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BHUTAN: BIODEMOCRACY & RESILIENCE

#bhutanbbr2019

(Proceedings of the First Bhutan
Biodemocracy and Resilience Conference
held in Thimphu on 19 July 2019)

CENTRE FOR THE
STUDY OF
DEMOCRACY

UNIVERSITY OF
WESTMINSTER

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Center for Local Governance & Research

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BHUTAN: BIODEMOCRACY AND RE...

19 July 2019

Center for Local Governance and Research

Bhutan Trust Fund for Environmental Conservation and



RESILIENCE CONFERENCE

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Preface

Bhutan has long been a paradigm of holistic thinking and an exemplar of a mindful approach to complex issues of material and spiritual existence. As humankind navigates the many unfolding ecological, economic, spiritual, and political crises of contemporary times, critical thinking across conventional disciplinary boundaries has become ever more urgent. In this context, Bhutanese deliberation on how to build a better society through foreseeing challenges, creating knowledge and building capacity assumes a vital role; not just for the Bhutanese, but for the world.

The collaboration between Centre for the Study of Democracy (CSD) and Center for Local Governance & Research (CLG) developed as an ideational endeavour from our many productive conversations. We wanted to be able to create a space for thinking ideas so that people from many different walks of life with experiences and expertise could come together and imagine the best ways to build resilience and conceptualise a 'biodemocracy'. Thus, we conceived of #bhutanbbr2019.

In this report of the 'Bhutan Biodemocracy and Resilience 2019 Conference' proceedings, we aim to provide an overview of intellectual and practical ideas that were exchanged on 19 July 2019. The summaries provided in this report are just that – summaries; they are meant to give the reader an idea of the discussions that traversed a wide variety of topics. As you will see, the panels ranged from 'rethinking the economy mindfully' to 'contemporary challenges' to 'education' to focusing on 'specific policy domains'. We were honoured that all our speakers had worked hard on their presentations and that the audience was appreciative and appropriately inquisitive. We hope that in due course we would be able to put together a larger volume with the scholarly and referenced versions of these papers.

The term biodemocracy, like democracy perhaps, lends itself to many different interpretations; we think that is a good thing. On our part, we continue to explore our own visions of biodemocracy, and how best to see



Bhutan as a biodemocracy. We think that such a conceptualisation is useful for several reasons. Firstly, it allows us to explicitly recognise in analytical terms the interdependence of all life forms. Biodemocracy allows us to think of a spectrum that ranges from political ecology at one end to ecological politics at the other, and many complex challenges can gain coherence through how they are situated along the spectrum. Secondly, building resilience in the anthropocene requires us to think of technology not just in digital terms, but also as ways of doing things and potentialities for organising spaces and societies. Here, the relationship between the organic and engineered again becomes something that requires careful policy-making and communication. Thirdly, in an era of impending global ecological disasters, there is an overarching responsibility of democracy as a system towards the people and the planet. Thinking through how consciousness and consent around responsible production and consumption can emerge under such conditions is vital. Fourthly, the biological and ecological challenges are also, to an extent, interlinked with what role we envision for narratives of feeling and experience when it comes to these challenges and their mitigation.

Being able to carry forward the first steps that we have taken so far - through a continued series of events - would also help us to better understand and analyse the people-centred nature and orientation of policy processes. Most importantly, we hope that this is just the start of a sustained and fertile collaboration between thinkers and doers across the spectrum that grows meaningfully and continues long into the future.

Tashi Delek!

Nitasha and Sangay

19 August 2019





1. Introduction

The Center for Local Governance and Research, Bhutan in collaboration with the Centre for the Study of Democracy, University of Westminster, London, UK organised a one-day conference on the theme 'Bhutan: Biodemocracy and Resilience' on 19th July 2019 in Thimphu, Bhutan.

The aim of the conference was to emphasise the good environmental lessons from Bhutan and to deliberate upon what can be done further to build more resilience for the twin environmental and developmental challenges of the future. The conference provided an opportunity to highlight the lessons the world can learn from Bhutanese experience and reflect upon how Bhutan can best continue on its unique developmental trajectory that combines wellbeing and development with care for the environment.

As intended, the conference brought together Bhutanese people from many domains of life - scholars, policymakers, professionals, business persons, parliamentarians, teachers, entrepreneurs, citizens active in media, non-governmental and civil society sector, and students - to think about these challenges, share knowledge, experience and learn in a cooperative and non-partisan environment.

The Conference had an eclectic group of speakers who illuminated on specific areas and topics relating to the following broad themes:

- *Re-thinking the economy mindfully – what are the crucial issues that lie at the intersections of Economy, Development and Environment?;*
- *Conservation narratives for land and people - what kinds of narratives enable better conservation of ecologies and heritage?;*
- *Education and Policy - how can education embed and reproduce values that support policy-making for a better future?; and,*



- *Specific policy domains where Bhutan leads the world - how can these be amplified?*

The knowledge produced on building environmental and socioeconomic resilience on Bhutan's development trajectory as a sustainable biodemocracy is an asset to Bhutanese policy-making. It can enable the learning from experience and reflection; moreover, the Bhutanese experience may have a wider applicability outside Bhutan. This conference and workshop was a small step to producing a knowledge-bank that foregrounds the developmental challenges and highlights the possible responses to them.





2. Opening Remarks



2.1 Opening remarks by Tharchen, Executive Director, Center for Local Governance & Research



Mr. Tharchen, the Executive Director of Center for Local Governance & Research (CLG) made the opening remarks, expressing his heartfelt gratitude to the Honourable Speaker for taking out time to attend the first ever conference on Biodemocracy organised by Center for Local Governance & Research and Centre for the Study of Democracy (CSD), University of Westminster, London, United Kingdom. He also thanked the panel members and the rich mix of participants from all the 20 dzongkhags (provinces), some of whom had travelled long distances to attend the conference.

Highlighting the dual objectives of organising the conference, he stated that although Bhutan is known the world over for its pristine environment and strong conservation policies, it had become important for citizens at all levels to engage in honest discourse on environment policies at the national level. This was even more important to harmonise the noble visions of the enlightened monarchs, the policies of the elected government(s) and the hopes and aspirations of the people of Bhutan.

Secondly, Mr. Tharchen said that democracy has raised the expectations of the people, in the way elected governments deliver development promises. But beyond the passive role as recipients, people, who are at the centre of democracy, have far greater roles and responsibilities in shaping policies and legislations. And to this end, the conference brings together experts from various backgrounds to share their views and experiences and engage in healthy discourse, and through this platform, disseminate vital information to the people.



2.2 Opening Remarks by Dr. Nitasha Kaul, Centre for the Study of Democracy, University of Westminster, London, UK



Dr. Nitasha Kaul began by thanking the Chief Guest and all the participants for showing interest and enthusiasm in the first ever conference organised around 'Biodemocracy and Resilience' in Bhutan. Dr. Kaul briefly introduced the Centre for the Study of Democracy (CSD). It was established in 1989 as part of the School of Social Sciences at University of Westminster, London, UK. The Centre looks at critical political and social challenges in an interdisciplinary manner, focuses on research excellence, and hosts events and programmes globally through meaningful collaborations across national borders.

Dr. Kaul said she considers herself as a long-term, close friend of Bhutan and that her association with Bhutan started in 2006, prior to the transition to democracy. *'I was amazed by the unique way in which Bhutan was going about mindfully transitioning into a Constitutional Monarchy and a parliamentary democracy, in the way that is very rare in the world.'*

Dr. Kaul mentioned that between 2006 and now, she had travelled the world speaking to academics, policymakers and others, highlighting that Bhutan is actually doing things differently – be it the focus on various kinds of gradualism, focus on ecology, the way in which the transition happened, and the way in which democracy is fostered from the grassroots. All these things make Bhutan special. She underlined that often the question of 'where is Bhutan?' predominates any conversation rather than 'what Bhutan is?'

She said that Bhutan is a lot of wonderful things - it is a land GNH; it is a place with enlightened monarchy that had a unique transition to democracy; it is also the world's only carbon negative country; it is a functioning Asian welfare state; and most importantly in the current global climate, it is a place that can claim to be a biodemocracy that is mindfully moving ahead.

Dr. Kaul observed that democracy is facing massive challenges globally. The idea of democracy has become reduced to the algorithmic exercise of

counting the right number of votes for various kinds of coalitions or parties to come to power. However, she pointed out that beyond the exercise of franchise, democracy in its spirit is about understanding how we as sentient beings function in a domain that is political but not separated from the ecological. 'How we live in our environment, land, air, water - all of that is very much a part and parcel of how we participate in the decisions that happen.'

She expressed that it would be her cherished dream to have Bhutanese led deliberations about how these challenges can be best dealt within Bhutan so as to organise the space and resources to fulfil the dreams that the leaders of the country have always had. Dr. Kaul concluded by saying that she looks forward to this conference as the start of something that will pave way for meaningful collaborations in the future.

2.3. Keynote Address: Honourable Speaker, Tshogpoen Wangchuk Namgyel



The Chief Guest, Honourable Speaker Tshogpoen Wangchuk Namgyel, gave the keynote speech, highlighting how the concept of biodemocracy, while apparently new to Bhutan, has been deeply embedded in Bhutanese democracy.

The Honourable Speaker said that the discourse on deepening democracy and understanding democracy in relation with human beings has been prevalent in Bhutanese discourse. *'We have been discussing about how we must live in harmony with nature, co-exist ecologically. The concept of biodemocracy further deepens our understanding of democracy.'*

Reflecting on how Bhutan practises biodemocracy, Honourable Speaker Wangchuk Namgyel drew attention on spiritual harmony and how Buddhist mantras such as *'Ma nyam kha da nyam'* (*Our mother is as vast as the sky*) opens our mind to the view that everything in the world is our mother. Similarly, the Honourable Speaker also used the analogy of the *Four Harmonious Friends* to highlight the importance of peaceful co-existence and interdependence.



The Honourable Speaker said that besides the philosophical narrative, the Constitution of Bhutan has all the provisions of a biodemocracy. Article 5 of the Constitution states, *'Every Bhutanese is a trustee of the kingdom's natural resources and environment for the benefit of the present and future generation and it is the duty of every citizen to contribute to the protection of the natural environment and conservation of the rich biodiversity of Bhutan and prevention of all forms of ecological degradation including noise, visual and physical pollution through adoption of environmentally friendly practices and policies.'*

The Honourable Speaker said that his reflections on biodemocracy, from spiritual to philosophical points, spurred him to think about how spiritual harmony, interdependence philosophy and the provisions of the Constitution can be translated into implementation at the country level. The Tshogpoen added that the development philosophy of Gross National Happiness (GNH) in essence is what constitutes a biodemocracy. However, the Honourable Speaker observed that while Bhutan is already practising biodemocracy, there is so much more to be done.

In the context of climate change and unpredictable weather patterns and given the geographical terrains, the Honourable Speaker said that Bhutan is vulnerable to the impacts of climate change. *'A few years back monsoons were predictable. Today we get heavy monsoon, no monsoon, and sometimes, late monsoon. We are susceptible to many risks.'*

Against this backdrop, the Honourable Speaker emphasised that the discourse on biodemocracy is even more important, stressing that there has to be a shift from political to ecological and the discourse must continue.

In concluding, the Honourable Speaker said that a first-of-its-kind forum such as this where over 100 participants had gathered is an ideal platform to come up with solutions and to develop new narratives to carry the country forward. *'For a small country like Bhutan, Bhutanese narratives are important.'*



3. Session 1: Panel on Present Challenges and Possible Futures



The session was moderated by Mr. Kinga Tshering, a former Member of Parliament, a Fulbright Fellow/Ford Foundation Fellow, Dispute Resolution Fellow and Founder of Institute of Happiness.

3.1 Conservation in the age of the fourth industrial revolution: Dr. Tshering Cigay, CEO, Thimphu Tech Park



Dr. Tshering Cigay, the Chief Executive Officer of Thimphu Tech Park, said that at no point in the history of humankind has change been so fast. In the past two or three decades, the earth has undergone dramatic changes, in terms of technology and the way people live. Dr. Cigay said that he is a firm believer that technology is at the centre of this change and that technology has improved the lives of the people, particularly the lives of the common person. He argued that earlier it was probably only the rich who enjoyed comfortable lives but thanks to technology, even the average person enjoys a comfortable life today. That said, technology has its side effects and the pressure on earth is the greatest today than at any time in history.

Citing the examples of deforestation in Congo basin, Amazon and South East Asia, Dr. Cigay said the pace of deforestation has been increasing drastically since the 1950s. This, he argued, was partly fuelled by access to machines and technology. Cutting down trees in a large area would take days earlier but today technology has made it possible to cut down large swathes of forests in a short duration. Unmanned machines are being used to cut down trees because of which the rate of deforestation has been alarming.



Dr. Cigay also showed the timeline of earth temperature to demonstrate how the global temperature has been rising. In 20000 BC the earth's temperature was -4 degree Celsius, which increased to 1.5 degrees around 8500 BC. Dr. Cigay said that if the entire age of the earth is taken into account, the temperature of the earth has shot up drastically in a short period of time. He said that the rise in the earth's temperature is not a myth as there is evidence to back it up.

Dr. Cigay said that the earth has experienced five cycles of extinction events and the last cycle happened 65 million years ago. At that time around, 50% of different genre of species disappeared and 75% of species disappeared from the face of the earth. Dr. Cigay pointed out that currently the earth is going through the sixth mass extinction and hundreds of species are becoming extinct every day.

Dr. Cigay quoted *Lucas Joppa, Chief Environmental Officer at Microsoft*:

'We know that species are becoming extinct at a rapid pace — at least 1,000 times more quickly than would be expected in the absence of human activities.'

Dr. Cigay reasoned that the primary cause of extinction is human-made activities and according to the world's leading scientists, humanity has wiped out at least 60% of animal population since 1970. This is the bleak scenario of the current condition of the earth and the environment. However, Dr. Cigay hoped that as much as technology has been the cause, rapid advancement in technology would probably come to the rescue. He said conservationists are already using technologies like Artificial Intelligence (AI), for instance in Hawaii, conservationists used AI to track and analyse data on two rare species of birds that were killed because of power lines. Similarly, companies have developed tools such as conservation matrix, wildbooks and Automated Remote Biodiversity Monitoring Network (ARBIMON). Dr. Cigay said drones are also becoming helpful to conservationists. In some places drones are used to plant trees and monitor species.

Talking about Internet of Things (IOT), Dr. Cigay observed that humans are increasingly connected to the Internet through mobile phones. Once the Internet is connected to animals and plants, conservationists will have access to real time data.

Dr. Cigay also highlighted the emergence of blockchain technology describing it as 'a solution in search of a problem'. Blockchain can be used to solve many problems. There are also a lot of deep learning open source libraries that conservationists can use to learn about new technologies like Tensorflow from Google and Pytorch from Facebook.

Dr. Cigay reflected on the book 'Future Files: History of the next 50 years', which attempts to predict what will become extinct on earth. He said that the author (Richard Watson) predicts that by 2009, cobblers would have become extinct, which has come out true since many cobblers in India have lost their jobs as shoes are cheaper now and people no longer have to repair shoes. By 2037 glaciers would be extinct and by 2050 ugliness would be extinct, which means everyone will look good perhaps through genetic engineering or plastic surgery. Dr. Cigay emphasised the need to ponder on glaciers becoming extinct by 2037 for this would foretell the end of life on earth.

3.2 Clientelism and Accountability in Bhutanese Politics: Gopilal Acharya, Journalist/Writer/Consultant



Mr. Gopilal Acharya started with a rhetorical question: *Should we not cultivate honesty and moral accountability and ideals of grace and dignity in our politics? While these are the things we aspire to, how far are we from getting there?*

Citing the example of Gelephu Hospital, a major public infrastructure built with funds from the government of India at a cost of Nu.835 million, Mr. Acharya pointed out that a few months after the inauguration, media reported on the compromised quality of the construction. The hospital was inaugurated in July 2018. And exactly after one year, Kuensel (Bhutan's national newspaper) reported that the ceiling of the hospital was falling apart.

Mr. Acharya asked: *So where is the accountability? Whom do we fix the accountability upon? Is it the contractors or the supervising engineers? Project manager, tender committee, hospital officials, or auditors? Or is it on the moral responsibility of the politicians, the incumbent prime minister, the former minister*



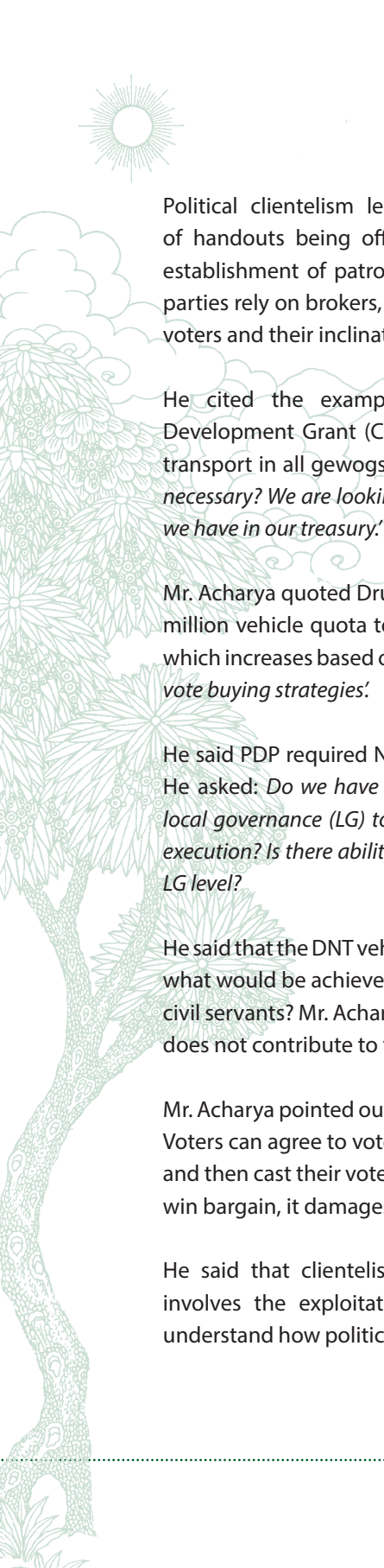
of health or the minister of Ministry of Works and Human Settlement (MOWHS)?

He cited another example of the Education City, which was started during the Druk Phuensum Tshogpa (DPT) government's time. The Parliament even passed the Education City Act and some initial works were underway. However, the Education City project was suspended when the People's Democratic Party (PDP) came top over in 2014, following a National Land Commission report that the acquisition of land in Wangsisina was illegal. Recently the Ministry of Works and Human Settlement (MOWHS) said that the project is closed. Mr. Acharya asked whose resources did we waste? *Did those resources belong to political parties, individuals or to the people of Bhutan? Whom do we hold accountable?*

He said that this is where the idea of accountability should come in. *We should transcend political divides when we raise questions about accountability because those resources belong to the state and not to a political party.* He also cited examples of other projects like Domestic airport, PHPA I (Punatshangchhu Hydropower Project Authority-I), and Samdrup Jongkhar water treatment plant that are taking a prolonged time to complete and consuming a lot of resources. 'Will we ever see anyone being taken to task or explain the slow progress?' he asked.

Mr. Acharya said that grasping the idea of *Political Clientelism* is important for a country like Bhutan that is resource strapped all the time. He said that the kind of politics promoted by political parties in Bhutan is quite interesting – the *shopping list politics* - formally called clientelism, which is basically political parties or leaders giving material goods in return for electorate support. This happens in the absence of ideological affinities that political parties do not display and thus personal contexts and networks become more important.

He quoted Phillip Cafford, an economist with World Bank, who said that *clientelism is more pervasive in countries where ideological distinction between parties is imperceptible.* Mr. Acharya said that this is the problem in Bhutan as the manifestos of political parties are the same and the voters vote depending on who they are closest to, or because their relative is in a certain political party.



Political clientelism leads to voters being torn between different types of handouts being offered by political parties. This bargain leads to the establishment of patronage – there is a patron and a client. And clientelist parties rely on brokers, intermediaries, and campaign workers to monitor the voters and their inclinations.

He cited the examples of PDP's promises to increase Constituency Development Grant (CDG) from Nu 2 million to 5 million, introduce public transport in all gewogs, and ensure every gewog has a fuel depot. *'Are those necessary? We are looking at public resources and these are strictly tied to what we have in our treasury.'*

Mr. Acharya quoted Druk Nyamrup Tshogpa's (DNT) pledge to provide Nu 1.5 million vehicle quota to those who have completed 10 years in civil service, which increases based on the number of years in service. He saw this as *'reckless vote buying strategies'*.

He said PDP required Nu 2.5 billion funds to fulfil their CDG increase pledge. He asked: *Do we have the financial capacity? Do we have the capacity in the local governance (LG) to handle this kind of money? Are we looking at chaotic execution? Is there ability to monitor and evaluate and audit public works at the LG level?*

He said that the DNT vehicle quota would lead to a lot of expenditure and asked what would be achieved by giving vehicle quota to corporate employees and civil servants? Mr. Acharya said that it was all about pleasing the vote base and does not contribute to the country's growth.

Mr. Acharya pointed out that in clientelism, the commitment level is very poor. Voters can agree to vote for parties based on what they are promising to give and then cast their vote to rival parties. Although clientelism seems like a win-win bargain, it damages democracy.

He said that clientelism involves reciprocity and voluntarism but it also involves the exploitation and domination of poor people who do not understand how political parties operate. The consequences of clientelism are



that political parties are least effective in the legislature because they spend most of their time looking for resources to fulfil their commitments. Public offices need to showcase their achievements and this often compromises the quality of public work. Also high corruption has been noticed in clientelistic models. Clientelism has also been linked with poverty and inequality and it undermines democracy.

Mr. Acharya pointed out that clientelism in many countries slows economic development, impairs democracy and allows dictators to hold on to power. It also undermines the capacity of the bureaucracy. The government in power already promised so many things that it often comes into confrontation with the bureaucracy that otherwise provides a good check and balance to the elected government. The more party specific clients are, the more divided the supporters will be.

As a way forward, Mr. Acharya recommended that a transition from clientelism to pragmatic, policy and issue based politics is what a good political party should aspire to, so that people can think of themselves as citizens that are receiving public services for the taxes they are paying to the state rather than who are receiving freebies and favors for having bargained their votes. *'Policies must drive political outcome, not the shopping list. The state must impose significant barriers to patronage, including strategies to curb vote buying.'*

Mr. Acharya said that as awakened electorate and citizens, we have to demand moral responsibility from elected leaders. He said that there has to be transparency in public spending processes and data gathering on public procurement from planning to the delivery of services. Public and other authorities outside the system should be allowed to question government spending.

Citing some global practices such as public finance monitoring system developed by the UN in Serbia where people keep track on the public spending through the public expenditure tracking system (PETS), Mr. Acharya said that the public finance monitoring systems instituted in certain democracies could be implemented in Bhutan to hold the elected government accountable through stringent financial scrutiny. He mentioned that social

audit - a participatory process through which committee members monitors the implementation - is very important, particularly in the wake of LGs (Local Governments) being given 50% of the allocated five-year budget. Civil society organisations can also play a big role through community based monitoring systems.

Mr. Acharya pointed out that participatory budgeting is another big endeavour where citizens come together for decision making, allocating and monitoring of public spending. Studies have shown that participatory budgeting leads to a shift in government spending to priorities that directly benefit poor communities.

He said that there is a strong case to strengthen the LGs because they are now responsible for executing 50% of the five-year budget, and further as apolitical bodies, they can set the right, non-partisan, and neutral priorities, which are not based on party manifestos. Further, Mr. Acharya also highlighted the important role of the media in public finance reporting. But above all, he said that voter education must create better links between policy promises and implementation so that people are likely to sacrifice short-term gains for long-term preferred policy outcomes. This is where a good democracy should eventually head.

3.3 What has Media got to do with a Biodemocracy?: Namgay Zam, Executive Director, Journalist Association of Bhutan (JAB)

Namgay Zam said that media helps create a vibrant democracy and its role is just as important in a biodemocracy except slightly altered. Democracy is a system that functions on consensus and a biodemocracy is not only about consensus, it is also about priority. *'Biodemocracy to me translates into a sustainable democracy.'*



However Ms. Zam said that what is sustainable is not always arrived upon through consensus. The discourse on sustainability takes into account the environment and ecology and this can be problematic for some people. She said that she is an ardent admirer of forest analyst Dr. Phuntscho Namgyel who has written quite extensively about the dangers of an overstocked forest



– how it can threaten not just the biodiversity but also adversely impact hydrology and cause mega-fires.

Until she read Dr. Phuntsho Namgyel's argument, she said that she was proud of Bhutan being the world's only carbon negative country (now Suriname is in the list too) and of Social Forestry Day. Ms. Zam said that she is not too proud of the fact that we are shooting ourselves in the foot with 'let's plant trees' every Social Forestry Day without any concern for overstocking of forests or focusing on better management of forests.

Ms. Zam said that Dr. Namgyel makes a compelling argument for sustainably cutting down trees to drive economic growth, rivalling that of hydropower. However, many Bhutanese are critical of this view, including those in the forestry circles in Bhutan. The likes of Dr. Namgyel are a minority.

She asked about how a consensus could be built when there is a disagreement on the very definition of sustainability? Does sustainability mean planting trees and not cutting them down or cutting them down so our forests can be healthier? She said these are questions that journalists have forgotten to ask. These are questions even citizens are not asking, choosing instead to side with the traditional or modern view of sustainable forests. This is happening in our democracy.

Ms. Zam pointed out that in a Biodemocracy, journalists would prioritise and acknowledge that the rule of majority isn't always right, fair, and sustainable. Forest sustainability is merely one example. Bhutan's democracy is guided by the philosophy of Gross National Happiness (GNH) and she said that Biodemocracy should uphold all the values espoused by GNH.

A Biodemocratic media upholds the values that align with the development philosophy of GNH – not seeking celebrity or sensational journalism, but reporting because we are a part of a whole. A biodemocratic media leaves no one behind by pulling everyone along with us.

Drawing attention to the forest sustainability issue, Ms. Zam highlighted that if the media does not lead the forest sustainability discussion, the entire country

will lose. *'Not only will we lose economically, we will also lose the opportunity to inform an entire generation of Bhutanese about sustainable forest management.'*

Ms. Zam pointed out that the collective mindset in this democracy believes more forest growth, the better, no matter what the dangers. On the other hand, the collective mindset in a biodemocracy understands sustainability means good management with gains for the ecology as well as for humans. She said that this mindset could only thrive if journalists take this knowledge from the smaller circles of academics and scholars and share it with the common Bhutanese in a convincing manner. *The media needs to create the consensus and not just report on it. This is the role of media in a biodemocracy.*

3.4 Question & Answer Session

Q. Moderator: *How can Blockchain concept be used to develop an inventory of forests in Bhutan?*

Q2.Moderator: *Around 70% budget of the Five Year Plan (FYP) is allocated to procurement/construction. Out of the construction that are currently ongoing, government reports show that 80% of the bidders have quoted below the estimated price and over 60% have already overrun the cost and 80% have not completed run over time. How can Blockchain concept be used for monitoring procurement and constructions in Bhutan?*

Response by Dr. Tshering Cigay: Blockchain offers two important features - security and transparency, which align well with maintaining inventories of our forests as it would provide information about the different types of species of trees and also show the changes taking place.

Response by Namgay Zam: I completely support any form of digital archiving or storage of information online as it enhances easy access to information. And if technologies like Blockchain can ensure that such information can be stored without the possibility of making changes to it, then I would like to implore all our forestry officials, researchers, and academicians to make their research available online.



Q. Moderator: *If you delegate the ultimate power of planning from a political party to a bureaucracy while on the other hand you hold the political group accountability, is that fair?*

Response by Gopilal Acharya: Yes, we have the FYPs and a lot of activities are already outlined but we also have the space whereby the manifestos are aligned with the FYPs priorities and activities. That's where often the flagship projects come in –being the pet projects of the political parties.

On one hand, we have the FYP that is instituted by a non-political party like the Gross National Happiness Commission (GNHC), while on the other hand, we have certain activities that overlap or are undertaken by political parties. That is where the fine line is missing. At the end of the five years, voters judge the political parties based on what they have delivered in terms of public works and if they have performed poorly then maybe they lose the vote bank. Their public trust is eroded.

But what we have seen is that the moment an elected government takes over, it also takes over the moral authority of running the country. Whether it is politically committed activities or neutrally instituted activities, the moral leadership still lies with the elected government. That is where the idea of accountability has to come in and has to be effected. We should hold the elected government accountable. If things go right, the elected government will be praised and maybe their party will be elected again. If things go wrong, if a political party leadership has condoned poor public spending and overlooked poor public works, then they should be held accountable.

4. Session 2: Panel on Re-thinking the Economy Mindfully



The session was moderated by **Ms. Pem Lama**, a development researcher.

4.1 Innovative financing: Dr. Pema Wangda, Executive Director, Bhutan for Life (BFL)



Dr. Pema Wangda started the presentation with His Majesty's quote: *'Bhutan for life is not for youth. It belongs to the youth of Bhutan'* - Launch of BFL, November 11, 2017

Dr. Wangda highlighted the conservation journey of Bhutan and spoke of how the farsighted monarchs have put environmental conservation at the forefront of development activities. Starting from the 1900s, from the unification of the country to the political consolidation and ushering in of various developmental activities like hydropower to the introduction of democracy in 2008, conservation of the environment has been central to all development activities. The Constitution of Bhutan mandates 60% forest cover at all times. And Bhutan has the highest proportion of forest cover in Asia (71%) and is part of one of the 10 most bio-diverse regions in the world.

Dr. Wangda said that a major milestone was achieved in 1993 when Bhutan declared major networks of protected areas. And today Bhutan has 10 protected areas and 8 biological corridors; protected areas consist of national parks, wildlife sanctuaries and nature reserves and biological corridors that



link all the protected areas. Around 52% of the land area is classified as protected area.

Dr. Wangda pointed out that Bhutan's huge efforts in the field of conservation has sequestered more than 6 million tons of carbon dioxide annually (carbon negative). Yet there are issues and threats such as low economic diversification (high youth unemployment), increasing cases of human-wildlife conflict, and illegal wildlife trade (serious concern for wildlife conservation) because of porous border. Dr. Wangda said that Bhutan needs critical funding to address all of these emerging threats and that is where Bhutan For Life comes in. In the wake of declining foreign aid, as Bhutan is set to graduate to a middle-income country soon, Bhutan will have to sustain, maintain and manage the protected areas on its own.

While Bhutan has good forest resources there is also a lot of human interference especially in the upper catchment areas leading to forest degradation. Dr. Wangda said that electoral pledges have led to the construction of roads that have resulted in natural as well as human-made disasters like landslides, flash floods, fires and roadblocks. *'Kuensel recently reported 23 roadblocks in the country especially in the east and the south. If we have good forest and vegetation cover I do not think such disasters would happen especially flash floods and roadblocks.'*

Dr. Wangda emphasised that there is a need for all bureaucrats, politicians and CSOs to work together to address these challenges. Media is reporting fires, dry paddy fields, and delayed monsoons; these are clear indications that climate change is happening.

Dr. Wangda emphasised that while the patterns of climate change cannot be changed, efforts can be made to mitigate the impacts of climate change through local actions. And good forest coverage is vital to mitigate climate change issues. Dr. Wangda said that protecting water resources through Payment for Environment Services (PES) such as the one introduced in Tsirang is an innovative way.

Dr. Wangda stated that there is no need for a radical approach but a balanced middle path - a balanced and sustainable development paradigm – *to balance*



the need for economic development with the need to protect natural resources; to balance opportunities in the cities with incentives in the rural villages; and to balance tradition with the desires for modern amenities.

Dr. Wangda said that Bhutan For Life could be one of the strategic and long-term innovative solutions. Bhutan for Life is a Project Finance for Permanence. Dr. Wangda informed that Bhutan for Life is an innovative funding initiative that aims to provide a sustained flow of finance to maintain the country's protected areas and biological corridors for perpetuity (14 years, until Bhutanese government takes over the costs entirely without foreign assistance). He also informed that Bhutan For Life was conceived in 2013; its conservation plan finalized in 2016; the Royal Charter was granted in 2017; and the BFL Fund secretariat was instituted in 2018.

Dr. Wangda said that the Project Finance for Permanence From 'Wall Street' to 'Protected Areas' is a multi-party, single closing deal where a group of donors commits funds towards BFL but the funds are held and not distributed until the total fundraising commitment goal has been reached. The funding goal had been set at US\$ 40-45 million. When US\$ 43 million was achieved in 2017, the deal was closed. The Royal Government of Bhutan will be contributing matching fund to the tune of US\$ 20-35 million. At the heart of the deal are the conservation plan and the financial plan for the next 14 years.

Explaining the BFL Financial model, Dr. Wangda said annual payments from the transition fund will start high and decline to zero over a projected period of 14 years. At the same time, the RGoB will increase its funding by approximately 5-7% annually over 14-year term after which Bhutan would be responsible for fully funding all protected areas on its own.

Dr. Wangda highlighted some potential sources of internal funding through:

- *Diversifying eco-tourism products: festivals (Highland festivals, Bird festivals, mushroom festival etcetera)*
- *Supporting people in the Protected Areas through job creation and income-generating opportunities.*
- *Carbon sequestration (2.6 M ton) (REDD (Reducing Emissions from Deforestation and Forest Degradation in Developing Countries) +*



strategy action plan), 50 million hectare if we can put at sustainable use (carbon fund).

- *Debt swapping with neighboring countries like India, Bangladesh etcetera (for example Forever Costa Rica)*

He also listed some potential financing opportunities through:

1. *Green tax levied on the import of vehicles including minimum tax on foreign vehicles entering Bhutan*
2. *Payment for Ecosystem Services from hydropower (1 % of 15 % royalties from hydropower, which comes to Nu 10 million per annum)*
3. *Pilot schemes: Water services where users pay to people in catchment areas to maintain and sustain the forest and water sources:*
 1. *Yakpugang Community Forest-Municipal (Mongar)*
 2. *Burkhey Watershed Communities-Industries (Pasakha-Phuentsholing)*
 3. *Neymneychu, Community Forest-Hoteliars (Tsento, Paro)*

Dr. Wangda mentioned that payment for environment services is already a core part of BFL. And these can be scaled up. The other could be Public Private Partnership (eco-tourism)-leasing or letting an NGO or group to run the Parks. For example, Jigme Dorji National Park can be leased to a private group to operate and manage through Eco-tourism, hot spring, and highland festivals.

Dr. Wangda said that Bhutan For Life is the first of its kind in Asia and one of the four PFP in the world. With BFL, 51% of Bhutan's land can be put under improved management, 35.1MTons of carbon sequestered and 20% of Bhutan's population mostly vulnerable rural inhabitants can be made more resilient to climate change by enhancing their livelihood.

4.2 Fostering a GNH-based Circular Economy: Kezang, Chief Executive Associate, Institute for Management Studies Limited



Mr. Kezang drew a parallel between the concept of circular economy and a GNH based economy. He said that while the concept of circular economy has been in the market for over 30 years, it might appear to be new in Bhutan. Keeping with the theme of the panel 'Rethinking economy mindfully', Mr Kezang said that he would explore crucial issues that lie at the intersections of economy, development, and environment.

What is a Circular Economy?

Mr. Kezang said that the economic system is gradually transitioning from end-of-life, take-make-and-dispose economic model to a system where you make a product, use it, re-use it, re-make it, recycle it. This is what is at the core of circular economy. It is basically a shift from the concept of end-of-life to a virtuous cycle of sustainable economy. This situation creates more economic and employment opportunities as well as the need of skilling and reskilling people.

Mr. Kezang said that he believes there is something called the 'GNH-based Circular Economy'. GNH has guided Bhutan's development since 1970s and it continues to be the thread that intertwines different governments that come to power with every five-year election cycle. He said that Bhutan has had three governments so far and GNH is the thread that binds elected parties to the common cause. He stressed that at the core of Bhutan's development is health, happiness and wellbeing of all citizens, and this is before GDP.

Mr. Kezang argued that since Bhutan is one of the two carbon negative countries in the world, it qualifies as a circular economy. He said that Bhutan has also initiated GNH in business certification, which integrates the pillars of GNH, domains and the indicators of GNH into businesses in the country. There also have been projects and programmes around sustainable tourism, industrial competitiveness and green public procurement as well.



Mr. Kezang pointed out that preservation of culture and identity is what differentiates GNH from the Sustainable Development Goals (SDGs). Calling GNH the SDG++, he reasoned that while SDG talks about multi-cultural elements, it doesn't actually have an element of culture and identity.

Referring to the speech delivered by Mr. Gerald Daly, Resident Coordinator of UN system in Bhutan at the closing session of BEFIT 2019 where he shared an extract from His Majesty's speech on being SMART - Sincerity, Mindfulness, Astuteness, Resilience and Timelessness - in the context of small and cottage industries in Bhutan, Mr. Kezang pointed out that this provides us with the engine to embrace circular economy and foster its growth in the years ahead.

He also quoted examples of some of the entrepreneurs who had recycled whisky bottles into more aestically sound and creative usage and utility purposes during BEFIT 2019. He said that he had also come across another entrepreneur whose social enterprise is built around recycling and reusing, creating jobs, empowering women and youth and improving lives. He mentioned the example of Rikesh, an entrepreneur, who is promoting green roads by reusing plastics to build resilient roads, and Karma, the founder of Greener Way, who has changed waste management into a livelihood and business opportunity. *These are examples to show that we have already embarked on a lot of initiatives to foster a circular economy in the country.*

Mr. Kezang said that programmes and projects are being implemented that are at the core of a circular economy. For instance, a nationwide campaign 'Beating Plastic Pollution in Bhutan' was organised in August 2018 and a consultation workshop on *Sustainable Consumption and Production* in support to People's Happiness was organised in March 2019.

Mr. Kezang informed that the suggested Way Forward for Bhutan based on the consultation workshop on Sustainable Consumption and Production held in March 2019 included National SCP Strategy & Action Plan and the three key segments - integrated waste management, sustainable procurement at national level and energy efficiency. The way forward is suggested in three phases: Phase 1 - in 2020 Position Papers + Gap Analyses + work Breakdown Structures; Phase 2 - Capacity development on integrated waste management



+ mainstreaming sustainable procurement + energy efficiency and in the final Phase 3 - the Projects to Lifestyle: Integrated waste management + sustainable procurement + green buildings and hotel certification and standardisation by 2023. He concluded that all these need to become part of our lifestyle if we were to embrace the circular economy fully.

4.3 Democratisation in Bhutan (from rural perspective): Tshering Eudon, Gross National Happiness Commission (GNHC)



Ms. Tshering Eudon said that with the transition from Monarchy to Constitutional Monarchy and Parliamentary Democracy, rural Bhutan has seen rapid progress. Many rural communities are connected with roads and have access to modern facilities for the first time. However progressive development can also have a shadow effect.

She presented the findings of her undergraduate research on the impact of democratisation in Bhutan from a rural perspective, which was conducted in the communities of Radhi-Sakteng Constituency in Trashigang. The empirical study sought plausible explanations about why the rural voters had become polarised along party lines in communities under the same constituency. She carried out a comparative analysis of Radhi and Phongmey vis-à-vis Merak and Sakteng as these communities differ in their culture, geographical location, and occupations, although they fall under one constituency. While the residents of Radhi and Phongmey are farmers, those from Merak and Sakteng are semi-nomadic highlanders, raising yaks and sheep. The former two are geographically located at lowlands in contrast to Merak and Sakteng, which are located above 3500m and 2800m.

Ms. Eudon said that her field research was based on two hypotheses:

1. Hypothesis I: Lower levels of modernisation increases the duration (and level) of party polarisation

She said that party polarisation in Radhi and Phongmey seem to be less than in Merak and Sakteng due to socio-economic development and farming occupation. Radhi and Phongmey saw early development with exposure to



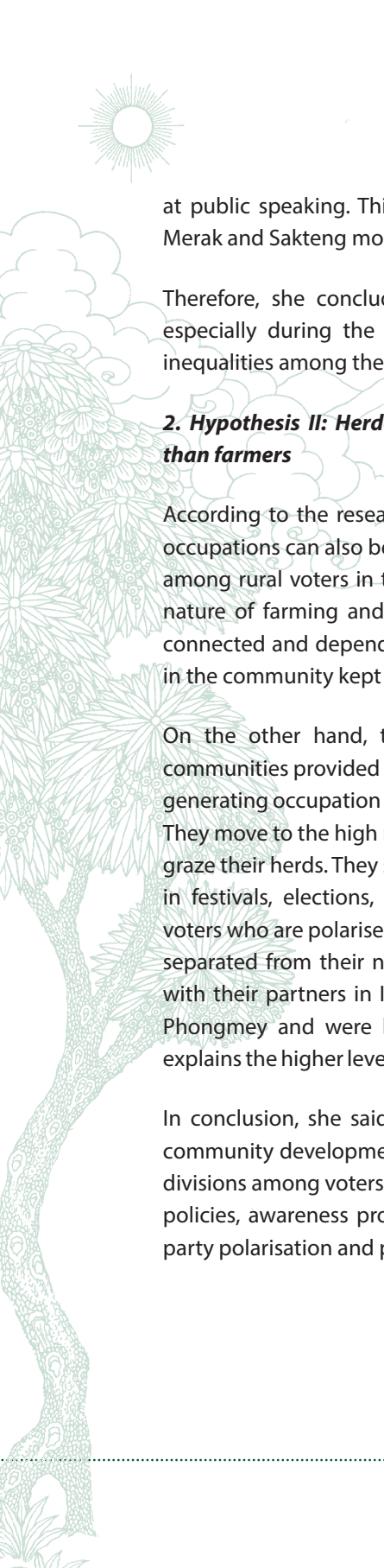
modern facilities like schools and roads, which seems to explain the lower levels of party polarisation among the voters in these communities. People in Radhi and Phongmey were more economically independent for the past 10 to 15 years due to access to modern facilities such as roads, electricity, technology, and mobile connectivity and higher agricultural productivity through modern technologies. Radhi is believed to have a high literacy rate and many educated people because of access to schools in the 1960s, before other gewogs in Trashigang district. As a result, *Tshogpas* (party workers) from these gewogs did not seem to have much power in manipulating voters through monetary or power hierarchy unlike those in Merak and Sakteng.

Ms. Eudon said that access to modern facilities like television had given voters from Radhi and Phongmey more opportunities to interact with political leaders, candidates and government officials. This increased the knowledge of democracy among rural voters in these communities. Most of the local leaders from Radhi and Phongmey also believed that people had become critical thinkers and were less wary of local and national politicians.

On the other hand, the people from Merak and Sakteng were introduced to a modern lifestyle only recently. Due to higher altitudes and extreme remoteness, these communities received modern facilities and technologies such as electricity, mobile connectivity, better toilets and safe drinking water and awareness programmes, especially on education and health, much later.

Ms. Eudon observed that the recent developments had created and reinforced power inequalities among the people in Merak and Sakteng. Though the number of public contract-based projects increased because of increased development projects in these communities, only those in the higher social status groups took advantage of these opportunities. She observed that modernisation appears to have given those who are literate and in the higher socio-economic rung more opportunities while the poorer people were barely able to escape poverty.

Ms. Eudon observed that a power hierarchy still exists in these communities as literate people become more knowledgeable while the poor are still uneducated and dependent on the *Tshogpas* for information. She said *Tshogpas* are either literate or from a higher socio-economic rung or are good



at public speaking. This power hierarchy seems to have given *Tshogpas* in Merak and Sakteng more power to manipulate voters' political behaviour.

Therefore, she concluded that late development in Merak and Sakteng, especially during the political transition in the country, further enforced inequalities among the different socio-economic groups.

2. Hypothesis II: Herders experience a higher level of party polarisation than farmers

According to the research conducted by Ms. Eudon, differences in people's occupations can also be one of the causes for a variation in party polarisation among rural voters in the Radhi-Sakteng Constituency. She argued that the nature of farming and group activities seem to have kept voters in Radhi connected and dependent on each other. Moreover, regular religious rituals in the community kept rural voters in Radhi less polarised.

On the other hand, the semi-nomadic lifestyles of Merak and Sakteng communities provided limited space for social interactions. The main income-generating occupation of people from both Merak and Sakteng is yak herding. They move to the high mountains in summer and to the lowlands in winter to graze their herds. They stay in their community only in summer, to participate in festivals, elections, and other village activities. Ms. Eudon argued that voters who are polarised by the *Tshogpas* have less interaction and are further separated from their neighbours. In addition, individual households traded with their partners in India or with neighbouring places such as Radhi and Phongmey and were less dependent on their community members. This explains the higher level of party polarisation among the semi-nomadic voters.

In conclusion, she said that while democracy has brought about effective community development, democratisation in rural Bhutan has created some divisions among voters. Ms. Eudon suggested that there is a need for national policies, awareness programmes and voter education to reduce or prevent party polarisation and political disputes in future elections.



4.4 Question & Answer Session

Q. Jigme Rinzin, private audit firm: *We are a carbon negative country. However, if we look at economic statistics, we import products worth Nu 18 billion while we export Nu 8 billion worth products. So, if we reduce the import by producing most of the products, will we still be a carbon negative country?*

Response by Kesang: There is a case of carbon neutrality in producing our own goods and services. We export hydropower and import fossil fuels – that is the paradox. A circular economy focuses on reusing, refurbishing, and recycling. So producing our own goods and services may reduce imports and there is a case of at least carbon neutrality even if carbon negative cannot be achieved. Local consumption and production should be at the core of catalysing our CSIs (Cottage and Small Industries) and this was recommended at BEFIT 2019. The Ministry of Agriculture and Forests is also moving towards directly linking institutions like schools with local farming communities for food supplies as part of the green procurement practices.

Q. Tshering Cigay: *An island of plastic larger than the size of United States is said to be floating in the Pacific Ocean. In Bhutan we believe in GNH and environment conservation yet we are unable to get rid of plastic. There is an increasing use of single use plastics, which will ultimately find its way into the oceans. I would like to seek your views.*

Response by Kezang: Concerted efforts are being taken at a global level through the 2030 SDGs to combat climate change and plastics in oceans.

Q. Dr. Nitasha Kaul: *Tshering Eudon, can you share some recommendations for the way ahead based on your research?*

Response by Tshering Eudon: Democracy has in a sense reinforced the power hierarchy and divided communities so I believe there is a need for more voter literacy and there is a need for strong social and political organisations in the rural areas. We also need to educate voters on the importance of social interactions and political discourses.

5. Session 3: Panel on Specific Policy Domains



The session was moderated by Lekey Wangdi, the Project Advisor at Helvetas, Bhutan.

5.1 Saving from Extinction: Dr. Kinley Tenzin, Executive Director, Royal Society for Protection of Nature (RSPN)



Dr. Kinley Tenzin briefly introduced RSPN. It is a non-governmental organisation established in 1987 under the Royal Command of His Majesty the Fourth King. RSPN was also blessed with the Royal Patronage of His Majesty the King from 1999 to 2012 and currently Her Majesty the Queen of Bhutan is the Royal Patron of the Society. Dr. Tenzin said that the vision of RSPN is to ensure that *Future generations of Bhutan will live in an environmentally sustainable society*, and the mission is *To inspire personal responsibility and active involvement of the people of Bhutan in the conservation of the Kingdom's environment through holistic approach using ecosystem-based solutions*.

While carrying out the conservation work, Dr. Tenzin said that RSPN is inspired by the Conservation Mandala. The four primary approaches in the outer circle of the mandala (Environment Education & advocacy, Species-based conservation, research and monitoring, and Community engagement and development) are used to implement the conservation activities of all the programmes of the 10 thematic areas (inner circle) to ultimately create environmentally sustainable society (most inner circle).



The 10 thematic areas (White Bellied Heron, eco-restoration, waste management, community based sustainable eco-tourism, climate change adaptation and mitigation, Black-Necked Crane, wetland conservation, Agro-ecological farming, water and river) are based on national and international priorities aligned to support the SDGs of the United Nations. Dr. Tenzin said that amongst the 10 thematic areas, the conservation of the White Bellied Heron and Black-Necked Crane has always been the primary focus of RSPN.

Dr. Tenzin informed the audience that the White Bellied Heron is a critically endangered species, with less than 60 individuals all over the world. And Bhutan actually hosts 50% of global population of the White Bellied Heron, with 25 individuals and 5 juveniles.

Dr. Tenzin presented information on how the global distribution habitat of the White Bellied Heron has shrunk since the 1930s. The global distribution of the habitat of the White Bellied Heron was widely pronounced in 1930s. Dr. Tenzin said that the shrinking of the habitat is largely due to hydropower plant constructions in all the habitat range countries. Hydropower construction has also led to a decrease in fish population. Hydropower projects also bring along a large population growth and the White Bellied Heron can't tolerate such disturbances in addition to the natural disturbances like predators, forest fires and so on.

In Bhutan, the White Bellied Heron is found along the Punatshangchhu, Mochhu, Mangdechhu and some parts of Kurichhu river basins. In the past 15 years, RSPN has been aggressively monitoring the species. Through the rigorous conservation efforts of RSPN, the population of the White Bellied Heron has been maintained at plus three or minus three.

Dr. Tenzin said that one of the very major endorsements that came out of the International Conference in 2015 was the need to have captive breeding facility centre for the White Bellied Heron. RSPN has been negotiating vigorously with the hydropower companies for the last many years. In 2016, the companies involved in the hydropower projects agreed to fund the construction of the captive breeding facility centre, which is currently underway. The construction

of the facility is expected to be completed by the end of 2019.

Dr. Tenzin also shared that the captive breeding piloting was done in 2011 and the artificial incubation was a success. Currently RSPN is carrying out an intensive programme on White Bellied Heron conservation through community incentive based approach, consultation with the government and the hydropower companies, planning, meeting with the local governments and the local communities, collaborating field assessment, activating field implementation, education awareness and regular monitoring and evaluation.

On species based conservation programmes, RSPN continues to carry out comprehensive activities: a comprehensive survey on White Bellied Heron and hunting along these habitat areas; satellite telemetric tracking on post date juveniles to study their behaviour and also their life history and habitat foraging; nesting and evaluation about fish population above and below hydropower plants; development of strategies plan for collection of eggs of juveniles; construction of captive breeding; establishing funds to support the ex-situ and in-situ conservation.

Perhaps the question we have to ask is why the White Bellied Heron? The White Bellied Heron is important because it is critically endangered but above all such type of species are important because they represent our ecosystem - a healthy ecosystem. However, Dr. Tenzin said that what we have to be mindful about is that conservation is not all about saving this kind of species, tigers, or forest, eventually it is about saving ourselves on this planet. And that is why the global community is putting a lot of effort on conservation.

Dr. Tenzin said that an International Technical Advisory Committee on White Bellied Heron was instituted in 2016 comprising members from all over the world. Besides providing technical back-stopping, the Committee also raises funds for the conservation of the White Bellied Heron.



5.2 Timber as a structural material for a sustainable society: Tshewang Nidup, Lecturer, College of Science & Technology



Mr. Tshewang Nidup presented a paper on the topic 'Timber as structural material for the 21st century'. He said that there are about 400 billion stars in the Milky Way Galaxy and there are 3 trillion trees on earth. Of the 3 trillion trees, Bhutan has 0.8 billion trees, according to the recent official document released by the Ministry of Agriculture and Forests.

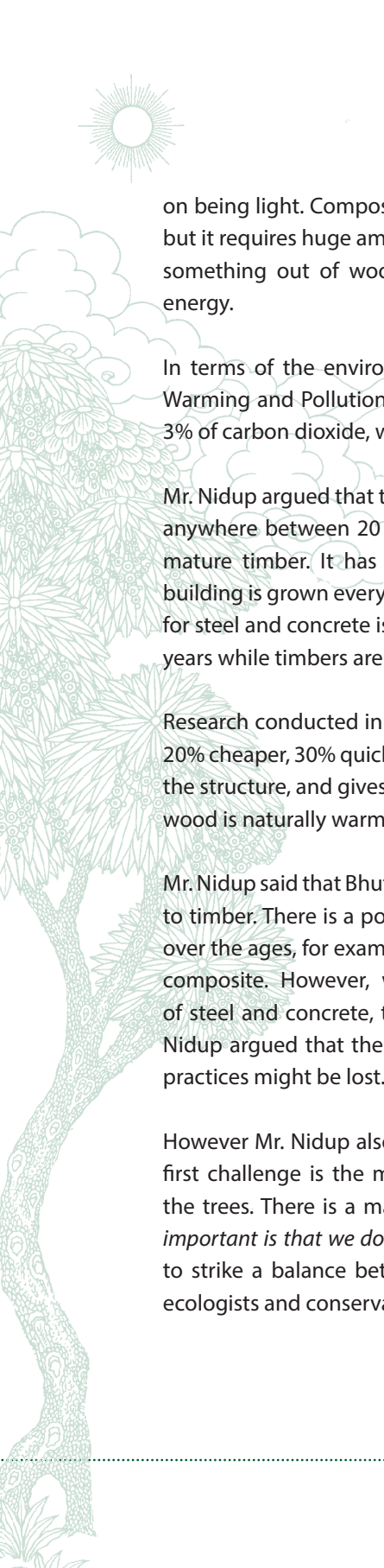
Mr. Nidup explained that the world population would touch 10 billion by 2050 and each individual will need a shelter. By some estimates, 100,000 homes need to be built in a day by 2050. *So what are we going to use to make those homes?*

He said that the building industry's ecological footprint is huge, with the industry accounting for 40% of Global Resource Consumption, 40% of Global Energy Consumption, 40% of Global Greenhouse Gas Emission and 40% Global Solid Waste Generation. The global temperature rise needs to be controlled within 1.5 to 2 degrees. And the building industry is one of the big players contributing to global warming and climate change.

Mr. Nidup said that the dilemma is: either save the planet or forget providing shelters or provide shelters at the risk of putting our own future in danger. It is a Sophie's Choice scenario; *either way we are damned. So, what is the solution?* Mr. Nidup argued that fortunately timber offers a solution. In order to make a case as to how timber is going to be a solution, he said that four areas have been considered – efficiency, energy, environmental, and economic.

According to material efficiency criterion in different structural roles, wood is almost equivalent to steel and even better in terms of efficiency.

In the case of structural efficiency in terms of energy need, Mr. Nidup said that the only comparable materials are carbon composites. But these are high-energy intensive artificial materials with values as comparable to those offered by timber. Wood is light, it will float on water; there is a high premium



on being light. Composites have almost the same level of efficiency as wood but it requires huge amount of energy. Only 2% of energy is required to make something out of wood but carbon composites consume 17 times more energy.

In terms of the environment case, Mr. Nidup explained that steel's Global Warming and Pollution Potential is 3%; that is, 3% of steel is responsible for 3% of carbon dioxide, which brings out emission conflict to 5 to 8%.

Mr. Nidup argued that there are fast growing species of trees. Timber can take anywhere between 20 to 25 years to grow from certain stage to full grown mature timber. It has been found that enough wood for a seven-storied building is grown every 15 minutes in USA and Canadian forests. Raw material for steel and concrete is replenished over geological timeline of thousands of years while timbers are re-grown and renewed within 20-25 years.

Research conducted in Australia, Canada and Europe has found that wood is 20% cheaper, 30% quicker, four times lighter in terms of handling and erecting the structure, and gives better safety outcomes on site. The final bonus is that wood is naturally warm and comfortable.

Mr. Nidup said that Bhutan is not alien to the technologies and practices linked to timber. There is a pool of knowledge associated with timber accumulated over the ages, for example, timber bridges called *bazam* and bamboo-timber composite. However, with the advent of modern construction materials of steel and concrete, the use of these traditional materials is declining. Mr. Nidup argued that the danger, in the long run, is that indigenous technical practices might be lost.

However Mr. Nidup also said that timber does have its own weaknesses. The first challenge is the misconception that it would require cutting down all the trees. There is a mandate to keep at least 60% forest coverage. *What is important is that we don't miss the forest for the trees.* He said there is a need to strike a balance between consumption and conservation. That is where ecologists and conservationists should come in.



Mr. Nidup quoted the ground-breaking research done by the ecologist Professor Suzanne Simard in which she says that trees can actually communicate in a forest area. There are some important trees in the forest, which she called 'Mother Trees', which are key to the survival and indicate how well the forest ecosystem thrives. Mr. Nidup said that so long as the mother trees are protected and other trees are cut down, there should not be a problem.

Mr. Nidup said that fire is another problem. Everybody thinks timber is vulnerable to fire. It is not so. *The reason why the twin towers collapsed is not because of the impact of the airplane but because of the increasing fire that melted the steel.* In fact steel is much more vulnerable to fire than timber. The major problem with the timber in Bhutan's case is the quality of the timber. And that is where the engineered products come in. *The biggest benefit of engineered timber products is that we don't have to cut down the last tree.*

He said that Bhutan's forest coverage is 71%. There are 0.8 billion trees in Bhutan - 50% are broad leaf and 20% coniferous. He calculated the volume of timber that is excess of 60% mandated by the Constitution and based on the estimation, he predicted that Bhutan would require 45,000 such buildings (four-storied structures with eight units) to provide shelter to the population by 2050. Mr. Nidup said that theoretically it seems there is enough timber, just by touching the additional 11% forest coverage that is the excess of the 60% mandated by the Constitution.

Mr. Nidup proposed that sustainable forest management and practice is the key and there cannot be a thriving timber industry without a thriving forest. There is a need to revamp the timber industry to reduce wastage. For that there is a need for human resources, technology and research and development.

In conclusion, Mr. Nidup said that inspiration can be drawn from the five critical stages in the life of Gautama Buddha. The Buddha was born under a tree, at age of five he had his first taste of meditation under a tree, he obtained enlightenment under a tree, and he preached his first sermon under a tree and passed away under a tree. *Would it not make sense for us as GNH people to also live in a building made out of trees?*



5.3 Space Technology for Bhutan: Yeshey Choden, Department of Information Technology and Telecom (DITT), Ministry of Information and Communications (MOIC)



Yeshey Choden, a Space Engineer with the Division of Telecom and Space under the Department of Information Technology and Telecom, Ministry of Information and Communications, said the space programme in Bhutan was inspired by the vision of His Majesty the King to create awareness and generate interest in space science and technology in order to improve the lives of the Bhutanese people. The end goal of the space programme, she emphasised, is to make the lives of Bhutanese people better in terms of social and economic prospects.

Ms. Choden shared that she was fortunate to be a team member on Bhutan's first satellite project. The first satellite Bhutan-1 was 10cm cube in size, which was launched in June 2018, using one of the rockets of Space X, a company owned by Elon Musk. The satellite was 1.2 kilograms with camera, EPRS, GPS features. The ground station is in Bhutan and Japan. The satellite project was part of a joint multi-national project hosted at the Institute of Technology, Kyushu University in Japan.

Presenting an overview of the global space economy, Ms. Choden said that the total global space economy was valued at US\$ 344.5 billion as of 2016, and it is growing at an exponential speed over the past few years. While the US, Russia and a few big companies control a majority of this space economy, new players are also coming into the space industry. She said that Bhutan is a good example of this. *Nobody would have thought that Bhutan would become one of the players in the space industry.* This has been possible because of space 4.0 revolution, technology, and innovation.

Ms. Choden highlighted several advantages of space technology. First, remote sensing satellites provide key data for monitoring soil, snow cover, drought, crop development that can inform farmers to improve agriculture practices. Remote sensing data have enhanced scientific understanding of water cycle, air quality, forest and other aspects of the natural environment.



Second, remote sensing technology can be applied to study epidemiology of infectious diseases, monitor disease patterns, understand environmental triggers for spread of diseases, predict risks areas and define regions that require disease control planning. Computer and telecommunications technologies including satellite communications enable sharing of health and medical expertise. That is where telemedicine comes into play.

Ms. Choden pointed out that earth observation from space is a cost effective way to obtain unbiased and essential data on the physical world. Decision makers can use this information to understand and evaluate needs and create sustainable development policies. The benefit of space technology cuts across all sustainable development goals especially areas like gender equality, clean water and sanitation.

In Bhutan's context, Ms. Choden said that space technology can be used in about 21 different themes, spanning across 14 National Key Result Areas of the 12th FYP and 64 key performance indicators. She observed that space technology can be applied in areas like education, air quality, climate and weather, water management, preservation of cultural heritage sites and in assessing the potential or efficiency of the hydropower projects.

For instance, two particular key performance indicators under agriculture can be directly affected and enhanced using space science and technology. Space technology can be used to measure the production of rice and maize crops using remote sensing satellite data to track the growth of these two crops, understand growth patterns, and estimate forecast. Accordingly policymakers and agro-based industries can use the data to make informed decisions as to how much rice should be exported or imported or when is the good time to import rice. Space technology can further help make import decisions.

5.4 Question & Answer Session

Q. Moderator: *The first question is to Dr. Kinley Tenzin. From your presentation and as well as from the research papers we have read, many habitats in Bhutan for the White Bellied Heron are located in the*

hydropower construction sites. From a conservation point of view, what are the challenges and opportunities?

Response by Dr. Kinley Tenzin: Basically the question is about the synergy and compromise between hydropower plant constructions and conservation. From the conservation point of view, there is a conflict. The Articles of Association of RSPN explicitly mentions that as an NGO, its role is to be a watchdog of government efforts. My stand on this is that in the 21st century we cannot mire ourselves in conflicts. Teamwork is required on any matter. So what we actually did was that we negotiated with hydropower plants very subtly and tactically. And finally we were able to get around US\$ 700,000 to construct the captive breeding facility. I think eventually since everything is connected and interdependent, we need to work together because conservation is all about teamwork and team effort.

Q. Moderator: My second question is to Mr. Tshewang Nidup. On one hand, there are many research papers that indicate we have huge timber resources and timber reserve. Dr. Phuntsho has presented empirically that there are enough timber reserves in our country, which we can harvest sustainably to meet the timber demand. On the other hand, for any construction be it in the urban or in the rural areas, we prefer concrete materials to timber. Where do we see the hurdles? Is it policy or is it the awareness of the people? Or is it misinformation that we have a timber shortage?

Response by Tshewang Nidup: There are three different elements in your question. With regards to the discrepancies in the actual figure of the forest coverage, I think, it's probably because of the way in which forest has been defined. The official definition of forest (according to FAO) is a tree or plant of certain height having a certain diameter and height. That is the definition the Department of Forest has considered to count the number of trees. I haven't yet read Dr. Phuntsho's paper but probably he might have also considered shrubs and bushes as forest cover. That could be a reason for the discrepancies.

On the question of why we are not really using timber, let me use an analogy. As there is a gem in the ocean, there is a gem in the forest. But then we need boats, drivers, gears and the equipment to really go down deep into the ocean



to extract the gem. Similarly, the forest in in the wilderness and we need infrastructure to capitalize on this potential resource. In particular, we need to revamp our timber industry and use engineered wood products to minimize the impact on forest coverage. A very simple example is the rubber wood furniture that we have in our offices. Such furniture is made out of wood that was in fact waste, using new technology called finger jointing. The pieces that would have been otherwise thrown away are assembled together to make a bigger component that can be used to make furniture.

There are lot of technologies and research conducted all over the world to produce engineered wood products, and the biggest advantage of that is we can have big timber elements without the need of big trees. So it is not really about chopping every tree or the last standing tree. It is about using technology to put together waste wood to produce some other elements.

Q. Moderator: *My third question is to Yeshey Choden. As a common person who does not have much knowledge on space technology, where do we see our future in terms of using space technology for instance in telecommunication services or agriculture? Bhutan Broadcasting Services pays almost Nu 4.5 million in a year and the Department of Hydrology pays about Nu 1.2 million to different service providers. Where do we see our future?*

Response by Yeshey Choden: As I mentioned in my presentation, we have identified around 64 KPIs in the 12th plan alone where space technology can be used to achieve those KPIs. By looking at this number, there is a lot of potential for application of space technology in Bhutan, especially in achieving our development goals. Since the 64 KPIs span across all the different ministries and about nine National Key Result Areas, we need to get together and discuss and consult which areas to prioritise. The development of space technology requires investments and capacity. So all the different stakeholders need to come together, discuss and prioritise the space applications.

Q. Rinzin Rinzin: *My question is to Dr. Kinley Tenzin. A couple of years ago, I was also involved in the conservation of White Bellied Heron. That time, we found out that during a site visit, there was no fish ladder in the first*

Punatshangchhu dam. The second one, which was under construction, also did not have plans for a fish ladder. We were concerned that mahseer may not be able to migrate upstream of the dams. Therefore we negotiated with the Punatshangchhu project to provide some funds to breed mahseer in Gelephu and then have them released upstream of the dam. Later, I found out that the fish had already been bred but they were waiting for orders to be released. So where were those fish released? Did RSPN notice any kind of impact on the conservation of White Bellied Heron because of the Punatshangchhu project I and II dams not having fish ladders?

Response by Dr. Kinley Tenzin: If you look at the overall proposal developed by the hydropower companies, it is clearly reflected in the proposal that the fish ladders should be installed but there are problems in implementation. So far no fish ladder has actually been installed. The construction of Punatshangchhu - I is still going on. The dam construction is still going on and only after they start to build the dams, they will come up with fish ladder. The mahseer breeding has also started and lately we had an international conference on mahseer. During the conference, it was confirmed that if domesticated breed is released into the wild there are chances that the native genetics of the mahseer will be completely phased out from our river system.

Q. Sonam Tashi (National Center for Hydrology and Meteorology): ***Bhutan launched the nano Satellite on June 29, 2018. I would like to know whether that satellite is geostationary satellite or polar orbiting satellite. It is mentioned that the life span of the satellite is 6-9 months. After the expiry of its lifespan, what are the plans in the future?***

Response by Yeshey Choden: As I mentioned earlier we developed a cube sat which is basically a satellite in the form of a cube. This is international standard and all the cube sats must be in cube and if it is 10 cm then it is called 1U and if it is 20 cm then we call it 2U and so on. The satellite was launched first in the international space station, which is about 450 kilometers above the earth. This earth orbit is called Leo orbit (Low earth orbit) so it is not a geostationary satellite because if it were to be a geostationary satellite, it has to be launched at geostationary orbit, which is at 36,000 kilometers away from earth. We



launched it at 450 kilometers, which is in Neo orbit and we call it Neo Sat.

We estimated that our satellite would be in the orbit for six months, after that it will slowly decrease in altitude and eventually enter the earth's atmosphere and catch fire. That will be the end of our satellite. The first satellite was an experimental project for us and for the whole country. We are happy that we were able to develop that small satellite and we were able to launch it. In the next satellite project, I am sure everyone is expecting some kind of operational services. So, we in the division are now in consultation with relevant stakeholders and also discussing relevant prospective satellite development partners. We will be soon starting our next project which will be bigger and which will be offering more services to the country.

Q. Dr. Chenchu Lhamu: *I was really curious about how to identify a mother tree which almost seems like a mother bee to me and with that knowledge what is your plan because there seems to be one way to conserving the environment and the ecology?*

Response by Tshewang Nidup: What I have gathered going through Professor Suzanne Simard's papers and documents is that usually the oldest tree in an area is the Mother tree because it is older and has more experience and exposure to natural elements. It is the repository of wisdom.

Q. Tashi (HELVETAS, Bhutan): *Despite all the advantages that you presented why is your Muhammad Ali (timber as you called it) still getting beaten by steel and concrete?*

Response by Tshewang Nidup: In engineering there is something called inertia, that's the tendency for anything to change. It is very difficult to fight inertia. The current inertia is with concrete and steel because these are conventional materials. Here we have hardly started. Even in developed countries timber is just about beginning to make inroads. A forum like this is a wonderful opportunity for people to exchange ideas. To be fair, we are behind in terms of engineering capabilities and ideas. And there is a long way for us to go. I think advocacy and concentrated efforts are important.

6. Session 4: Panel on Education and Conservation



The session was moderated by Dr. Chencho Lhamu, the Director at Bhutan Centre for Media and Democracy (BCMD).

6.1 Education: Back to the Future: Dorji Wangchuk, PhD candidate, University of Macau



Mr. Dorji Wangchuk stated that he has made three assumptions. First, education is a preparation for life. Second, education is in crisis not only in Bhutan but also all over the world. And third, GNH is about contentment, balance, and wellbeing and not so much about happiness per se.

Mr. Wangchuk said that he worked with a group of researchers, including positive psychologists, to develop the four pillars of wellbeing curriculum based on mindfulness, community, self-curiosity and contentment. These four thematic areas were developed after going through 5,000 years of wisdom of all the great traditions of the world, from Buddhism, Hinduism to Godism. Even ancient Vedic texts were referred. The four pillars have been further divided into eight to fifteen lessons.

Mr. Wangchuk pointed out that these modules are tools for the teachers. He said that his contention is that no learning happens where the teacher is demotivated or stressed or unskilled. These tools are currently tested in one school in New York and one in Florida. The school in New York is in the Bronx, where 80% of the children come from 'broken' families, families whose parents were killed or murdered, or died of overdose or in jail. The other school is



an elite school in Florida with children from rich families and high degree of entitlements. Mr. Wangchuk said that statistics have been encouraging. Bullying in the school in Bronx has been reduced by 80%. Teacher attrition has also gone down, with many finding it fulfilling to be a teacher.

Mr. Wangchuk said, his concern is: how do we make teaching a loving and fun profession in Bhutan? He said that he was encouraged when the Prime Minister said at the Royal Thimphu College convocation recently that he wants to make teaching the best profession in the country.

Talking about the whole gamut of issues surrounding education, he observed that there is a need to step back and understand where we come from, what are the values that we hold dear in this country, and who are we as Bhutanese? *These are the questions that we need to ask before we launch any new reforms or initiatives.*

Mr. Wangchuk shared a couple of lessons that he learned as a teacher. First, teaching is not just about curriculum. He said that a good curriculum and a bad teacher would produce bad students. As a teacher, one has to recognise each student as an individual and not to take the whole class as a batch. A paradigm shift is required. No learning takes place in a class where the teacher is de-motivated. Mr. Wangchuk said that this is the current status of all the teaching communities all over the world, including Bhutan. And there is no such thing as a 21st century curriculum. *So how do we prepare children for life?*

Mr. Wangchuk said that it's time to go back. *What did your mom tell you when you went to school?* He said his mom told him: *'Know your limits. A person who knows the limit is smart. Take care of your mind. And never think of yourself alone, think of the community'*. Mr. Wangchuk concluded that the discourse on any new initiative in education should be based on Bhutanese values, and tools should be developed marrying western methods with Bhutanese traditions. And more focus should be placed on teachers rather than on students or curriculum.



6.2 Local beliefs as intangible asset for environmental conservation: Rinzin Rinzin, Former MP/Writer/Consultant



In his presentation, Mr. Rinzin Rinzin explored the wide gamut of local beliefs that support environmental conservation. At the core of this belief system was the notion that people did not merely live on this earth, in villages or in homes or with the biota that is flora and fauna but also shared the world with supernatural beings. Mr. Rinzin opined that over time such beliefs have become deeply ingrained in local tradition, valued and cherished even to this day especially in rural areas. Much of these norms, beliefs, traditions, and cultures have been orally transmitted from one generation to the next. And these narratives actually contribute to environmental conservation directly or indirectly. These beliefs are invaluable assets to environment conservation.

Mr. Rinzin said that Bhutanese elders believe that plants have souls too and that is why they advise against cutting down trees unnecessarily. They would especially advise against cutting down young trees and bamboos. The scientific reason is these trees are useful. Bamboos are useful. He said that back in his village, his grandparents used bamboo mats as roofs. Such profound beliefs basically promoted mutual, co-existence. *There were also beliefs that setting a forest or grassland on fire would accrue the biggest sin. And people would refrain from setting forest on fire.*

Local beliefs also discouraged people from causing harm to wild animals and often animals were addressed by filial terms. For instance, an elephant is called *Meymey Sangay* –the Grandfather Buddha, the tiger would be referred to as *Pon* or King, the bear as *Azha* or uncle and the Rhino as *Norb Sili*– the precious Rhino. Such manner of addressing wild animals, Mr. Rinzin said, exemplified the level of reverence village folks have towards animals.

Talking about the Yeti, Mr. Rinzin said that people have been questioning the existence of yeti. *People should leave the Yeti alone.*

He also highlighted how communities respect the mountains, lakes, gorges and even cliffs for they believe supernatural beings reside in these places.



Such beliefs have resulted in local practices such as *La Dham* – the practice of closing entry to mountains and passes for all humans during certain period of the year. It is also believed that fishing during certain periods, especially during the spawning period is considered sinful.

Mr. Rinzin concluded that all these local narratives have in one way or other contributed to environmental conservation. He urged environmentalists, policymakers, and politicians to be aware of and respect these beliefs, norms and narratives while developing sustainable environment and conservation policies and programmes.

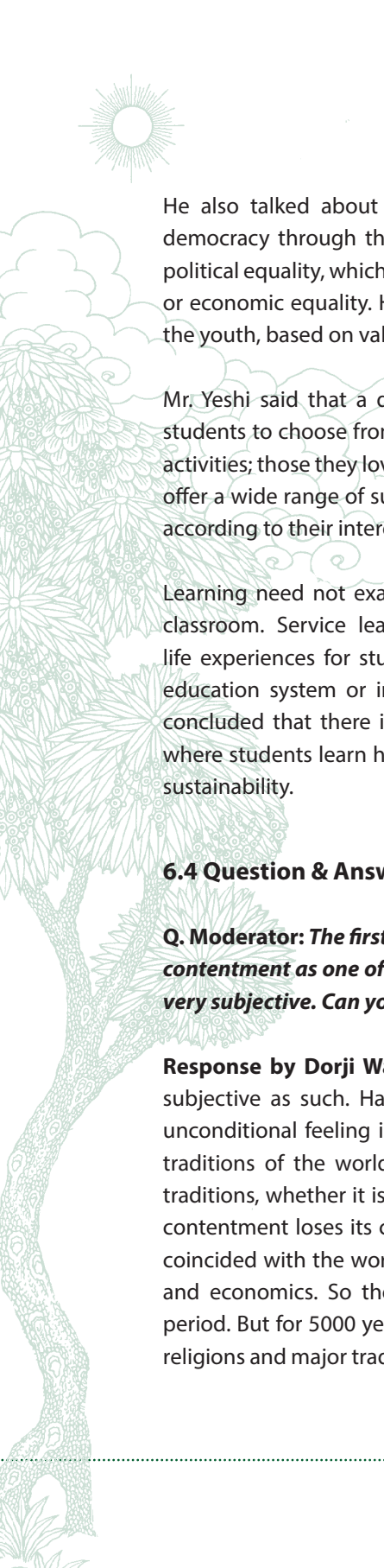
6.3 Policies & Expectations: Ugyen Yeshi, Teacher, Khuruthang MSS, Punakha



Mr. Ugyen Yeshi reflected on the realities confronting teachers in schools and the education system in Bhutan. It is high time for a paradigm shift in the education system, from the conventional performance based education system to a growth based education system. He reasoned that in the current system, there are no clear ways to understand whether students are growing or not. As long as the syllabus is covered and the exams are conducted, there are no other ways to evaluate student's progress. Mr. Yeshi said that teachers must make students feel that they are learning. He said that education policy must go beyond curriculum and academics.

Mr. Yeshi opined that the goal of education has been misplaced, with major focus on producing employable students. The bigger role of education is to inculcate values. Education must be value-based rather a competition for employability. There is a need to look for key values in schools and that must inform policies.

Mr. Yeshi pointed out that there is an increasing perception among Bhutanese that education is given only in formal classrooms. In so doing, parents push away their social responsibilities, expecting teachers and schools to raise their children.



He also talked about democratic values and equality and promotion of democracy through the education system. He reflected that while there is political equality, which primarily was one vote per person, there was no social or economic equality. Here, schools can play an important role in educating the youth, based on values, not merely based on scores and competition.

Mr. Yeshi said that a democratic school must have plenty of activities for students to choose from. Students must be given the opportunity to choose activities; those they love to learn in school and be a part of. Schools must also offer a wide range of subjects so that students have options to choose from, according to their interests. Schools can be a model of democracy.

Learning need not exactly happen only in the school, in one place or in a classroom. Service learning offers distinctive, meaningful and influential life experiences for students. However, he pointed out that in the present education system or in schools, service learning is discouraged. Mr. Yeshi concluded that there is a need to push for value driven education system where students learn holistic values, including environment, democracy and sustainability.

6.4 Question & Answer Session

Q. Moderator: *The first question is to Mr. Dorji Wangchuk. You talked about contentment as one of the wellbeing tools. Now, contentment is something very subjective. Can you really teach people contentment?*

Response by Dorji Wangchuk: Our understanding of contentment is not subjective as such. Happiness is subjective but contentment is that deep unconditional feeling inside each one of us. When we look at all the major traditions of the world, contentment is one word that cuts across all the traditions, whether it is Hinduism, Buddhism or Islam. Interestingly the word contentment loses its currency around 1800. We are hypothesising that this coincided with the works of Adam Smith and his several theories on market and economics. So the word contentment loses its currency around that period. But for 5000 years, it was the word that was prophesised in all major religions and major traditions. Now can we teach contentment? Of course! My



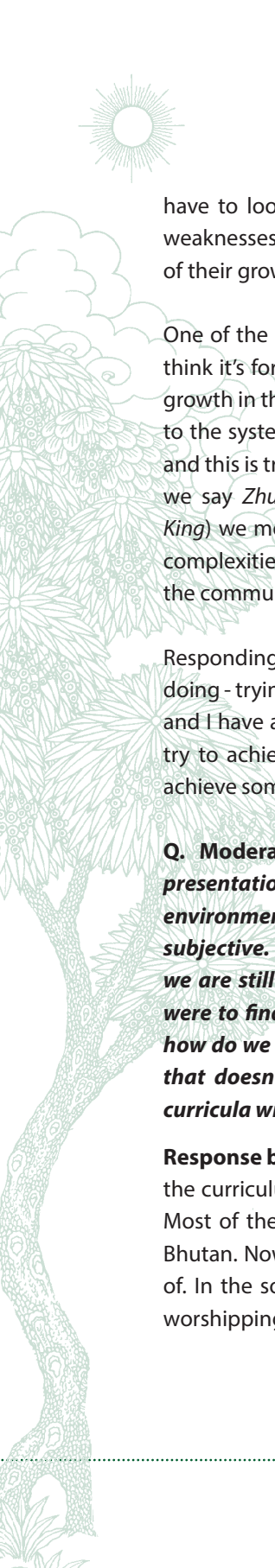
mother taught me how to be content. We were always told to practice *tsham tse* – a word that means ‘enough’. So we can teach the values of *tsham tshe* and we can teach values that would make people feel content, feel enough.

Q. Moderator: *Back in 2009 there was a nationwide initiative to integrate the Philosophy of Gross National Happiness in schools and that initiative was to integrate all these Buddhist values and principles that are critical to the concept of GNH. So as a practicing teacher you are aware of the ground realities. What’s happening to it?*

Response by Ugyen Yeshe: Actually year 2009 is too far in the past. We can talk about the nearer past, for example, 2016. We have had several programmes such as 21st century pedagogy, transformative pedagogy and English for Effective Communication programmes. Even these are not actively practised in schools now. Educating for GNH was introduced in 2009. Perhaps some schools do practice GNH. However, while making lesson plans, we do integrate certain values of GNH.

Q. Moderator: *Talking about teacher motivation, Bhutan made a bold decision of making teaching profession one of the most highly paid jobs in the country. But teacher motivation is influenced by both intrinsic and extrinsic sources. Love for the profession gives you that intrinsic motivation while extrinsic motivation could be influenced by working environment, the availability of resources, a decent staffroom, a computer to work on, class workload, work life balance and last but not the least income. As an academic, as a researcher, what’s your thought as to whether we are talking GNH or practising GDP?*

Response by Dorji Wangchuck: I am personally very happy that this move has been taken although I must also warn you that it is not going to sustain for more than two months because after the third month, the teachers will be back to being stressed and then trying to leave for Australia. Now that’s the reason where I mentioned that we need to look beyond the classroom. The salary raise will definitely help in attracting teachers or new teachers but it will not help in retaining good teachers. That’s a very bold statement that I’m making. Now how do we go about? What’s the solution? The solution is that we have to go beyond the psychological needs of the teachers. We now



have to look at the intellectual growth and their emotional strengths and weaknesses. How do we sustain them in the profession? We need to take care of their growth.

One of the studies that I am doing is why do people leave for Australia? We think it's for money. It is not. They are leaving because there is no more self-growth in the system. People are feeling undignified. They are feeling chained to the system. One good thing about Bhutanese is that we love our country and this is true across the board. Everybody wants to serve the country. When we say *Zhung chha zu ni, Poen chha zu ni* (Serve the government, serve the King) we mean it. But then when they get into system, it is so intricate with complexities, that it does not allow them to do anything for the country, for the community, let alone for their family.

Responding to your question on GDP and GNH, that is what we have been doing - trying to achieve GDP while mastering in GNH. But that's the challenge and I have absolutely nothing against it. I hope we continue to discuss GNH, try to achieve GNH because in trying to achieve something good you will achieve something but if you do not try, you're not going to achieve anything.

Q. Moderator: *My next question is to Dr. Rinzin Rinzin. From your presentation it is evident that local beliefs are clearly an asset to environmental conservation but again if you look at, these beliefs are subjective. We say that Bhutan is a small country but within that smallness we are still diverse. We have different local and regional beliefs. So if we were to find a space for those kinds of beliefs and in the school curricula, how do we do that? Is there an educational model or pedagogic approach that doesn't appear didactic? How do we integrate that in educational curricula without making it didactic, basically being fair to all regions?*

Response by Dr. Rinzin Rinzin: We need not really integrate such beliefs into the curriculum to let our youth know and understand these different beliefs. Most of the places I touched on are based on my experience from eastern Bhutan. Now in the west there might be other beliefs, which I am not aware of. In the south, Hindus have their own beliefs such as worshipping a cow, worshipping a tree.



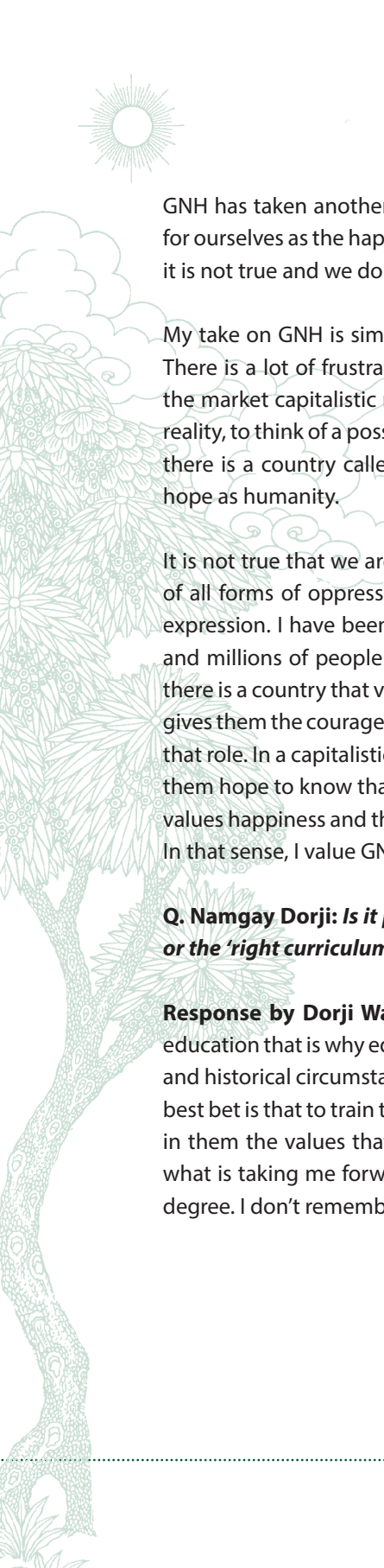
Nevertheless I try to share these through my writings. I have authored seven books under different genre: four illustrated folk tales for children, one short novel and collection of creative stories and an anthology of poems. In all these books, the reader will find various beliefs woven into the stories, woven into poems. Mr. Gopilal is also a writer. He could do the same for his community and then make these books available to schools. Education often talks about curriculum having to be culturally relevant and if it has to be culturally relevant then we must make sure that students have access to books written by Bhutanese. We can localize programmes based on the local narratives.

Q. Moderator: My last question is to Ugyen Yeshe. You made a case for a growth based education system rather than a performance based one but as you are aware, most children look for a job, they look at education as a means to employment. We have a system of meritocracy in the civil service and it requires one to submit certificates, which show grades. What you are suggesting is wonderful but it could disrupt the system. As a teacher what are your suggestions as to how the system should adapt in a way so that we are able to really have the growth based education system?

Response by Ugyen Yeshe: I think it will be difficult in the beginning to change the mindset. In a growth based education system, students can utilize their own creativity, pursue their own interest, and then later use their interest and passion to earn a living. However, currently we have a competition-based system, which prepares students for a job. It is all about good scores, certificates, and grades. There is no real growth. There is no space for creativity. Students cannot pursue their interest.

Q. Tenzin Samdrup, ex teacher: I would like to seek clarifications from Mr. Dorji Wangchuk. It is regarding GNH philosophy. How far can GNH philosophy survive or meet the future needs considering the social capital status of our country?

Response by Dorji Wangchuk: We all have different definitions of GNH. I have given you mine, which has got to do more with contentment. If you read how the Fourth King made that statement, I think its contextual meaning can be understood more as contentment and not so much as happiness. But now



GNH has taken another dimension, which is the brand that we have created for ourselves as the happiest country. I have to keep shouting at the world that it is not true and we do not mean that.

My take on GNH is simple. The world is going through a very dramatic shift. There is a lot of frustration, a lot of desperation, a lot of resentment against the market capitalistic model. Now within that model, when they live in that reality, to think of a possibility of a country that values happiness, to know that there is a country called Bhutan valuing happiness somewhere, gives them hope as humanity.

It is not true that we are all happy here. America is branded as a country free of all forms of oppression, where there is freedom of speech, freedom of expression. I have been there several times and it is not true. But thousands and millions of people living in oppressed countries, for them to know that there is a country that values human rights and freedom, it gives them hope. It gives them the courage to move on, to live on, to see another day. Bhutan plays that role. In a capitalistic world where everyone is exploiting the earth, it gives them hope to know that there is a country, somewhere in the Himalayas, that values happiness and the King has declared that happiness is more important. In that sense, I value GNH. I agree with this GNH movement.

Q. Namgay Dorji: *Is it possible to have something like the 'right education' or the 'right curriculum'?*

Response by Dorji Wangchuk: There isn't. There is no such thing as right education that is why education has to be looked from your own socio-cultural and historical circumstances. That is why it is important for us to step back. My best bet is that to train the future citizens of 21st century Bhutan, we must instil in them the values that my mother and my grandmother taught me. This is what is taking me forward or has taken me very far. It is not my engineering degree. I don't remember any subjects that I studied. It is the values.



7. Closing remarks by Mr. Gerald Daly, Resident Coordinator, UN Bhutan



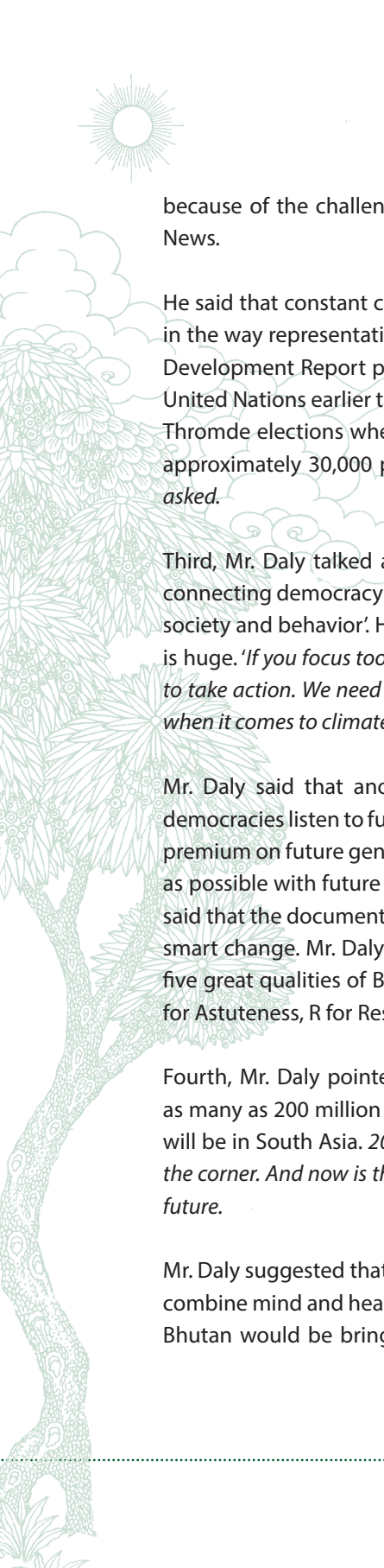
The Resident Coordinator of United Nations in Bhutan, Mr. Gerald Daly, gave the closing remarks. Mr. Daly touched on Dorji Wangchuk's topic on mindfulness and urged the participants to think about mindfulness as a way to influence some type of an intention or an action.

Mr. Daly urged the participants to ask: *Could I change my opinion about something based on what I have heard? Would you change your opinion? Secondly, what can you do to help shape your future or the future of this great country? Ask yourself if you have an opportunity to influence the future.* Mr. Daly pointed out that this could happen through a conversation with one of the MPs, talking to one of the government officials within the National Environment Commission or volunteering with one of the CSOs that have been part of the process such as Bhutan Centre for Media and Democracy or Helvetas.

Mr. Daly said 'Action and intention' is the title of his short presentation, 'balancing mind and heart for democracy and the environment'. *Sem dang Nog sam thuen go!*

Mr. Daly spoke on four insights and four suggestions for action. First, he reiterated the Honourable Speaker's keynote address on the Constitutional provision, quoting Article 5: *Every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations and it is a fundamental duty of every citizen to contribute to the protection of the natural environment.* Mr. Daly said that is a great honour but also a great responsibility.

Second, democracy requires constant cultivation. Mr. Daly stated that one of the reasons why democracy requires such constant care and attention is



because of the challenges around social media and what is called the Fake News.

He said that constant cultivation is also required to address apparent deficits in the way representatives are elected, drawing attention to National Human Development Report produced by the Royal Government of Bhutan and the United Nations earlier this year. He highlighted the example of Phuentsholing Thromde elections where a few hundred people elected the Mayor whereas approximately 30,000 people live in Phuentsholing. *There is a question to be asked.*

Third, Mr. Daly talked about interesting research around the psychology of connecting democracy and climate action. The title of that document is 'Mind, society and behavior'. He said the power of the media to shape how we think is huge. *'If you focus too much on gloom and doom then it does not help people to take action. We need to be wise. We cannot overemphasise gloom and doom when it comes to climate change. We have to find the balance.'*

Mr. Daly said that another suggestion from the document is that strong democracies listen to future generations. Because Bhutan's Constitution puts a premium on future generations, there is a need to find ways to engage as fully as possible with future generations and the young people in Bhutan. He also said that the document highlights the psychology of how we can bring about smart change. Mr. Daly reminded everyone how His Majesty has defined the five great qualities of Bhutanese - SMART: S for Sincere, M for Mindfulness, A for Astuteness, R for Resilience and T for Timelessness.

Fourth, Mr. Daly pointed out that research now indicates that there will be as many as 200 million climate migrants in the world by 2050. Some of these will be in South Asia. *2050 may sound like a long way away but it is just around the corner. And now is the time for us to anticipate astutely the challenges of the future.*

Mr. Daly suggested that projects implemented in Bhutan need to find ways to combine mind and heart (*Sem dang Nog sam thuen go*). He said that the UNDP Bhutan would be bringing in 300 electric vehicles over the next two years.



This is going to reduce pollution and help the private sector. Most importantly this would reduce dependence and the money spent on expensive fossil fuels. This is *Sem dang Nog sam thuen go*, something good in action.

Mr. Daly reminded that the last Youth Parliament occurred on 6th January 2017, almost two and a half years ago. He urged the participants to consider reactivating the Youth Parliament. He said that there were challenges, and lessons have been learnt. He also suggested that given the example of Mayoral election in Phuentsholing, a larger number of people who live in Phuentsholing should be included so that many more people can have a direct influence on their main representatives.

Mr. Daly said that media is right at the heart of shaping the future and there is a need to continue to build and strengthen the media. The United Nations in Bhutan does this and other sections of the society can also assist.

Finally, he said that there is a strong need to strengthen education in the high schools, lower secondary schools and the universities of Bhutan. University is the crown jewel of the education system and must be sufficiently funded because so many young Bhutanese are going to the universities and preparing for the future. Mr. Daly said that the some challenges of climate change are specific to Bhutan and there is a need for smart Bhutanese to do the smartest things on climate action for Bhutan. He said that the Royal University of Bhutan, including private colleges such as Royal Thimphu College and Norbuling Rigter College in Paro, could play important roles in finding the smartest ways to adapt to the challenges and to take climate action forward.

In concluding, Mr. Daly reaffirmed the United Nations' commitment to continue to be a good partner in helping the Royal Government of Bhutan, the Parliament and the citizens to protect its future, which is important not just to Bhutan but also to the entire world.

8. Vote of thanks



The Co-founder of Center for Local Governance & Research (CLG), Mr. Sangay Khandu, gave the vote of thanks and highlighted a few take-aways from the conference. He said that the Honourable Speaker in his keynote speech shared the wisdom of *Thuenpa Puenzhi* (Four Harmonious Friends) and how Bhutanese people have been living in harmony with nature and set the right tone for the conference. While the word 'Biodemocracy' was new, Bhutanese people have always followed its principles and philosophies.

Reiterating the UN Resident Coordinator's insightful presentation on SMART, Mr. Khandu emphasised the need to be SMART, especially at a time when there is an increasing need for research to inform policymaking and decision-making. He also drew attention to the issue of election of Phuentsholing Mayor where only a few hundred people voted while there were 30,000 people living in Phuentsholing. Mr. Khandu said that such issues need to be discussed and addressed. He also highlighted the need to strengthen the universities in Bhutan besides the schooling system.

Mr. Khandu thanked the Honourable Speaker for sitting through the entire programme, which was a huge encouragement for all participants attending the conference including the organisers. He also thanked Resident Coordinator of UN systems in Bhutan, Mr. Gerald Daly, for making an insightful presentation.



He also thanked Dr. Nitasha Kaul and Centre for the Study of Democracy and University of Westminster, London, UK, without whom this project would not have materialised. Mr. Khandu said that people behind Center for Local Governance & Research are in a stage of life where they have moved on from public service and are exploring possibilities of how to use their experience in a useful way.



Mr. Khandu also thanked Bhutan Trust Fund for Environmental Conservation and Druk Holding and Investments for supporting the conference. He also thanked all the speakers, moderators and all the participants for actively engaging in the conference proceedings.

Dr. Nitasha Kaul, Centre for the Study of Democracy (CSD)

On behalf of the Centre for the Study of Democracy, Dr. Nitasha Kaul thanked the Center for Local Governance & Research for making the conference possible. She also thanked the Honourable Speaker, UN Resident Coordinator, Mr. Gerald Daly, all the speakers, moderators, and the participants. Dr. Kaul said that she is tremendously grateful and privileged to be a part of the conference.

Dr. Kaul said that it would not be fair if she did not talk about what biodemocracy exactly meant. She said Bhutan is trying to develop mindfully yet it faces significant challenges relating to economy, society, and climate change. She said that Bhutan is a small high altitude country, rich in natural resources, surrounded by fast urbanizing environmentally unsustainable resource hungry and populous neighbours. Further, as a fragile natural ecosystem and as a democratising GNH welfare state functioning in the digital era, Bhutan needs a balance between the expectations of economic and livelihood opportunities especially for the largest demography of educated younger, population and also it needs a socio-economic trajectory that combines sustainable organisation of space and resources in order to build resilient cities, communities, and ecosystems.

Dr. Kaul said that Bhutan, as it stands on the cusp of its first decade after formal democracy, faces various vulnerabilities such as urban employment and rural livelihood generation. And all of this is nested within the larger pressures of biological and social ecosystem sustainability. These are the challenges that are really important.

Dr. Kaul said that the speakers have deliberated on various aspects of the challenges and the need for resilience. The discussion has helped bring together different ends of the spectrum. *On one end of the spectrum, it makes us think about political ecology - what is the ecology of political decision-making,*



and on the other end of the spectrum, it makes us think about ecological politics. How do we use resources in better ways?

Dr. Kaul also highlighted that the leaders and Kings of Bhutan and citizens who are the trustees of the environment understand that it is the responsibility of democratic consciousness and citizens towards people and the planet. She concluded by reiterating that as much as the world needs Bhutan, Bhutanese also need to work towards that dream of Bhutan. She expressed that it would be her cherished hope that every Bhutanese will keep working to make Bhutan the example the world can continue looking up to.





Briefly

Biodemocracy and resilience

A daylong conference on 'Bhutan as Biodemocracy: Building Socioeconomic and Environmental Resilience' to be held tomorrow in Thimphu. The event is held to emphasise the good environmental lessons from Bhutan and deliberate on what can be done further to build more resilience for the twin environmental and developmental challenges of the future.

HOME

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Biodemocracy, balancing political and ecological democracy

Tashi Dema

For many participants, who attended the daylong conference on biodemocracy and resilience in Thimphu yesterday, biodemocracy was a new term.

Most of the 111 participants were new faces, comprising mostly of teachers.

It was the chief guest, Speaker Wangchuk Namgyel, who defined biodemocracy as a balance between political and ecological democracy.

He said the conference would deepen democracy, as it would discuss about harmonious coexistence. "We have been talking about human democracy but through this conference, we would learn about how to live in harmony with ecology."

According to the Speaker, Article 5 of the Constitution emphasises on the protection of the natural environment, conservation of the rich biodiversity and prevention of all forms of ecological degradation including noise, visual and physical pollution through the adoption and support of environment friendly practices and poli-

cies. "The conference is expected to play a vital role in translating the laws and provisions in place for ecological conservation."

Executive director for the centre for local governance and research (CLG), Tharchen, said biodemocracy is about the responsibility of all politically fulfilling citizens to respect the environment.

Nitasha Kaul (PhD) from the University of Westminster, London, who is co-organising the conference with CLG said that as a small high altitude country rich in natural resources but surrounded by fast urbanising, often environmentally unsustainable resource hungry and populous neighbours, Bhutan needs to find its best balance between a fragile natural ecosystem and a democratising GNH welfare state that functions in the digital era.

"Like any other country in the contemporary world, it is a tough challenge to find the right balance between economic and livelihood opportunities and a socioeconomic trajectory that combines sustainable organisation of space and resources in order to build resilient cities, communities



► Most of the participants have come from outside places Thimphu

and ecosystems," she said.

She said that in the first decade of democracy - which itself was the result of a unique and beautiful transition led by an enlightened monarchy - Bhutanese thinkers and policymakers, as well as politicians, students, and other engaged citizens think of finding the best balance between creating employment, rural livelihood generation, fos-

tering private sector growth, while maintaining biological and social ecosystem sustainability.

"This is what I see as biodemocracy as being a conceptual realisation that allows us to think of the political and the ecological as not separate or opposed but a part of the same narrative of what it means to have a GNH country that the world looks up to," Nitasha

Kaul said.

The chief executive officer of Thimphu Tech Park, Dr Tshering Gyang, presented a paper on conservation in the age of fourth industrial revolution and spoke on the conservation challenges because of changes in technology but emphasised on technological tools conservationists could use to conserve the environment.



9. Profile of Speakers



CHENCHO LHAMU

DR. CHENCHO LHAMU currently works as the Director for Programmes & Development at Bhutan Centre for Media and Democracy. She has served in the civil service for over a decade and was one of the pioneering members to work on education reform projects at the Royal Education Council. She has PhD in Youth Wellbeing from the University of New Brunswick, Canada and Masters in Education Psychology from University of New England, Australia.



DORJI WANGCHUK

DORJI WANGCHUK is currently a researcher, PhD candidate and teaching associate at the University of Macau - with research focus in social media, sociolinguistics and discourse studies. He worked in the Bhutan Broadcasting Service from 1986 to 2006 and then from 2009 to 2013 he served as the Director of Royal Office of the Media under His Majesty the King's Secretariat. Dorji Wangchuk has an advanced laurea degree with distinction from the University of Bologna (Italy). He was the project manager at the Bhutan Broadcasting Service that led the team to bring both the FM radio services and television to Bhutan between 1997 and 1999. Subsequently, he made a career shift and moved to documentary filmmaking, where he won three major international awards and several nominations. His best-known works are School Among Glaciers, Long Walk to Education and Rocking the Himalayan Kingdom. He has written book chapters and articles in international publications and journals, blogs regularly and also writes op-eds in local newspapers.



GOPILAL ACHARYA

GOPILAL ACHARYA is a journalist-writer. He has written for CNN, The Straits Times, Scroll.in, The Telegraph, South Asian Monitor, The Third Pole, and Kuensel, among others. The manuscript of his debut novel, *With a Stone in My Heart*, was longlisted for the 2009 Man Asian Literary Prize. He is the author of three books: *Bhutan Folktales (From the East and the South)*, *Dancing to Death (Poems)*, and *Denmark-Bhutan: Developing a Partnership through 35 Years*. His poetry and fiction have appeared in *Asia Literary Review* and *HimalSouthasian*.



KEZANG

KEZANG is the Chief Executive Associate of the Institute for Management Studies Limited, a socially conscious company spurring innovation and disruption in training, learning and development; strategic consulting and advisory services; and, hospitality, curated experiences and MICE bleisures. In his past life, he has successfully led numerous projects and programs funded by the European Union, World Bank, Royal Government of Bhutan, SAARC Development Fund etc. He combines several years of unique tri-sector (public – private – civil society) collaboration and management experience. He is a company turn-around adventurer, a sustainability enthusiast at heart and a 'happiness and well-being at work and in life' explorer. Kezang holds a Bachelor of Electronics and Communication Engineering degree from the Indian Institute of Technology-Roorkee, India, and a Masters in Communications Management (with distinction) from the University of Strathclyde, United Kingdom.



KINGA TSHERING

KINGA TSHERING was a Member of Parliament (MP) in the National Assembly of Bhutan (2013-2016) and the Chief Executive Officer (CEO) for the Bank of Bhutan. He played a lead role in reforming the energy and the corporate sectors in Bhutan including formation of the Druk Holding and Investments (DHI), the commercial investment arm of the Royal Government of Bhutan. Kinga was a Fulbright scholar (Bsc. Engineering at Kansas University, USA), got Masters in Business Administration at (Pepperdine University, USA), a Dispute Resolution Fellow for Masters in Dispute Resolution (MDR) at the Strauss Institute of Dispute Resolution, Pepperdine University and a Ford Foundation Fellow at Harvard Kennedy School of Government, USA. He is currently at the Harvard Divinity School. He is also the founder of the Institute of Happiness (www.iohbhutan.org) to advocate, individualise and implement elements of Bhutan's GNH in the corporate and business sector.



DR. KINLEY TENZIN

DR. KINLEY TENZIN is the Executive Director of Royal Society for Protection of Nature (RSPN), the only environmental Non-Profit organisation established in 1987 under the command of His Majesty the Fourth King of Bhutan. Prior to that, he was Program Director at Renewable Natural Resource Research and Development Center (RNR_RDC) based in the Capital Thimphu. He also worked as Assistant Forest Research Officer under the Ministry of Agriculture and Forest in Research and Development Center, Bhutan, as Forest Research Programme Officer and a National Counterpart to the International Project funded by Boku University, Austria and Columbia University, USA. He has PhD degree from Boku University, Vienna, Austria. He is also the member to the National Environmental Commission (NEC) chaired by Prime Minister of Bhutan.



LEKEY WANGDI

LEKEY WANGDI currently works as Project Advisor for Decentralization and Local Governance Project at Helvetas Swiss Inter-cooperation, Bhutan. Prior to his current position, he was working as Research Officer and Program Manager in Research and Evaluation Division, Gross National Happiness Commission Secretariat. He has rich experience working with Local Government having served for 8 years as Dzongkhag Planning Officer in Mongar and Haa Dzongkhags. He also taught Demography at Royal Thimphu College as part-time faculty. He holds a Master degree in Population Studies from University of Philippines, Diliman and Bachelor's degree in commerce from Sherubtse College, Kanglung.



NAMGAY ZAM

NAMGAY ZAM is the Executive Director of the Journalists' Association of Bhutan. She has more than a decade of experience in all forms of media. Zam is a trainer and consultant for media and gender issues. She is a mental health advocate and an LGBTIQ ally as well. Zam is a Young Asia Leader and a Fulbright Humphrey Fellow.



PEM LAMA

PEM LAMA has over eight years of experience in development research and project management/coordination in Bhutan. She has worked at the Asian Development Bank (ADB), International Institute for Sustainable Development (IISD), Secretariat for the New Development Paradigm (SNDP) and the Bhutan Foundation in topics of economic development, sustainable consumption and production, societal wellbeing and sustainability, and public health. Pem is passionate about building a more sustainable and inclusive world and enjoys exploring the inner dimensions (individual mind-sets and behaviour) and outer dimensions (systems and institutions) that affect and shape the world we live in. She graduated with an MBA from Aarhus Business School in Denmark and a BA in Economics and International Relations from Tufts University in the United States.



DR. PEMA WANGDA

DR. PEMA WANGDA is currently the Executive Director of Bhutan For Life Fund Secretariat located in Thimphu, Bhutan. Prior to this, he served for long years in the Ministry of Agriculture and Forests particularly in Watershed Management Division (2012-2018) and Forest Research Centre, Bhutan (1999-2012). He has Doctor of Philosophy (PhD) in Natural Environmental Studies (2006) and Master of Science (MSc) in Natural Environmental Studies (2003), from the University of Tokyo, Japan. He has published numerous papers in local, regional and international peer Reviewed Journals.



DR. RINZIN RINZIN

DR. RINZIN RINZIN is a prominent Bhutanese author, poet and scholar. He worked as a National Council Member of the Parliament of Bhutan, lecturer, agriculture researcher, manager/administrator, management consultant and writer during the last two decades or so. His début book was 'The Talisman of Good Fortune and Other Stories from Rural Bhutan' (2002). He also authored a novel ('Depa Bondeypa's Relatives' in 2016), an anthology of his own poems ('Dewdrops in the Sun' in 2018) and a number of children's books. As a scholar of applied science, Dr. Rinzin authored and published over two scores of research papers, training materials and books in-country and abroad. He served as a Focal Person for Rangelands of Bhutan to the International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal and Focal Point Scientist of Bhutan to Agriculture Information Centre (SAIC), Dhaka, Bangladesh. Currently, he serves as the Chief Country Coordinator (Bhutan) for the Foundation of SAARC Writers and Literature (FOSWAL) and Director of the Board of Bhutan Transparency Initiative (BTI)



DR. TSHERING CIGAY

DR. TSHERING CIGAY DORJI is the Chief Executive Officer of Thimphu TechPark, Bhutan's First IT Park. With his deep passion for technology and youth entrepreneurship, he has been instrumental in making the IT Park a vibrant place where hundreds of youths work. He has Masters and Ph.D in computer engineering (NLP and text mining) from the University of Tokushima, Japan, and Master of Management from the University of Canberra, Australia. He received his Bachelor of Engineering, First Class Honours, in electrical engineering from the University of Wollongong in Australia in 1999.



TSHERING EUDON

TSHERING EUDON graduated from Yonsei University, Republic of Korea, in 2017. She has a master degree in Global Affairs and Public Policy with a focus in the International Security & Foreign Policy Study, and in Korean Politics & Economics (second concentration). She did her undergraduate in Politics, Philosophy & Economics (PPE) major from the Asian University for Women (AUW) in Chittagong, Bangladesh in 2014. She currently works as the Green Climate Fund (GCF) Readiness Project Officer at the Gross National Happiness Commission (GNHC).



TSHEWANG NIDUP

TSHEWANG NIDUP is a senior lecturer of civil and structural engineering at the Royal University of Bhutan. His key interest areas are in the development and promotion of sustainable and resilient materials and technologies for infrastructures and making technical and engineering education simple and engaging. He led a series of disaster risk reduction and mitigation projects related to the safety and resilience of infrastructures from earthquakes, flood/landslides and windstorms. He serves as a member in the civil and structural engineering standards technical committee of the Bhutan Standards Bureau and as the focal person for the disaster risk reduction and resilience's thematic working group of the Himalayan university consortium at the ICIMOD.



UGYEN YESHI

UGYEN YESHI is a teacher by profession with 12 years of teaching experience in varied grades in different schools across Bhutan. He was trained to teach English and History from Samtse College of Education. He has M.A in South Asian Studies from Pondicherry University, India. He has PGDE in Human Rights from the same university. Currently he teaches in Khuruthang Middle Secondary in Punakha.



YESHEY CHODEN

YESHEY CHODEN is currently working as an engineer at the Division of Telecom & Space, DITT MOIC. She entered the civil service in 2016 as a public health engineer. Shortly after, she got selected for a Masters in Space Engineering Scholarship by RCSC in Japan. As a part of her masters degree she also participated as a team member to develop Bhutan's first satellite called BHUTAN-1. The satellite, which is a 10cm cube, was launched in June, 2018. Particularly, she is enthusiastic about space education and outreach in Bhutan and is also a member of Space Generation Advisory Council (SGAC) and World Space Week Association (WSW), both of which are international volunteer organizations for space education and outreach. Towards the end of her masters course, she also pursued a 4 month internship at the United Nations Office for Outer Space Affairs (UNOOSA) In Vienna. During her internship, she carried out a research to ensure sustainability of space activities in Bhutan.



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