



**REVIEW REPORT ON COMPENSATION-RELATED POLICIES FOR HUMAN  
WILDLIFE CONFLICTS (HWC) AND CROPS DAMAGE DUE TO NATURAL  
CALAMITIES**

**PREPARED BY**

**NATURAL RESOURCES AND ENVIRONMENT COMMITTEE**

*Submitted to the 33<sup>rd</sup> Session of the National Council*

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The committee also extends sincere appreciation to the officials and public of the following Gewogs and Dzongkhags, for their presence and contributions:

- a. Nubi and Drakteng Gewogs of Trongsa Dzongkhag Administration
- b. Nankor and Trong Gewogs of Zhemgang Dzongkhag Administration
- c. Gelephu and Samtenling Gewogs of Sarpang Dzongkhag Administration

This collaboration exemplifies the power of partnerships in accomplishing meaningful and sustainable progress in environmental conservation, and we look forward to continued cooperation in our shared mission.

**Excerpts from the His Majesty’s Address to the Nation, 111<sup>th</sup> National Day,  
17<sup>th</sup> December 2018, Samtse**



*“.....Notwithstanding the different approaches, all the political parties pledged to work for the wellbeing of our people through their resolutions: helping farmers address issues related to human-wildlife conflict;”*

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## **1. Introduction**

In farming, compensation is seen as a prospect for the sweat of innocent farmers after seasons or years of hard work are impaired. The birth of a cattle till the maturity and the care is beyond measure so, the hope for compensation is worth supporting.

Compensation plays a significant role in attending to crop damage and motivating the farmers for sustainability and continue farming for years to come. Farming is the oldest profession and it deserves due consideration to be well supported by the Government in developing the economy through the supply of foods. The profession will not serve without support from the Government leading to a lower contribution to the GDP, additional fallow land, unemployment, food self-sufficiency, rural-urban migration, etc.

The economy of the nation has not been stable but equally, the focus to support the 62.2% of the farming population is urgent. The Government initiated the endowment fund through the cabinet during the 129<sup>th</sup> Lhengye Zhungtshog on 1<sup>st</sup> May 2017. The Agriculture and Livestock Census 2021 provided the total crop loss of 873.51 MT by natural disaster, human casualty (2020-2024) numbering 17, the wild animals killed a total of 5529 cattle, and a total of 874.106 acres were affected by wildlife (2012- 2015).

The NREC is pleased to provide a review of the compensation-related policies for human-wildlife conflicts and crop damage due to climate-induced weather extremes and calamities. Globally, the backbone of the nation's economy lies in the strength and stability of agriculture and livestock in developing countries.

## 2. Background

The agricultural sector is vital to the country's economy, but it faces constraints due to inherent geophysical conditions i.e. steep topography, limited arable land, and many state reserve forests. These issues are further compounded by the increased frequency and intensity of climate-induced hazards and disasters such as heavy rainfall, drought, hailstorms, windstorms, and related land degradation. In addition to climate change-related losses, crop and livestock depredation by wildlife causes major production losses, leading to a decline in both crop and livestock production.

The country's 62.2% of the population engages in subsistence agriculture and lives in rural areas. Agriculture contributes 17% to GDP and 50% of employment, making it one of the vital sectors. The agricultural sector is highly susceptible to the effects of climate change and other natural disasters, including the emergence of pests and diseases. The HWC and crop damage have been national concerns and observed throughout the country, leading to intervention by various stakeholders from the local to the national level.

### a. Natural Calamities:

- In 2015, over 1,187 acres of cultivated land were damaged by natural disasters, resulting in a crop loss of more than 1,154 MT.
- In October 2016, 2,500 acres of crops were damaged by continuous rain, leading to a loss of approximately Nu. 165 million.
- The continuous rainfall from October 16-21, 2021, impacted over 2,500 acres and caused a crop loss of approximately 2,400 MT in 17 Dzongkhags.
- In 2022, 594 yaks died due to snow.
- Between January and August 2023, animal diseases killed 2,100 livestock.
- The recent hailstorm damaged crops amounting to Nu. 5.5 million in Tsirang Dzongkhag.

### b. Human-Wildlife Conflict:

- In 2021, 142 cattle were killed in the Trongsa Tiger incidents, with compensation at Nu. 93,120 but the actual loss was estimated at Nu. 7.1 million.
- In 2022, 117 yaks were killed by wildlife depredation.

### **c. Crop Damaged by Wild Life:**

- In 2014, wildlife caused a crop production loss of 1319 MT worth Nu. 58.03 million.
- In 2015, wildlife caused a crop production loss of 516 MT worth Nu. 22.7 million.
- Crop and livestock depredation by wild animals significantly reduces agricultural production, with farmers losing 19% to 43% of crops annually despite guarding their fields for months.

The decline in agriculture and livestock sectors is concerning and requires timely interventions to ensure rural economic growth, improve livelihoods, and enhance farmers' incomes, addressing issues like rural unemployment, youth unemployment, and rural-urban migration.

Therefore, the NREC strongly felt that it is crucial time to review the compensation-related policies for human wildlife conflict and crop damage due to natural calamities.

### **3. Methodology**

The NREC carried out literature reviews from policy to periodic reports, acts, rules and guidelines, census and statistics. Consultations were carried out with Local Government officials of three Dzongkhags identified as the HWC hotspots followed by coordination meetings at national level:

#### **Grass-root Level:**

- Nubi and Drakteng of Trongsa Dzongkhag Administration
- Nangkor and Trong Gewogs of Zhemgang Dzongkhag Administration
- Gelephu and Samtenling Gewogs of Sarpang Dzongkhag Administration

#### **National Level:**

- Ministry of Energy and Natural Resources
- Ministry of Agriculture and Livestock
- Ministry of Finance
- Ministry of Home Affairs
- National Land Commission Secretariat
- Royal Audit Authority
- Royal Insurance Corporation of Bhutan Limited and
- Bhutan Insurance Limited

#### **4. Objective**

- a. Examine existing compensation-related policies in Bhutan and explore international best practices that can be tailored and adopted in Bhutan.
- b. Gather information from relevant stakeholders at the Gewog, Dzongkhag, and National levels to understand the ground realities for an evidence-based and informed decisions.
- c. Recommend the Government for urgent need of sustainable compensation.

#### **5. Literature Review**

##### **5.1. Review of Policy and Legislation:**

As per the Forest and Natural Conservation Act of Bhutan 2023 (FNCA), Chapter Five (Section 118,119,120 & 121) under Human-Wildlife Conflict Management states that the Ministry shall adopt and implement science, technology, and research-based innovative measures to prevent and mitigate human-wildlife conflict and the Government shall institutionalize appropriate measures with compensation to address the loss of life or cause of permanent disability to a human or damage to property, crop, and livestock by wildlife.

Livestock Act of Bhutan 2001, Section 36.1, the Ministry of Agriculture and Livestock has devised and implemented the Livestock Rules and Regulations of Bhutan 2008, aims to safeguard the environment, animal health, and the potential risk associated.

##### **5.2. Review of Past and Existing Compensation Mechanism/Schemes:**

In 2010, the Gewog Environment Conservation Committee (GECC) was formed to address the compensation concerns. The Trust Fund was initiated in 7 Gewogs in 2012 and 26 Gewogs in 2013. In 2015, a total of 56 Gewogs received trust funds amounting between Nu.3,00,000 to 5,00,000 each. They contribute Nu. 50 for Thrabam and receive Nu. 1,000 as compensation for losses and Nu. 200 for Jatsham breed annually as insurance and receives Nu. 5,000 as compensation for losses to Tiger respectively.

In 2022, the Department of Forest and Park Services (DoFPS) set up the GTCT scheme across six Dzongkhags, covering 11 Gewogs. These Dzongkhags include all five Gewogs in Trongsa, Chumey in Bumthang, Nangkor and Pangkhar in Zhemgang, Dangchu in Wangdue, Goenshari in Punakha, and Khamaed in Gasa. The Gewogs received initial funding of Nu. 1 million as seed money for the scheme. The goal of the GTCT scheme is to tackle and handle human-wildlife conflict, and scale up livestock production.



Each member is required to pay an annual premium of Nu 200 for each cow. If a cow is killed by a tiger, the member will receive a nominal compensation of Nu 3,000.

The NREC found there is absence of scheme initiated for natural disasters by any relevant agencies.

### 5.3. Global and Regional Practices:

**Table 1. Global and regional practices**

Country	Insurance Schemes	Policies	Acts	Outcomes
India	✓ An insurance programme for livestock depredation from snow leopards was set up in 2002 in Himachal Pradesh.	✓ Punjab State started policy to compensated farm labors for Cotton Crop	✓ Protection of Plants varieties and Farmers Rights Act, 2021	✓ Increase in agriculture output and employment. ✓ Specific commercial crop cultivation.
Kenya	✓ Weather related Crop Loss	-	✓ Wildlife Act 2013	✓ Increase in agriculture output and employment.
Australia	✓ Victoria's Cattle Compensation Fund ✓ Fire and Hailstorm ✓ Multi-peril Crop Insurance, 2017	-	✓ Livestock Disease Control Act, 1994	✓ Large Scale Commercial Farming (e.g. Hybrid Cattle and One Crop Cultivation)
Canada	✓ Livestock loss and crop damage	-	Fish and Wildlife Conservation Act 1997	✓ Adequate supply of high quality foods and increased in income.
Nepal	✓ Natural Disaster Insurance Scheme for Agriculture and Livestock (75% subsidy by the Govt.)	✓ Agricultural Policy and Strategies for Poverty Alleviation and Food Security 2003	✓ Compensation Act 2019	✓ Employment opportunity and to enhance GDP.

Source: Journal on Human-wildlife conflict and insurance, 2019

According to the United Nations Population Fund (UNFPA), by 2037, half of Bhutan's population will be shifted to urban areas. So, such consultative meetings are imperative and timely to reduce rural-urban migration and the country's surging Satong and Gungtong issues. Engaging local communities in the pertinent issues of human-wildlife conflict and crop damage by natural calamities was the key aspect of the consultative meetings and field visits.



Source: MoENR Presentation, Chain-linked fences<sup>1</sup>

## 6. Case Study

### 6.1. Situation of human wildlife conflict and crop damaged by natural calamities in selected areas (three Dzongkhags and six Gewogs)

In order to examine the ground realities of human wildlife conflict and crop damage by natural disaster, six Gewogs from Trongsa, Zhemgang and Sarpang Dzongkhags were selected. The selected areas fall in the parks and biological corridors which are habitat to various wildlife species, including tigers, elephants, wild dogs, deer and leopards, marking as hotspots. These animals often venture into farmland in search of food, leading to frequent conflicts with local farmers.

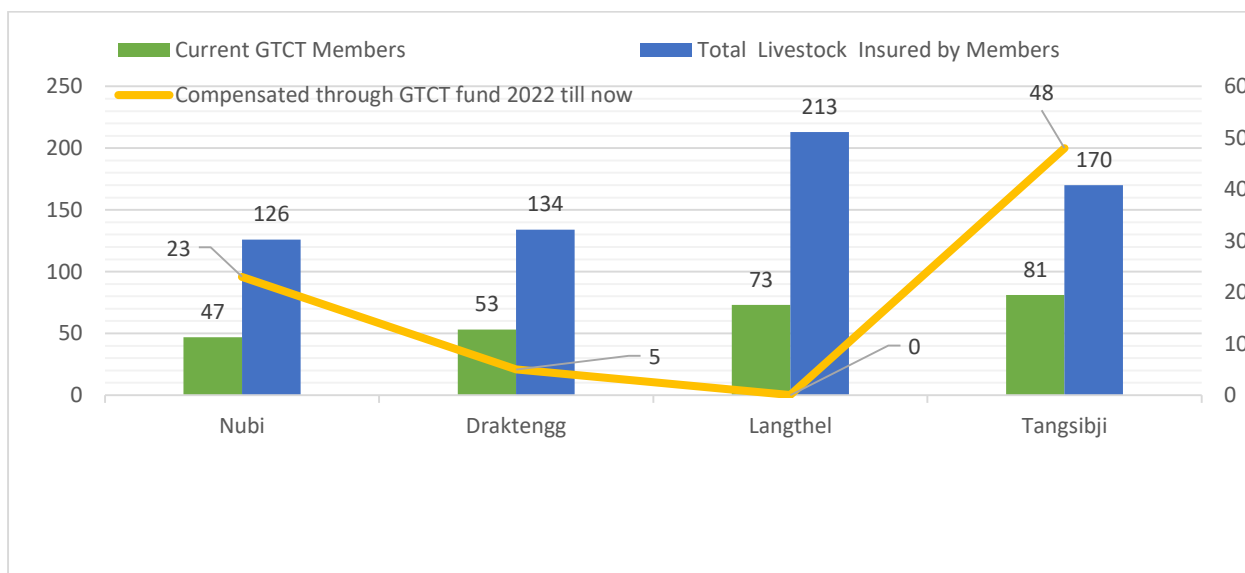
The table summarizes extensive crop damage caused by wild animals across Trongsa, Zhemgang and Sarpang Dzongkhags in Bhutan. This finding provides the pervasive impact of human-wildlife conflict on agricultural productivity, necessitating effective strategies to protect crops and support sustainable farming practices across the regions.

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<sup>1</sup> Functionality Status: Very effective and long-lasting but expensive. Risk of shifting the problem to neighboring settlements.

Sl. No	Dzongkhag	Gewogs/Chiwogs	Crop Damaged	Damaged by
1.	Trongsa	Dragteng	Maize, Vegetables, Paddy, Potato	Wild Boar, Deer, Porcupine
		Korphu	Maize	Wild Boar
		Langthil	Maize, Vegetables, Paddy, Potato	Wild Boar, Deer, Porcupine
		Tangsibji	Maize, Vegetables, Paddy, Potato	Wild Boar, Deer, Porcupine, Birds
		Nubi	Maize, Potato, Barley, Paddy	Wild Boar, Deer
2.	Sarpang	Chuzergang	Areca Nut And Paddy, Vegetables	Elephant, Birds, Monkey, Deer
		Dekidling	Areca Nut and Paddy	Elephant, Wild Boar, Monkey, Birds
		Gakidling	Areca Nut, Vegetables, Maize	Elephant, Wild Boar, Monkey, Birds
		Gelephu	Areca Nut, Paddy	Elephant
		Sershong	Areca Nut and Paddy	Elephant
		Shompangkha	Areca Nut	Monkey , Deer,
		Singye	Areca Nut and Paddy	Elephant
3.	Zhemgang	Trong	Maize, Potato, Vegetables,	Wild boar, Monkey, Deer, Porcupine
		Bjoka	Maize, Vegetables, Paddy, Potato	Maize, Vegetables, Paddy, Potato

Table 1. Crops damaged by wildlife in the selected Dzongkhags



Bar Graph 1. Cattle killed by Tigers and other wild predators



Line Graph 1. Wild animals' conflicts (2021-2023)

## 6.2. Observation

Sl. No	Mitigation measures	Discussion
1.	Transition to Hybrid Cattle	<ul style="list-style-type: none"> <li>✓ Shift to hybrid cattle due to predator losses and labor shortages.</li> <li>✓ Focus on increasing dairy production.</li> </ul>
2.	Developing Pasture Land	<ul style="list-style-type: none"> <li>✓ Transition to community-managed pastures.</li> <li>✓ Government support with fodder and cattle breed.</li> </ul>
3.	Installing Chain-Link/Electric Fencing	<ul style="list-style-type: none"> <li>✓ Adoption of chain-link, solar, and electric fencing.</li> <li>✓ Government investment of Nu.500 million in fencing projects.</li> </ul>
4.	Developing Artificial Water Pond and Salt	<ul style="list-style-type: none"> <li>✓ Construction of ponds and salt stations.</li> <li>✓ Aimed at deterring wildlife from villages.</li> </ul>
5.	Reducing Human Impact on Non-Wood Forest Products	<ul style="list-style-type: none"> <li>✓ Fee collection and education on sustainable forest product extraction.</li> <li>✓ Promoting practices to minimize human impact on forest products.</li> </ul>

### **6.3. Discussions**

The public of above Dzongkhags shared their genuine concerns faced for many decades. The issues were loss of cattle, crops, human life, properties, etc. which has led to demotivation towards farming. Some of the senior citizens shared that the recent efforts is much more challenging to mitigate the HWC and crop damage by wild life due to huge rural-urban migration. In the past, communities jointly safe guarded their cattle and crops as modernization had not influenced the migration pattern.

The effort to safe guard their ancestral property is still their top priority but to face life threatening animals like big wild cats and elephants are impossible with few old aged people in the community. The situation in some of isolated settlements are heart aching with daily conflicts with HWC, they request for relocation to sustain with agriculture. All the people who attended the consultative meetings plea the Government for compensation and collaborate with insurance companies for sustainability.

### **6.4. Conclusion**

The various adaptive strategies mentioned above have shown promise in mitigating human wildlife conflicts and crop damage; ongoing challenges require continuous Government support, effective policy implementation and community cooperation to ensure both wildlife conservation and the protection of local livelihoods.

## **7. Situation of HWC and Crop Damage due to Natural Calamities in Bhutan**

### **7.1 Key Findings**

The statistics provide enough evidence that HWC, natural disasters, and crop damage by wildlife are unquestionably on an upsurge across the country. The livestock population forecast by National Statistics Bureau (NSB), projects 342719 cattle population by 2034, an increase of 87822 numbers compared to 254897 cattle in 2022. The Integrated Agriculture and Livestock Census, 2022 report recorded 51892 farmers rearing livestock compared to 54149 in 2021. The farmers reported diseases, wildlife depredation deaths due to tiger and bear, and accidents as the top three causes that killed bovine livestock last year.

The support from the Government and relevant agencies is heterogeneous and does not meet the national uniform standard owing to the available funds, location, and severity of the incident.

The rural population calls for compensation under the Government budget as life has become difficult with fewer numbers of old-aged citizens maintaining their land at limited areas. The situation can take a very complex turn as the percentage of people renouncing agriculture can be huge in the coming years.

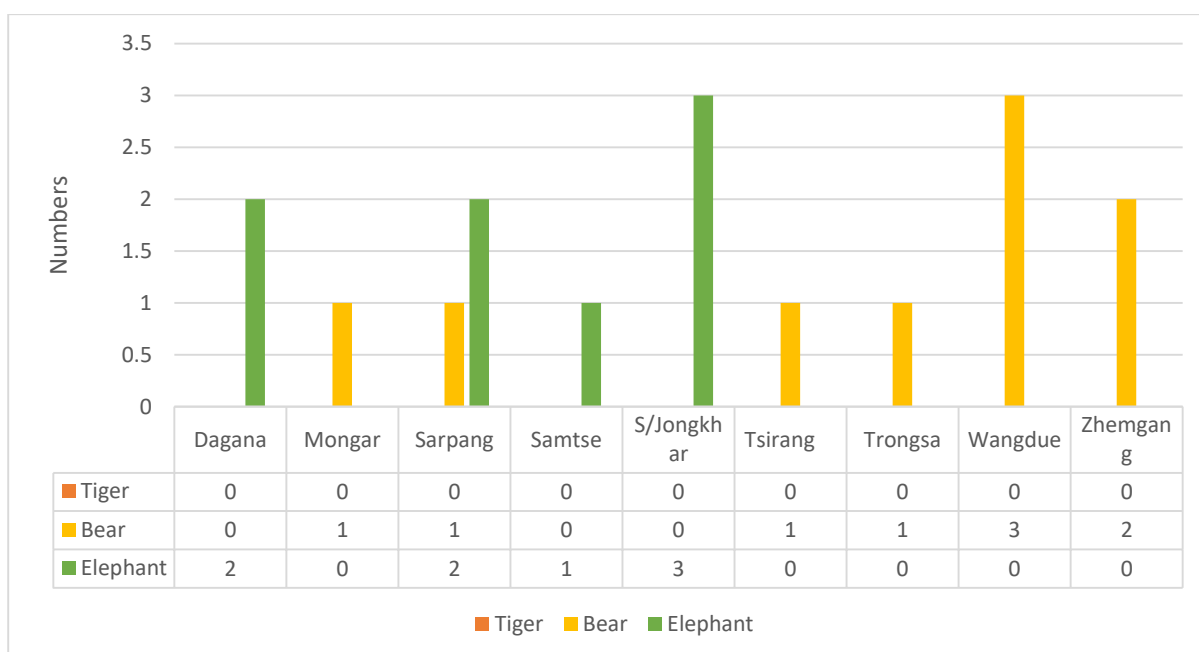
Dzongkhag	Bovine Livestock			Other Livestock		
	Disease	Wildlife predation	Natural Death	Disease	Wildlife predation	Natural Death
Bumthang	140	126	144	8	9	6
Chhukha	295	76	62	270	93	29
Dagana	276	75	51	1,064	437	39
Gasa	27	71	14	24	18	11
Haa	173	85	48	13	33	9
Lhuentse	285	123	84	158	161	37
Mongar	601	189	170	183	202	52
Paro	150	84	137	37	32	38
Pema Gatshel	197	32	54	56	40	32
Punakha	167	124	50	67	55	14
Samdrup Jongkhar	242	170	169	53	64	35
Samtse	403	43	176	1,383	773	563
Sarpang	184	16	66	204	68	93
Thimphu	117	106	53	34	17	7
Trashigang	728	213	248	124	80	51
Trashigang Yangtse	286	149	99	75	49	23
Trongsa	123	324	60	22	56	17
Tsirang	158	3	15	347	45	16
Wangdue Phodrang	517	738	158	175	192	38
Zhemgang	330	258	121	105	100	40
<b>Total</b>	<b>5,399</b>	<b>3,005</b>	<b>1,979</b>	<b>4,402</b>	<b>2,524</b>	<b>1,150</b>

Table 6. Top three reasons for livestock death by Dzongkhag, 2021

Dzongkhag	Maize	Potato/ Buck Wheat	Areca Nut	Paddy	Species
Bumthang	7.1	3.05	-	3.9	Wild boar
Chukha	3.81	21.29	-	1.36	Wild boar, elephant
Dagana	32.32	46.15	-	29.6	Wild boar, elephant, monkey
Lhuentse	86.09	25.5	-	37.3	Wild boar, monkey, rodent
Paro	-	16.66	-	1.2	Deer, wild boar
Punakha	3.2	7.4	-	12.6	Wild boar, monkey, deer, rodent
Samdrup Jongkhar	3.1	2.3	13	1.3	Elephant, wild boar
Samtse	13.92	2.2	0.22	-	Elephant
Sarpang	53.12	-	32	-	Elephant, wild boar, deer, porcupine, monkey
Trongsa	129.96	95.02	-	197.546	Wild boar, monkey, rodent
Wangdue Phodrang	0.9	1.4	-	5.69	Wild boar, deer

Table 7. Summary of wild conflicts with crops (area affected in acres) 2012-2015

Bar graph 2. Human Casualty Data (2020-2024)



Source: Zhemgang Forest Division and Bhutanese newspapers

## **8. General Observation**

### **8.1. Agricultural Production Decline**

Agricultural production has seen a decrease in the last few years. The reasons upon discussion with the people shared that they could not handle the HWC, crops damaged by wildlife the most and to a certain percentage by natural disasters. Main cereal production in 2022 decreased by 8% (6319 MT) compared to 2021, and harvest areas have been shrinking since 2020. According to DoA, Bhutan saw an average annual rice decline of 11 %, (26,680 MT in 2022 compared to 41,520 MT in 2018), while the agricultural sector is vital for most of Bhutan's population but the crop production has been declining.

### **8.2. Increase in the Import of Food Items**

The issue is alarming as the decline in crops production is the sole reason for the food import rise. As per the Bhutan Trade Statics 2021-2022, the country exported 1.41MT of rice in contrast to imported 68,376 MT of rice. Similarly, the export was 9 MT and imported 79,317 MT in 2023.

### **8.3. Decreased in Indigenous and Increased in Hybrid Livestock Production**

In the livestock sector comparison, there is an interesting opinion as the number of local cattle has declined to 14% (254,897 cattle) in 2022, continuing a decline since 2006 (IALC 2022). The production has drastically increased due to the shift from local to improved hybrid cattle.

### **8.4. Local Economy/Living Standard Level**

As per the Bhutan Living Standard Survey 2022 states that the economy in the rural communities has not improved due to low production. In general, a larger proportion of food items are imported and purchased in rural and urban areas. Among the imported and purchased food items, other cereals and pulses have the highest share at 68.8%, while vegetables have the lowest share at 37.6%.

### **8.5. Inadequate Harmonization of Existing Policies within the Line Ministries**

The NREC also found out that there is a lack of harmonization of policies amongst relevant stakeholders.



#### **8.6. Endure Friendly Scientific Agricultural Practices**

The community has not considered the modern and scientific approaches of farming to mitigate the HWC, and crop damages by wildlife. For instance, mixed farming, mixed cropping, and planting crops along the boundary are not friendly to wild animals. Example; tea and coffee plantations, bamboo, etc.

#### **8.7. Limited Alternative Livelihood Approaches**

The communities have recently tried to start alternative livelihood approaches to mitigate the high rate of HWC, natural disasters, and crop damage by wildlife. For instance, in some of the Dzongkhags eco-tourism, home-stays, production using forest raw materials like “dhapa, bangchung” etc.

#### **8.8. Limited Access to Government Funds for Compensation**

The Government is well aware of the burning issue but they expressed regret not being able to keep separate Government funds for the compensation.

#### **8.9. Financial Institutions to Re institute Insurance Scheme**

The absence of the compensation scheme is factual but the financial institutions were reluctant due to huge payments, without the Government’s support the public will not be able to participate.

#### **8.10. Weak Coordination at Inter-Sectorial Taskforce**

The absence of coordination among sectorial taskforce starting from the grass-root till the central has caused confusion and delays in timely support.

## **9. Recommendations**

- i. The Ministry of Energy and Natural Resources, Ministry of Agriculture and Livestock, and Ministry of Home Affairs to harmonize existing policies on compensation.
- ii. The Government to strengthen the inter-sectorial taskforce (the National Disaster Management Authority shall comprise; the Prime Minister (ex-officio Chairperson; the Minister of Home and Cultural Affairs, who shall be the ex-officio Vice Chairperson; the Finance Minister; the Secretaries of all Ministries; the Head of the National Environment Commission; the Secretary of the Gross National Happiness Commission; President of Bhutan Chamber of Commerce and Industry, the Head of the Department of Disaster Management, who shall be the Member-Secretary; and Such other member as may be co-opted under the rules framed under this Act) for collaborative funding initiatives along with dedicated budget.
- iii. The Ministry of Agriculture and Livestock to initiate an insurance scheme in collaboration with RICBL and BIL at the earliest. (Annexure 1)
- iv. The Government to allocate a sustainable compensation budget annually.
- v. The Ministry of Agriculture and Livestock to strengthen the scientific approach of farming to build friendly coexistence.
- vi. The relevant agencies to initiate relocation of isolated settlements under the regular HWC in collaboration with the National Land Commission.

## **10. Conclusion**

The assessment on HWC, natural disasters, and crop damage provided ample opportunity to mention the difficulties faced by 60% of the population trying to contribute to the nation through GDP and self-employment. The HWC, natural disasters, and crop damage are annual phenomena leading to loss of properties, livelihoods, life, environmental damage, and food security.

Considering these issues necessitates policy harmonization to improve the mitigation measures, compensation based on genuineness, good administrative process to collect the data, and report for timely equitable distribution of compensation and resources is critical to support affected communities and conservation partners support for continued project funds to the settlements under various state reserve forest, will encourage the farmers to continue with the profession dating back to the earliest civilizations.

Furthermore, empowering the local communities, investing in capacity building, awareness campaigns, and regular engagement with stakeholders can address emerging challenges. Applying these procedures will enhance the farming area and production, ease rural-urban migrations, increase GDP, increase employment, and reduce satong, etc. in Bhutan.

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## **Annexure 1**

### **Proposal on Introduction of National Agriculture and Livestock Insurance Scheme in Bhutan Ministry of Agriculture and Livestock & Ministry of Energy and Natural Resources [FINAL DRAFT]**

#### **1. Background**

The Ministry of Agriculture and Livestock (MoAL) erstwhile the Ministry of Agriculture and Forests (MoAF) has initiated the introduction of National Crop and Livestock compensation scheme since 2016. The proposal was submitted to the Ministry of Finance in 2017 but the Ministry of Finance has not approved the proposal in view of the limited resources. Similarly, the Ministry also submitted the proposal on crop and livestock insurance in 2021 to the cabinet after which it was reverted to the Ministry of Finance for review. The proposal was also not recommended by the Ministry of Finance considering financial implication to the Government and due to lack of clarity in administration of the scheme which appeared to be complicated.

#### **2. Context**

Realizing the importance of providing the safety net for farmers to encourage enhanced agriculture and livestock farming in the country, the Ministry of Agriculture and Livestock is reinitiating to introduce the national crop and livestock insurance scheme. The past proposal could not be approved by the Ministry of Finance in view of huge cost implication to the Government and unclear administrative mechanism as the proposals were spread across all the crop and livestock commodities. The past proposals also did not contain clarity on direct cost implication to the Government on insurance premium subsidy. The proposal submitted in 2021 proposed for higher premium rates for both crop and livestock.

However, the current proposal of the Ministry is clear, focused and with lower premium rates. The current proposal focuses on seven selected commodities which include paddy, maize, potato, orange, cattle, poultry and piggery. The proposal also contains concrete cost implication to the Government if the scheme is introduced providing clarity for decision making purpose. The proposed premium rates for crop and livestock insurance are 5.8 percent and 15 percent (Year 1) and 10 percent (Year 2 and beyond) respectively which are lower than 8 percent for crop and 15 percent for livestock in the past proposals.

#### **3. Rationale**

The agricultural sector is highly vulnerable to the impact of climate change and other natural calamities including the emergence of pests and diseases. For instance, the incessant rainfall from October 16-21 in 2021 has affected more than 2,500 acres and caused crop loss of about 2,400 MT in 17 Dzongkhags. Between 1996 and 2021, outbreaks of 13 different notifiable animal diseases were reported across the country (National Nutrition Strategy and Action Plan, 2020). More than 1187 acres of cultivated land were damaged by natural calamities and wildlife depredation amounting to the crop loss of more than 1154 MT in 2015. 2500 acres of crop were damaged by incessant rain in October 2016 resulting to the loss of around Nu. 165 million. 2100 Livestock were killed by animal diseases within the period January to August 2023. 594 Yaks were killed by snow in 2022 while 117 Yaks were killed by wildlife depredation in the same year. The loss totalled to 711 yaks in 2022 amounting to the loss of Nu. 35.55 million

Crop and livestock depredation by wild animals are one of the major reasons for low agriculture and livestock production in spite of productivity being on the rise, and increase in the fallow land. The National Impact Assessment Report on Electric Fencing, 2021 reports that farmers suffer crop loss between 19% to 43% annually due to wildlife damage despite guarding their fields for 3-4 months. Wildlife depredation caused crop production loss of around 516 MT in 2015 and 1319 MT in 2014 which is a loss of Nu. 22.7 million and Nu. 58.03 million respectively. 142 cattle were killed in the Trongsa Tiger incidences in 2021 and the compensation paid amounted to Nu. 93120. However, the loss is estimated at Nu. 7.1 million.

According to the Integrated Agriculture and Livestock Census of Bhutan 2022, Crop and livestock productions are the significant and growing source of income and growth in many developing worlds. Approximately crop and livestock sector contributed 10.52 and 5.71 percent to the overall GDP growth in 2021. The rural households partially or fully depend on crop and livestock for their livelihoods.

While it is clearly understood that the agricultural sector plays vital role in providing livelihoods to the majority of Bhutan's population, there has been decreasing trends of crops and livestock productions. The main cereals productions in 2022 have decreased by 8 percent as compared to 2021 which is a decrease by 6319 MT (IALC 2022). The harvest areas have also been decreasing since 2020. Similar case is with the livestock where there was a decrease of 14 percent in cattle population in 2022. The IALC 2022 also stated that there has been gradual decrease in cattle population since 2006.

The decreasing trends in both the crop and livestock sector is a growing concern and it merits timely interventions to ensure rural economic growth, improved rural livelihoods and enhance farmer's income contributing to solve other national issues such as urban unemployment, youth unemployment and rural-urban migration among others.

Therefore, the Ministry of Agriculture and Livestock strongly feels that the right and crucial time has come for Bhutan to introduce "National Crop and Livestock Insurance Scheme".

#### **4. Objective of the Insurance Scheme**

The National Crop and Livestock Insurance Scheme desires to meet the following broad objectives:

- a) To provide insurance coverage to the farmers in the event of crop failure and livestock losses due to the natural disasters, pests & diseases and wildlife depredation;
- b) To encourage farmers in doing commercial agricultural farming with larger investment; and
- c) To safeguard food security and food self-sufficiency through enhanced agricultural works

#### **5. Coverage of the scheme**

This national crop and livestock insurance scheme shall cover two broad insurance schemes as follows:

- Crop insurance for prioritized crops
- Livestock insurance for selected livestock

## **6.1. Crop Insurance**

The Ministry of Agriculture and Livestock and Ministry of Energy and Natural Resources propose to pilot the national crop insurance with the selected crops which are paddy, maize, potato and orange.

### **6.1.1. Perils covered**

Damage of the prioritized crops due to the following perils shall be covered;

- 6.1.1.1. Weather: Rainfall, storm, tempest, flood, inundation, hailstone, drought.
- 6.1.1.2. Landslide/rockslide;
- 6.1.1.3. Pest & diseases;
- 6.1.1.4. Forest fire (excluding damage to crops from burning of debris);
- 6.1.1.5. Damage to crops by wild animals

### **6.1.2. Insurance Period**

The insurable period for the crop shall be from sowing till the harvest season. Only standing crops shall be insurable. Thus, the insurance shall not cover the post-harvest loss of those prioritized crops. Any loss or damage to the harvested crops by any of the mentioned perils shall not be payable.

### **6.1.3. Sum Insured and Premium (Crops)**

For the purpose of calculating the Sum Insured (SI), the estimated yield per acre of the total land under cultivation shall be used and the historical data on yield per acre, and total cultivated land size will be considered to estimate the sum insured. Thus, different crops will have different SI and premium amount. The proposed premium rate for crop insurance (paddy, maize, potato & orange) is 5.8 percent of the Sum Insured (SI).

The farmers shall have options for insuring 100 or 50 percent of the sum insured. However, the mixing of two options for the same plot of land shall not be allowed.

### **6.1.4. Franchise Limit**

Franchise limit of 5% will be applied. The franchise limit means, if the loss amount is less than 5% of the insured value, the loss amount will not be payable. However, when the loss amount exceeds the limit, the full amount of assessed loss will be paid.

### **6.1.5. Premium payment**

The premium shall be paid at the time of planting/sowing the seeds. The premium should be paid by the farmers based on the estimated yield. The insurance companies shall revise the premium if the combined loss ratio exceeds 90% of the individual product in consultation with concerned agency.

### **6.1.6. Compensation (Pay-out)**

The insurance companies shall compensate the farmer as and when an insured event takes place beyond the franchise limit. The claim shall be disbursed directly to the insured/policy holder.

### **6.1.7. Exclusion**

Crop loss, damage or failure due to the following reasons shall not be compensated:

- 6.1.7.1. The burning of the crop by order of any public authority.
- 6.1.7.1. Fire during harvest due to spark originating from engine exhaust and/or other hot machinery parts on harvesters and/or tractors.
- 6.1.7.1. Malicious, wilful act or gross negligence of the Insured or any of his representative(s) or employee(s).
- 6.1.7.1. Any peril not specifically covered under the policy.
- 6.1.7.1. Consequential loss whether or not caused by an insured peril.
- 6.1.7.1. Theft / clandestine sale of the Insured Crop.
- 6.1.7.1. Intentional destruction of the Insured Crop.
- 6.1.7.1. Loss occurring prior to the commencement of risk.
- 6.1.7.1. Loss, damage cost or expense directly or indirectly caused by, resulting from or in connection with any act of terrorism regardless of any other cause or event contributing concurrently or in any other sequence to the loss.
- 6.1.7.1. Any crop which has been harvested without the consent of the company upon happening of a claim prior to loss assessment.
- 6.1.7.1. Directly or indirectly connected with or traceable to war, invasion, act of foreign enemy, hostilities (Whether war be declared or not) civil war, rebellion, revolution, insurrection, mutiny, tumult, military or usurped power, seizure, capture, arrests, restraints and detainment of all kinds or any consequences thereof. (to be taken up during meeting with CEOs)
- 6.1.7.1. Loss occurring due to industrial pollution and / or toxic waste.
- 6.1.7.1. Any expenses incurred by an Insured Person in connection with or in respect of any loss, howsoever caused, even if such loss results in diminished agricultural output or yield

## **6.2. Livestock Insurance**

The Ministry of Agriculture and Livestock propose to pilot the national livestock insurance with the selected livestock which are cattle, piggery and poultry. The livestock insurance shall consist cattle, piggery and poultry insurance as separate insurance product.

### **6.2.1. Cattle Insurance**

#### **6.2.1.1. Scope of the cover**

The Policy shall provide indemnity against the death of cattle against the following:

- Disease (Inclusive of rinderpest, black quarter, hemorrhagic, septicemia, anthrax, FMD, theileriosis) contracted or occurring during the period of this policy as long as they are vaccinated as per the recommended vaccination regime.



- Accident (Inclusive of fire, lightning, flood, storm, earthquake).
- Emergency slaughter on advice of a qualified veterinary surgeon.
- The death of the cattle due to attack by wild animal when within the range of 500 meters crow-flight distance from a barn or graze land.
- Disablement: An animal getting disabled due to any accidents within the insurance policy period will be covered. However, any death to animal due to the same disablement shall not be covered.
- Death or disablement caused by covered perils during the course of traditional cattle migration within the specified locations as prescribed in the policy.

#### **6.2.1.2. Insurable Age Group**

Animals between the age of 6 months to 12 years shall be accepted for insurance. Cover beyond the above age limit shall be subject to loading of 10% on the premium of the preceding year and a certification by a qualified veterinary health professional for each subsequent year.

#### **6.2.1.3. Sum Insured**

The market value of cattle varies with breed, area and time. The examining veterinarian's recommendations shall be considered as the proper guide for acceptance of insurance as well as for settlement of claims. Wherever possible, high valued (More than Nu.25,000) animals shall be inspected by the Company's representative. Sum Insured will not exceed 100% of current market value of the animal. Each insured animal shall have machine readable microchips implanted into the animal. The microchip shall contain the details of the animal.

#### **6.2.1.4. Premium**

The premium rate for the cattle insurance shall be 15 percent of the SI for new proposal and 10 percent of the SI for renewal of the proposal.

### **6.2.2. Poultry Insurance**

#### **6.2.2.1. Scope of Cover**

The Policy shall provide indemnity against the death of birds (Broiler and Layer birds both indigenous and exotic birds) due to accidents (Including fire, lightning, flood, cyclone/ storm/ tempest/ earthquake or diseases, contracted or occurring

during the period of insurance and death of birds caused by wildlife attack, subject to the exclusions. In cases where destruction is necessary to terminate incurable suffering on human consideration on the basis of certificate issued by a qualified veterinarian or in cases where destruction is resorted to by the order of lawfully constituted authority.

**6.2.2.2. Sum Insured**

Sum insured under the policy will be the current market value of the birds or as provided by the concerned authority, whichever is lower. The market value varies with breed, area and time. The franchise limit for the poultry insurance shall be 5 percent of the total sum insured.

**6.2.2.3. Premium**

The premium for each layer shall be 10 percent of the SI while the premium rate for broilers would be determined on short period scale as follows:

<b>Period (Not Exceeding)</b>	<b>1 Week</b>	<b>1 Month</b>	<b>2 Months</b>
<b>Rate (Annual Rate)</b>	<b>10 % of AR</b>	<b>25% of AR</b>	<b>35% of AR</b>

**6.2.2.4. Insurable Age Group**

The insurable age group for layers shall be from 1 day to 100 weeks of age while it shall be 1 to 45 days for broilers. Compensation to the farmer shall be based on the value of the birds at the particular age it has achieved at the time of loss.

**6.2.3. Piggery Insurance**

**6.2.3.1. Scope of cover**

Accident (Inclusive of fire, lightning, flood, landslide, rockslide, inundation, storm, earthquake, tempest and famine) and diseases contracted or occurring during the period of the policy subject to the pigs being vaccinated as per the recommended programme. It also covers death due to surgical operations occurring during the period of insurance and carried out by qualified veterinary surgeons, and death of pigs caused by wildlife attack.

In cases where destruction is necessary to terminate incurable suffering on human consideration based on certificate issued by a qualified veterinarian or in cases where destruction is resorted to by the order of lawfully constituted authority.

### 6.2.3.2. Sum Insured

The Sum Insured will be the Current market value of the animal determined by the concerned authority and it is subjected to revaluation during every renewal as the market value varies with breed, area and time.

### 6.2.3.3. Premium

While the premium rate for breeder shall be charged at 10 percent of the total SI, the premium rate for fatterer shall be calculated on the basis of short period scale as follows:

Period (Not Exceeding)	4 Months	6 Months	7 Months	8 Months	Exceeding 8 Months
Rate (Annual Rate)	60% of AR	75% of AR	80% of AR	85% of AR	Full Premium

### 6.2.3.4. Insurable Age

2 months to 6 years of age for Breeder and 2 to 9 months for Fattener. The insurance for breeders can be done on annual basis, and can be renewed.

### 6.2.4. Exclusion

The policy shall not cover the cost of death or loss of livestock due to the following reasons:

- Malicious or wilful injury or neglect, unskillful treatment or use of animal for the purpose other than stated in the policy.
- Accidents occurring and/or diseases contracted prior to the commencement of risk.
- Mandatory slaughter of animals in the case of epidemic or pandemic as declared by the competent authority.
- Theft or clandestine sale of the insured animal.
- War, Invasion, the act of foreign enemy, hostilities (Whether war be declared or not), civil war, rebellion, revolution, insurrection mutiny, tumult, military or usurped power or any consequences thereof or attempted threat.
- Any accident, loss destruction, damage or legal liability directly or indirectly caused by or contributed to by arising from nuclear weapons.
- Consequential loss of whatsoever nature
- Transport by air, land and sea.
- Diseases contracted within 15 days from the date of commencement of the risk.
- Disability of any nature may it be permanent or temporary for poultry and piggery.

- Disability of any kind, Breeding and farrowing risk, Swine Fever is covered if it is inoculated and a Veterinary Certificate is issued.

### **6.3. Government Subsidy Input on Premium**

The Ministry of Agriculture and Livestock and Ministry of Energy and Natural Resources would like to propose institutionalizing the crop and livestock insurance with the provision of Government subsidy on the premium payment. The Government subsidy on payment of premium for crop and livestock insurance is proposed to be 80 percent of the total premium and 20 percent by the farmers. The share of Government subsidy for premium payment for each commodity is proposed in the following:

#### **6.3.1. Crop insurance premium**

**Paddy:** Of the 5.8 percent premium, the Government shall pay 4.64 percent of the total SI and the farmers shall pay 1.16 percent. Example: If a farmer insures 1 acre of paddy, the SI (compensation payable) calculated will be Nu. 86880 and for that SI, the premium payment will be Nu. 5039. Of that premium, Government shall pay Nu. 4031.2 and the farmers will pay Nu. 1007.8

**Maize:** Of the 5.8 percent premium, the Government shall pay 4.64 percent of the total SI and the farmers shall pay 1.16 percent. Example: If a farmer insures 1 acre of maize, the SI (compensation payable) calculated will be Nu. 56400 and for that SI, the premium payment will be Nu. 3271. Of that premium, Government shall pay Nu. 2616.96 and the farmers will pay Nu. 654.2.

**Potato:** Of the 5.8 percent premium, the Government shall pay 4.64 percent of the total SI and the farmers shall pay 1.16 percent. Example: If a farmer insures 1 acre of potato, the SI (compensation payable) calculated will be Nu. 99500 and for that SI, the premium payment will be Nu. 5771. Of that premium, Government shall pay Nu. 4616.8 and the farmers will pay Nu. 1154.2.

**Orange:** Of the 5.8 percent premium, the Government shall pay 4.64 percent of the total SI and the farmers shall pay 1.16 percent. Example: If a farmer insures 1 acre of orange orchard, the SI (compensation payable) calculated will be Nu. 302500 and for that SI, the premium payment will be Nu. 17545. Of that premium, Government shall pay Nu. 14036 and the farmers will pay Nu. 3509.

#### **6.3.2. Livestock Insurance**

**Cattle insurance premium:** Of the 15 percent premium for first year, the Government shall pay 12 percent while farmers pay the 3 percent; and of the 10 percent for renewal, the Government shall pay 8 percent and farmers shall pay 2 percent. Example: If a farmer insures 1 cattle, the SI (compensation payable) calculated will be Nu. 72500 and for that SI, the premium payment will be Nu. 7250. Of that premium, Government shall pay Nu. 5800 and the farmers will pay Nu. 1450.

Poultry and piggery insurance premium: Of the 10 percent premium for the poultry and piggery, the Government shall bear 8 percent and farmers shall bear other 2 percent. Example: If a farmer insures 100 birds, the SI (compensation payable) calculated will be Nu. 42000 and for that SI, the premium payment will be Nu. 4200. Of that premium, Government shall pay Nu. 1680 and the farmers will pay Nu. 420.

Example: If a farmer insures 1 pig, the SI (compensation payable) calculated will be Nu. 32240 and for that SI, the premium payment will be Nu. 3224. Of that premium, Government shall pay Nu. 2579.2 and the farmers will pay Nu. 644.8

#### 6.4. Cost implication to the Government for premium subsidy

##### 6.4.1. Crop insurance

The random sampling survey conducted on the willingness of farmers across the country indicated that more than 70 percent of the respondents would insure if the scheme is introduced. Thus, considering the limitation of sampling size, we assume that the 70 percent respondents would at least indicate that 50 percent of the total farmers in Bhutan are willing to insure. Therefore, the cost table below calculated the cost to the Government to pay premium subsidy if 50 percent of total farmers insure their crops:

Product	Cultivated Land (Acre)	Yield (MT/Acre)	50% SI (Nu. in million)	Total Premium Payable	Premium Share (Nu. In Million)							
					Farmer 40%	Govt 60%	Farmer 50%	Govt 50%	Farmer 30%	Govt 70%	Farmer 20%	Govt 80%
Paddy	11341.50	1.81	985.18	57.14	22.86	34.28	28.57	28.57	17.14	40.00	11.43	45.71
Maize	9214.50	1.41	519.62	30.14	12.06	18.08	15.07	15.07	9.04	21.10	6.03	24.11
Potato	3910.00	3.98	389.33	22.58	9.03	13.55	11.29	11.29	6.77	15.81	4.52	18.06
Orange	3246.59	2.75	982.09	56.96	22.78	34.18	28.48	28.48	17.09	39.87	11.39	45.57
<b>Total</b>			<b>2876.21</b>	<b>166.82</b>	<b>66.73</b>	<b>100.09</b>	<b>83.41</b>	<b>83.41</b>	<b>50.05</b>	<b>116.77</b>	<b>33.36</b>	<b>133.46</b>

The total annual cost to the Government for crop insurance premium subsidies will be Nu. 133.46 million if the Government covers 80% of the premium. The cost implications of premium sharing are also indicated at various levels of premium contribution between the Government and farmers.

##### 6.4.2. Livestock insurance

Similar to the crop insurance, the willingness to insure indicated by the survey respondents was more than 70 percent and considering that the Ministry is assuming that the 70 percent respondents' willingness of the random sampling would represent at least 50 percent of the total livestock population will be insured by the farmers. Thus, the cost tabulation below shows the cost implication to the Government for payment of premium subsidy if 50 percent for the livestock population (cattle, piggery and poultry) is insured:

Product	50% Population	Market Value	50%SI (Nu. In Million)	Premium Payable (Nu. In Million)	Premium Share (Nu. In Million)							
					Farmer 40%	Govt 60%	Farmer 50%	Govt 50%	Farmer 30%	Govt 70%	Farmer 20%	Govt 80%
Cattle	142928	72500.00	10362.28	1554.34	621.74	932.61	777.17	777.171	466.3026	1088.0394	310.8684	1243.4736
				1036.23	414.49	621.74	518.11	518.11	310.87	725.36	207.25	828.98
Poultry	487576	420.00	204.78	20.48	8.19	12.29	10.24	10.24	6.14	14.33	4.10	16.38
Piggery	16541	32240.00	533.28	53.33	21.33	32.00	26.66	26.66	16.00	37.33	10.67	42.66
<b>Total</b>			<b>11100.34</b>	<b>2664.38</b>	<b>1065.75</b>	<b>1598.63</b>	<b>1332.19</b>	<b>1332.19</b>	<b>799.31</b>	<b>1865.06</b>	<b>532.88</b>	<b>2131.50</b>

As portrayed in the table above, the total annual cost to the Government for payment of premium subsidy for livestock insurance will be Nu. 2131.50 million at the proposed premium share of 80 percent.

#### **6.4.3. Total cost implication to the Government**

The premium payment cost implications for the Government and farmers are evaluated under different scenarios with three options for benefits:

Population Willing to Insure:

50% of the population willing to insure

30% of the population willing to insure

20% of the population willing to insure

#### **Benefit Claim Options:**

Option 1: 100% of the sum insured (SI) and 100% of the premium rate

Option 2: 50% of the SI benefits with 50% of the premium rate

Option 3: Mixed model, including 50% of the claim with 100% benefit and 50% claim with 50% benefits

These scenarios provide a comprehensive view of the financial responsibilities for both the Government and the farmers under varying levels of participation and benefit structures. The Ministry would like to submit that the proposed Government share for the payment of premium subsidy varies from one commodity to another. The total cost to the Government for the insurance scheme would be Nu. 2264.96 million, annually, if 50% of the population insure 100% benefit. Detailed breakdowns are indicated in the table below:

50% of population insured (Nu. In Billion)					
Insurance premium options	Premium	Farmer (50%)	Govt (50%)	Govt (80%)	Farmer (20%)
100% of SI Benefit	2.83	1.42	1.42	2.26	0.91
50% of SI Benefit	1.42	0.71	0.71	1.13	0.45
Mixed model	2.12	1.06	1.06	1.70	0.68
30% of population insured					
Type	Premium	Farmer (50%)	Govt (50%)	Govt (80%)	Farmer (20%)
100% of SI Benefit	1.70	0.54	0.54	1.36	0.34
50% of SI Benefit	0.85	0.42	0.42	0.68	0.17
Mixed model	1.27	0.44	0.44	1.02	0.25
20% of population insured					
Type	Premium	Farmer (50%)	Govt (50%)	Govt (80%)	Farmer (20%)
100% of SI Benefit	1.13	0.36	0.36	0.91	0.23
50% of SI Benefit	0.57	0.28	0.28	0.45	0.11
Mixed model	0.85	0.42	0.42	0.68	0.12

#### 6.4.4. Funding source and mechanism

The fund for payment of Government's premium subsidy of the scheme shall be mobilized from RGoB's budget allocation and various possible sources contributing to Government's premium subsidy. The fund mobilization and financing source is proposed to be established through innovative financing solutions in order to reduce annual cost implication to the Government.

The Governments premium subsidy payment is proposed to be channeled as an annual injection to the insurance companies upon verification and validation of the total sum insured in a year. The premium subsidy payment shall also depend on the seasonal nature of the crops in which case the payment shall also be as per the crop seasons.

## 6. Expected Benefits from the Insurance Scheme

The proposed insurance scheme shall have the following benefits:

- 7.1. Financial Protection for Farmers:** Agricultural insurance schemes can provide financial protection to farmers against unforeseen losses and damages to their crops, livestock, and agricultural assets. By compensating farmers for their losses, insurance can help stabilize their incomes and prevent them from falling into poverty in the event of a disaster or production failure. This financial cushion would enable farmers to recover and reinvest in agriculture, ensuring the sustainability of their operations.

- 7.2. **Risk Management and Investment:** The introduction of agricultural insurance schemes encourages farmers to adopt risk management practices and make informed investment decisions. With access to insurance, farmers can confidently make long-term investments, such as purchasing improved seeds, modern farming equipment, and efficient irrigation systems. Insurance coverage incentivizes farmers to adopt innovative agricultural practices and technologies, leading to increased productivity and profitability.
- 7.3. **Climate Change Adaptation:** Agricultural insurance can play a crucial role in climate change adaptation by providing a safety net for farmers affected by extreme weather events. As climate change leads to intensified weather patterns, including droughts, floods, and storms, farmers are more vulnerable to crop failures and production losses. By offering insurance coverage, farmers can protect their investments and adopt climate-smart farming techniques, such as crop diversification and water conservation, to reduce their exposure to climate risks.
- 7.4. **Enhancing Access to Credit:** Agricultural insurance schemes can enhance farmers' access to credit by reducing the risks associated with lending. When farmers have insurance coverage, financial institutions are more likely to provide them with affordable loans, as the insurance mitigates the potential losses in case of loan default. Improved access to credit allows farmers to access capital for investment, purchase inputs, and adapt to changing market conditions, thereby improving their overall productivity and income.
- 7.5. **Strengthening Rural Resilience and Food Security:** Introducing an agricultural insurance scheme contributes to strengthening rural resilience and ensuring food security. By protecting farmers' incomes and investments, insurance reduces the likelihood of rural-urban migration and helps maintain vibrant rural economies. Furthermore, ensuring stable agricultural incomes through insurance coverage promotes sustainable food production, storage, and distribution, contributing to overall food security at the national level.

## 7. Associated Risks with the Insurance Scheme

Despite all those aforementioned benefits that the introduction of national crop and livestock insurance scheme is going to provide, there are certain risk and challenges foreseen. Those includes the following:

- 8.1. **Yield and Price Volatility:** Agricultural production and prices can fluctuate significantly due to factors such as weather conditions, pests, diseases, and market prices. Insurers face the risk of having to pay claims if these factors adversely affect crop yields or market prices.
- 8.2. **Moral Hazard:** Agricultural insurance can create moral hazard issues, where farmers might neglect proper risk management practices knowing that they are covered by insurance. This can lead to increased claims and higher costs for insurers.
- 8.3. **Adverse Selection:** Adverse selection occurs when higher-risk farmers are more likely to purchase insurance, while lower-risk farmers may choose to opt out. This can result in an increased likelihood of claims and can potentially pose financial strain on insurers.



- 8.4. Catastrophic Events:** Agricultural insurance is particularly vulnerable to catastrophic events such as droughts, floods, or storms that can cause widespread damage to crops. Insurers must be prepared to handle large-scale claims in the event of these disasters.
- 8.5. Accuracy of Loss Assessment:** Assessing the extent of crop loss or damage accurately can be challenging, especially in cases where the losses are due to ambiguous factors like market conditions. The risk of inaccurate loss assessment can lead to disputes between insurers and farmers.
- 8.6. Regulatory and Policy Changes:** Regulatory changes in Government policies related to agricultural insurance can impact the market dynamics, coverage, and pricing. Insurers must adapt to these changes, which may pose risks and uncertainties.

## **8. Approval**

Approval of the Lhengye Zhungtshog is hereby sought for the institution of national crop and livestock insurance in the country on pilot basis. The proposed insurance premium rates and Government share is proposed for an approval of the Lhengye Zhuntshog as follows:

**Crop insurance:** The premium rate for the crop insurance is proposed to be 5.8 percent of the total premium. The premium share of the Government for crop insurance is proposed to be 80 percent of the premium.

**Livestock insurance:** The premium rate for livestock insurance shall be 15 percent for cattle in the first year and 10 percent beyond second year while the premium rate for piggery and poultry will be 10 percent. The premium share of the Government for livestock insurance is proposed to be 80 percent of the premium.