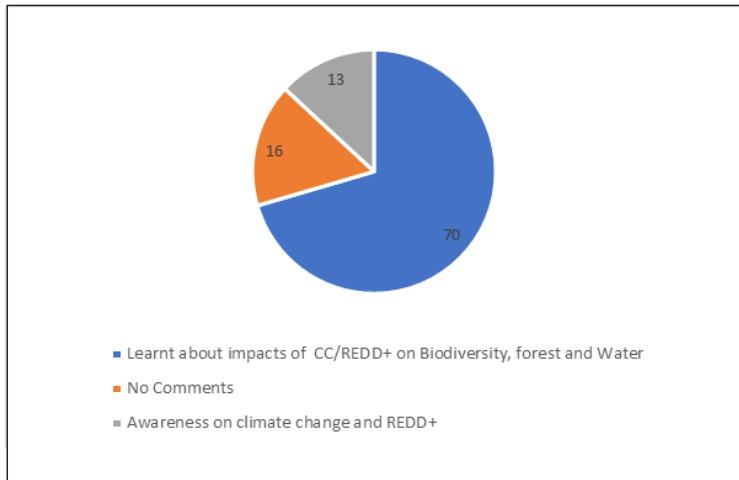


Figure 28: Community Initiatives to Safeguard Forest

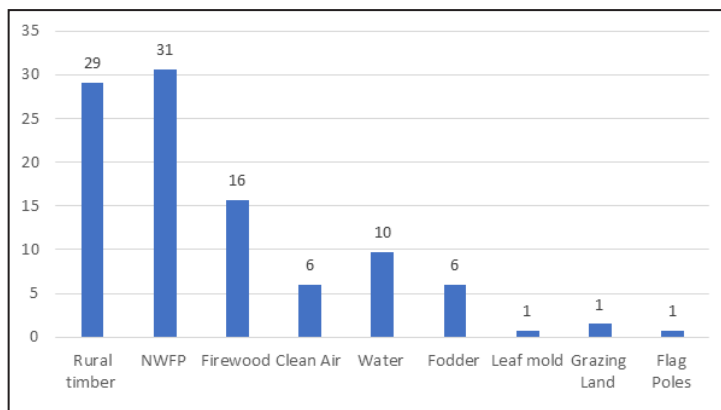
People have initiated plantation (44%), creating awareness (on water conservation, patrolling of the forest resources to control illegal felling of trees, minimize free cattle grazing), and establishing Community Forests Management Groups (13%). These are few of the key activities that are implemented in the communities (Fig 28).

The figure 29, shows what communities have learnt from the REDD+ project implemented by various agencies. 70 percent of the respondents said that they are aware of the impacts of climate change on biodiversity, forest and water resources and 13 percent are aware of what climate change and REDD+ are. However, 16 percent did not have any comments.



*Figure 29:
Respondents Learning from
REDD+ Training*

In the context of benefits derived from the Forest by the communities in Buli. 29 percent of the respondents say rural timber, 31 percent stated NWFPs, 16 percent said collection of firewood, 10 percent said water and six percent clean air. Other benefits were collection of leaf mold, fodder, grazing land and flag poles.



*Figure 30:
Benefits Derived from Forest*

In the context of benefits derived from the Forest by the communities in Buli. 29 percent of the respondents say rural timber, 31 percent stated NWFPs, 16 percent said collection of firewood, 10 percent said water and six percent clean air. Other benefits were collection of leaf mold, fodder, grazing land and flag poles.

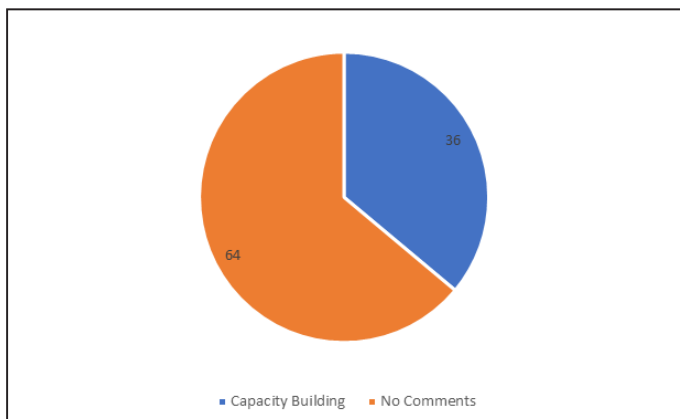


Figure 31: Additional Remarks Related REDD+



SUMMARY AND DISCUSSION

It is evident that the population of Buli are fairly young, with 59 percent of them being in the age bracket of 20-59 years. Also, 79 percent of the respondents live in a traditional two storied house and only one percent lives in a temporary shelter, basically indicating that majority of the community members are economically well off. Also, there is high ownership of electronics and farm equipment. Similarly, as 80 percent of the respondent were female, it can be assumed that participation of women in Buli to be very proactive.

In terms of the education level, 66 percent of the respondents had some form of education and this would be helpful in designing REDD+ related capacity building and creating awareness related to climate change.

It is also evident from the survey that majority of the respondents were farmers and they depend on crop and livestock production for their livelihood. Also, 74 percent of communities owned both wetland and dryland and none of the respondents leased land. Indicating that these respondents were to large extent self-sufficient in terms of subsistence food production. Also, in addition to the income from farming, the respondents were

supplementing their income from off-farm related work. Their income ranged anywhere from Nu.10,000 to more than 100,000 per year. However, this amount may not be the true figure.

Buli is regarded as one of the most scenic Gewogs with beautiful landscape and greenery but more than half of the respondents feel that their forest are is decreasing and the reasons for the forest decreasing is due to increasing population, climate change triggering forest fire, deforestation and poor land-use. Therefore, future REDD+ interventions can look into the above parameters in detail and develop appropriate actions. Also, 70 percent of the respondents own anywhere from 1 to 10 cattle and 42 percent practice free grazing, it might be important to assess the impacts on the natural forest. From this survey, the communities perceive that the NWFPs are decreasing in quantity and they have to travel anywhere from 2 to 7 hours to collect them. It might be useful to understand what is causing the decrease in the NWFPs.

However, there is still the existence of the traditional conservation practices of *ladham* and *ridham*, and these practices should be preserved. In addition, it is a good sign that majority of the respondents are member of community forest and community forest initiatives in Bhutan is known to be effective way forward for community based sustainable forest management approach.

Probably, it can be attributed to the fact that Watershed Management Division of the Department of Forest and Park Services and RSPN, most of the respondents are aware of the impacts of climate change and REDD+ activities. The respondents stated that due to climate change they are experiencing decreasing crop yield and natural hazards, such as erratic rainfall, landslides, drought and forest fires. Nonetheless, they have also benefited from the REDD+ project in the form of capacity building and awareness.

It has been stated that due to REDD+ intervention, communities are engage in safeguarding their natural resources through creation of plantation, watershed management, minimizing grazing and reducing deforestation.





CONCLUSION

Although REDD+ activities are important instrument to ensure reduction of GHG emission through engagement of local communities the major challenges are the technical nature of the activities and issues revolving around governance. Also, equally important aspects to REDD+ initiatives are the integration of biodiversity and livelihood parameters and the need to engage all relevant actors and partners in achieving the multi-faceted benefits.

Therefore, there is a need for a through scientific assessment to confirm the status on the decline of the forest cover in Buli.

On the other hand, it is a positive indication that people understand the prevalence of Climate Change so that appropriate adaptation and mitigation measures can be planned on time.

Since REDD+ activities are more on sustainable management of forest resources and its utilization, people are of the opinion that they would greatly benefit from it. Timber, Non-Wood forest products and clean water are the major benefits that the people are looking for.

The socio-economic study found that Buli village has abundant and intact natural forest with diverse species in it. The Buli Tsho (lake) is the natural landmark in the area and it is highly revered by the community. Conservation around the lake is very evident. Despite the rural urban migration issue in the country, Buli is still inhabited by over 600 people, of mostly young and middle aged.





Agriculture and livestock rearing were the main occupation of the people in Buli and their food self-sufficiency is quite certain. People also have other skills and professions such as carpentry and managing businesses that support their livelihood. Overall, the people of Buli have various occupations and that have supported the livelihood.

Buli is located in the warm evergreen broad-leaved forest zone. The area has different species such as *Altingia excelsa*, *Michelia velutina*, *Beilschmiedia gammieana* in the lower region, while higher along the slopes are mainly secondary forest mainly dominated by *Castanopsis tribuloides*, *Lithocarpus fenestratus*, *Betula alnoides* and *Schima khasiana*. The wetland in the village forms one major eco-system and the water log. Non-wood forest resources are abundant in the area and the community harvest mainly for domestic use. Unlike in other places, here people do not make much income out of NWFP. Community Forest program is very successful and community have derived benefits out of it. Every household have become member of the CF. While the traditional human use of the natural resources is not a threat to the environment, there is a concern of the declining forest resources and fresh water.

The community also exercise strong traditional practices such as La-dham, Ri-dham and Tsho-dham. Such practices have also contributed to conservation of the natural environment.

Climate change is not a new thing in the village. The people are much aware of the changing climate and understands the negative impacts of it on the environment. Drying of water sources, irregular weather pattern, drought and crop failure etc. were some of the impacts of climate change that are being realized. The people are also well aware of the REDD+ program and its benefits. Sustainable forest management is viewed as the results of the REDD+ program and people are positive of the program.

Also, while designing capacity building approaches, it may be important to consider the following characteristics of the village:

-  Medium level of education
-  Majority of the respondent were farmers
-  Most of the respondents are aware of CC and REDD+ program
-  Majority suggested the need for additional capacity building program related to REDD+

In the context of Benefit Sharing and Carbon Accounting, it might be important to identify clearly the “non-carbon benefits”.



The communities have already identified few non-carbon benefits that they derive from the forest.



Bhutan already has a “Benefit Sharing” approach.



Draft REDD+ Strategy is in formulated and waiting to be endorsed by the government.

Similarly, translating the technical aspects of carbon accounting may be difficult and relevance of such aspects to the communities are highly questionable. Therefore, do we really need to have carbon accounting training for communities?





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3. PHCB, 2017, Zhemgang Dzongkhag, Population and Housing Census of Bhutan.
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ANNEXURE

8.1 Annexure 1: Socio-Economic Survey Questionnaire

Royal Society for Protection of Nature
SOCIO-ECONOMIC STUDY FOR REDD+ Project

Survey No.: 1	
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<p style="text-align: center;">Confidentiality</p> <p>The information gathered in this survey will not be used for enforcement. It is meant for this study and will be kept confidential at all times.</p>	<p>Dear respondent, Royal Society for Protection of Nature has received a grant from _____ to conduct a socio-economic survey. We are collecting some basic socio-economic information to set a baseline for the project. Your kind cooperation with our surveyors will be deeply appreciated.</p>
<p>Please contact us on the following for any questions</p> <p><i>Chukey Wangchuk</i> National Consultant Thimphu, Bhutan wangchuk@gmail.com Ph.: 975-17976908</p>	<p><i>Tsheten Dorji – tdorji@rspnbhutan.org</i> <i>Narayan Ghalley – nghalley@rspnbhutan.org</i> <i>RSPN, Thimphu: Bhutan.</i></p>

Certification

I hereby certify the information gathered in this questionnaire was obtained/reviewed by me personally, in accordance to the instructions.

Name and Signature of Enumerator

Handing and taking date:

Name and Signature of Supervisor

Objective of the Survey: The purpose of this assignment is to develop survey questionnaire for baseline study (gender sensitive) the status of agriculture yield, forest, socio-economic situation and so forth in the context of REDD+

A. Social Information – Fill or tick the most appropriate one

1. Location

a. Dzongkhag	b. Gewog	c. Chiwog	d. Village

2. House Type

a) Traditional 1 storied	b) RCC 1 storied	c) Temporary shelter - 1 storied
d) Traditional 2 storied	e) RCC 2 storied	f) Others - specify
g) Traditional 3 storied	h) RCC 3 storied	i)

B. Demographic Characteristic of the Respondent

3. Age of the respondent

4. Gender

a. Male	b. Female	Others
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5. Marital Status

a. Never married	b. Married	c. Living together	d. Widowed	e. Divorced

6. How many members do you have currently residing in your family?

a. Male	b. Female
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C. Education

7. From the total number of family member can you provide their academic qualification

a. Not educated	b. Primary School	c. Middle School	d. High School	e. College	f. > College	g. Monastic	h. NFE

D. Socio-economic Information

8. Occupation of the Respondent

9. How long have you been living in this current location?

a. Years		b. Months	
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10. What activities do other members of your family do that financially contribute to the household income?

a. Person/relationship (to the respondent)	b. Activities	c. Annual Income (estimate ¹)

11. Where is the main source of income from? (tick one)

- a) Crops (including cash crops)
- b) Livestock
- c) Forest products (NWFP, including fuel wood and timber)
- d) Others _____?

12. What is your average annual income? (Tick one)

- a) Nu. 10,000 to 20,000
- b) Nu. 20,000 to 50,000
- c) Nu 50,000 to 100,000
- d) > than Nu. 100,000.

13. Do you own land? If Yes, how many acres in total?

Land Category	Size (Estimates of 1 Acre to 20 acres)
Wet Land (Paddy)	
Dry Land	
Any fallow land?	
Others.....?	

14. If you do not own land, do you lease land? If Yes, how many acres have you leased?

15. Do you have cattle?

a) Yes b) No.

16. If Yes, how many cattle do you have?

- a) 1 to 5
- b) 6 to 10
- c) More than 10.

17. Do they graze in the forest feely?

a) Yes b) No.

E. Forest Resources Management System

18. What are the main Non-Wood Forest Resources (NWFPs) found in your area?

Sl no.	NWFPs (ask the respondent to list them, eg, mushroom, timber, pipla, etc)	Seasons Found (eg. spring, summer, autumn and winter)	How many times do you go to collect in that season? (Frequency)	Distance from your house to the collection site (ask in hours)
1				
2				
3				

¹The annual income can be in a category of Nu 10,000 to 20,000
20,000 to 50,000 and 100,000 and above.

19. What is your average income earned from Sale of NWFP?

20. Who goes to collect the NWFPs?

a. Adult men	b. Adult Women	c. Girls	d. Boys	e. Elder men	f. Elder women	g. Others Specify?

21. Has the quantity of NWFPs found in your forest Decreased?

a. Strongly Agree	b. Agree	c. Not sure	d. Disagree	e. Strongly Disagree

22. Over the last 10 years, do you believe that the forest size in your village is decreasing?

f. Strongly Agree	g. Agree	h. Not sure	i. Disagree	j. Strongly Disagree

23. If decreasing, what do you think are the main causes of the forest size decreasing in your village? (can tick multiple box)

a. Climate change	b. Population growth	c. Deforestation	d. Poor land use practices	e. Others (specify)

24. Are you a member of any of the following? (can tick more than one)

- a) Community Forest Group?
- b) NWFP Group
- c) Self-help Group
- d) Others _____

25. Do you practice any of the following? (can tick more than one)

- a) Ladam
- b) Ridam
- c) Others_____ (Green house Deity)

26. Do you know what climate change is?

- a) Yes
- b) No.

27. If Yes, can you tell us how it will impact you?

28. Do you know what REDD+ is?

- a) Yes
- b) No.

29. Did you receive any training related to REDD+?

- a) Yes
- b) No.

30. Was the training useful for you?

- a) Yes
- b) No.

31. If Yes, how was it useful? Explain briefly.

32. From your perspective, what benefits do you derive from the forest? (List them).

33. What actions are you taking to safeguarding and protecting your forest and environment. (List them).

34. Would you like to add or provide any additional information related to the REDD+ program?

35. Observations by the Surveyor on the quality of the house, what modern gadgets (TV, Fan, Fridge, mobile phone and farm machineries) are available in the house?

Carbon accounting training in Community Forest





Measuring tree DBH