Central Tibetan Administration's Response to the People's Republic of China's White Paper on Tibet's Ecology, 2018

The Department of Information and International Relations

Published by

The Department of Information and International Relations
Central Tibetan Administration
Gangchen Kyishong
Dharamshala-176215
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INDIA

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First Edition, December 2018

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Foreword

In July 2018 the State Council of the Chinese government issued a white paper on the "Ecological Progress on the Qinghai-Tibet Plateau" to state that there has been much progress made in the protection of the Tibetan Plateau's fragile ecology.

The head of the Environment and Development Desk of the Tibet Policy Institute made an initial response on 21 July 2018, stating that policies pursued by the local authorities do not match the aspirations on environmental protection articulated by the highest Chinese leadership. The Central Tibetan Administration welcomes the views expressed by the highest Chinese leadership, particularly those expressed by President Xi Jinping, that the protection of the ecological health of the Tibetan Plateau is central to maintaining the health and development of the whole of China.

Here are some of our detailed comments on the State Council's latest white paper on the ecological conditions on the Tibetan Plateau. We maintain that what the white paper says on China's efforts to protect Tibet's environment do not match the ground realities. On the ground, the ecological state of the Tibetan Plateau is deteriorating at an alarming rate due to both natural and human factors. The impact of global warming on the Tibetan Plateau has been severe, particularly in recent decades. Unfortunately, weak environmental policies and the lack of sincere environmental conservation efforts by the Chinese government has further exacerbated these

conditions. Rampant mining has caused severe destruction to Tibet's environment as well as distress to its people and the relentless push for development has turned China into a toxic land of severely contaminated soil, water and air. If the current trend of environmental destruction continues unabated in Tibet, Chinese authorities will soon turn the world's highest plateau into yet another toxic landmass, creating a disaster for Tibet, for China and for the millions of Asians who depend on Tibetan rivers.

China's latest white paper on Tibet's environment would have been a wonderful reading for someone who knows very little about Tibet, but for a regular observer, there are too many factual errors and contradictions between policies and implementation. The Paper begins with a brazen claim that the "Communist Party of China (CPC) and the Chinese government have always valued ecological progress. In fact, the infamous slogan "Man must conquer nature" was declared by the founding father of the CPC Mao Zedong. In his opening speech at the National Conference of the CPC (March 21, 1955), Mao stated that "there is a way of conquering even Nature as an enemy". Such attitude towards nature by the Chinese government and its successive leadership has plunged China into one of the most polluted regions on earth.

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Contents

I. The global significance of the Tibetan Plateau

The ecological role and global significance of the Tibetan Plateau is evident from the various names used by scientists to describe Tibet: the "Roof of the World", the "Third Pole", the "Water Tower of Asia" and the "Weather Maker".

Most popularly known as "the Roof of the World", the Tibetan Plateau sits at an average elevation of more than 4000 meters above sea level, with an area of 2.5 million square kilometers. At nearly 2% of earth's land surface, it is the world's highest[1] and largest plateau. The presence of 46,000 glaciers, covering an area of 105,000 sq. km., makes the plateau the largest source of accessible fresh water on the planet and the third largest reservoir of ice, after the North and South Poles. For this reason, scientists sometimes refer to it as "the Third Pole".

Further, the plateau is the source of Asia's six largest rivers: the Drichu/Yangtze, Machu/Yellow, Zachu/Mekong, Gyalmo Ngulchu/Salween, Senge Khabab/Indus and Yarlung Tsangpo/Brahmaputra. These rivers from "the Water Tower of Asia" help feed millions of people in some of the most-densely populated nations in the world, including India, China, Pakistan, Nepal, Bangladesh, Burma, Thailand, Laos, Cambodia and Vietnam. The meltwater from the 12,000 km^3 of glaciers in Tibet ensures a constant flow of Asia's major rivers, greatly influencing the social and economic development of a fifth of the world's population.[2]

The timing and intensity of the Indian and the East Asian monsoons are greatly influenced by climate change on the Tibetan Plateau: the Indian summer monsoon is intensified and the East China summer monsoon is weakened due to human-induced land cover change on the Tibetan Plateau.[3] For this reason, the plateau is also called "the Weather Maker of Asia". Even the worsening heat waves in Europe and northeast Asia are linked to the plateau's receding snow cover.[4]

It is clear that the ecological health of the Tibetan Plateau is vital for the stable social, economic and environmental well-being of China. Some of the greatest cultures, histories, and economies of China flourished on the banks of the Yellow (Machu) and Yangtze (Drichu) Rivers, which

originate from the melting glaciers and permafrost of Tibet and continue to feed millions in China as they flow parallel to each other across almost all of China's provinces. But over 40 per cent of China's rivers are seriously polluted and about 20 per cent of rivers are so excessively polluted that their water quality has been rated too toxic even to come into contact with.[5] Three-quarters of its lakes and reservoirs are unsuitable for human consumption and fishing.[6]

Further degradation of the land, polluted air and contaminated water on the Tibetan Plateau will exacerbate this dire situation and bring catastrophic consequences for Tibet, China and all the downstream countries.

II. History of environmental conservation efforts in Tibet

The climatic condition of the land greatly influences Tibetan culture and way of life. Historically, Tibetans have protected and respected their environment and have not only successfully adapted to the ever-changing climatic condition of the plateau but also prospered there as a powerful civilization. The ancient Bon culture of Tibet, which believed in the presence of deities in the mountains and lakes, gave rise to belief in the sacredness of the ecosystem and the subsequent conservation of the fragile plateau for thousands of years. During his reign in the 7th century, Songtsen Gompo, the 33rd emperor of Tibet, issued edicts that reprimanded his subjects for harming and killing of animals. The founder of the Phagmodrupa Dynasty in Tibet, Tai Situ Changchub Gyaltsen (1302–1364), issued similar edicts that prohibited hunting on various occasions and enforced ingenious policies of large scale tree plantation in central Tibet. Forest officers were appointed to protect the 200,000 trees planted annually. Environmental conservation efforts were further strengthened during the Gaden Phodrang rule (1642-1959) in Tibet. Both the 5th and the 13th Dalai Lamas issued strict prohibitions on hunting and the felling of trees at important ecological sites. Protection of the environment has also been a lifelong commitment of His Holiness the 14th Dalai Lama, a strong advocate of environmental conservation.

III. Impact of climate change on the Tibetan Plateau

The impact of climate change on the Tibetan Plateau has been extreme, causing unprecedented natural disasters due to rapid glacial retreat, permafrost degradation and extensive desertification.

A. Glacial retreat on the Tibetan Plateau

Home to 46,000 glaciers, the Tibetan Plateau is the world's largest concentration of ice beyond the two poles. However, the rightly-called Third Pole is melting at an alarming rate, primarily due to rapid temperature rise. Since the 1950s, a temperature rise of up to 0.3°C per decade has been recorded in Tibet, twice the average rise in the global temperature. This increase resulted not only in the melting of more than 82 per cent of the glaciers[7] but also the heating up of the plateau to the extent that no net accumulation of ice has occurred since the 1950s.[8] Also, summers come faster, forcing the melting seasons on the plateau to begin earlier and last longer.[9] Scientists have warned that if the current rate of melting continues, then 2/3 of the glaciers on the Tibetan Plateau will be depleted by 2050.[10]

The rapid melting of glaciers leaves many parts of east and southeastern Tibet with fewer snow-capped mountains. Glaciated peaks once considered eternal by locals have become seasonal. This fast melting also led to a surge in river flow and increased incidents of floods across Tibet during summer. It has resulted in the formation of new glacial lakes in the mountains that threaten to burst anytime; glacial lake outburst floods (GLOF) have been a serious threat across Nepal, Bhutan and many parts of northern Indian states in the Himalayan belt. Fortunately, Tibet has witnessed very few GLOFs despite the plateau's geographical conditions, which are similar to those regions that do see many GLOFs. But we cannot be complacent. Researchers at the Tibet Policy Institute have observed the formation of dozens of new glacial lakes within a small radius of a mountain range in Kham, in eastern Tibet.

The Chinese government has put very little effort or investment into monitoring the new glacial lakes formed on mountains across Tibet. This disaster waiting to happen requires genuine effort by the Chinese government, for glacial lakes are formed between unstable natural barricades

and can collapse at any time. Instead of rushing in with post-disaster relief works, preventive action is needed to save lives and mitigate damage.

B. Permafrost degradation and grassland desertification

Approximately 70 per cent of the Tibetan plateau is covered by various types of permafrost, mostly alpine permafrost (due to its high altitude).[11] When the permafrost melts moderately during the summer months, it nurtures the growth of vegetation on the rain-scarce Tibetan Plateau, a process that has sustained life on the vast grassland across much of north and northeastern regions of Tibet. But according to a 2001 study published in the Journal of Desert Research, it stated that 313,000 square kilometers of land in Tibet was degraded in 1995 and that an additional 30,000 square kilometers of potentially newly degraded desert land has been identified. According to a UNDP report (2007), Tibet's grasslands are being turned into desert at a rate of 2,330 square kilometers per year.[12] Desertification at the Zoige wetland in northeastern Tibet is reported (2012 China Dialogue) to be increasing at 10 per cent per year. Alpine grasslands are the most dominant ecosystem on the Tibetan Plateau, occupying over 60 per cent of the total area, and the rapidly increased rate of permafrost degradation has led to faster desertification of grassland in many parts of north and northeastern Tibet. If this continues, much of Tibet could become a desert.

The Chinese government has realized the threat and taken a few steps to tackle the problems, but has failed repeatedly to make a significant impact or to implement effective plans. It refuses to consult and incorporate the ecological wisdom of local Tibetan communities and in most cases, frames and imposes policies without fully informing the local Tibetan communities about why they are needed or what they meant for. For example, the Chinese government has enforced the planting of sea-buckthorn across Tibet, including the fertile valleys of Karze, a southeastern region of Tibet, repeating a policy used in the arid northern plains of China. Considering the moderate annual rainfall, numerous river basins and rich forest covers in the Karze region, the Chinese government should have planted a type of tree more suitable to the local environment instead of forcing sea-buckthorn plantation in their fertile fields. This misguided policy of enforcing sea buckthorn plantation on fertile farmlands affected both the people's

source of livelihood and the health of the fields itself. It was a clear case of enforcing uniform policies regardless of social and geographical differences, thus undermining the social realities and the environmental conditions of the region. Tibet is absolutely in need of afforestation and the protection of existing forests, but a more informed and realistic approach is needed.

Such colonial approaches have often led to confrontation between the people and the government. It's the Tibetans who have preserved the fragile plateau for thousands of years and acquired enormous indigenous knowledge of the land and its climatic patterns.

Another threat from rapid permafrost degradation is the release of carbon into the atmosphere. About one-third of the world's soil carbon is stored in permafrost regions and it is estimated that the alpine permafrost on the Tibetan Plateau stores about 12,300 million tons of carbon.[13] This is warm-permafrost, which is sensitive to climate change and particularly vulnerable to warming temperature. Any degradation will lead to a huge amount of carbon entering the atmosphere, which will further intensify the rising temperature across the globe.

Recent landslides in Machen (30 August 2017) and mudslides in Zatoe (7 September, 2017) are clear indications of the severity of the rate of permafrost thawing. As frozen grounds quickly thaw across Tibet due to rising temperature on the plateau, they release a large quantity of meltwater into the surface soil, which results in the loosening of the ground, causing mudslides. The Chinese government has yet to develop adequate policies to prevent such disasters from recurring in the future.

IV. Destructive mining: Public interest overlooked and environmental norms breached

Since their occupation of Tibet, the Chinese authorities have imposed a destructive and irresponsible mode of development that ignores the actual social, environmental and economic needs of the Tibetan people. Their declaration of mining and tourism as pillar industries across Tibet clearly contradicts the claim of following a "sustainable path compatible with the harmonious co-existence of economy, society and ecological environment".[14] In particular, the government's mining on Tibet's sacred mountains exposes one of the most blatant acts of disrespect for the cultural sentiments of the people, as well as of disregard for the environment itself. It is worth noting here that scientific research has affirmed that the Tibetan people's beliefs in the

sanctity of sacred sites has greatly contributed to the environmental protection of key ecologically sensitive areas.[15]

Tibet has deposits of an estimated 132 different minerals, and these account for a significant share of the world's reserves of mineral resources, including chromium, salt, copper, silver, coal, gold, lithium, lead, zinc, asbestos, oil, gas, magnesium, potash and uranium. Extraction of mineral ores and natural resources has been vigorously carried out by the Chinese government to fuel its growing economy and to lessen its dependence on costly imports. The Chinese Geological Survey in 2007 estimated that the Tibetan Plateau holds about 30-40 million tons of copper reserves, 40 million tons of zinc, and several billion tons of iron. The proven reserve of more than 7.8 million tons of copper at the Yulong Copper Mine makes it the largest in China and the second largest in Asia. As tallied in 2010, there are 3,000 proven mineral reserves containing 102 varieties of resources in the "Tibet Autonomous Region" (TAR) alone.[16] The destructive and unethical methods of China's mining practices has led to protests and disharmony across Tibet. Since 2009, there have been more than 30 known large-scale, mining-related protests in Tibet.

The Chinese white paper (July 2018) claims that "the relevant provinces and autonomous regions have taken active measures to increase public awareness of eco-conservation, such as strengthening public campaigns on environmental protection". But an official circular issued by the Tibet Public Security Department of the "Tibet Autonomous Region" on 7 February 2018 has made environmental protection activities in Tibet an illegal act, thereby contradicting the claims made above.

The following examples represent just a few of the numerous cases of contradictions between policies and their implementation in Tibet:

1. Mining inside a nature reserve in Zatoe

On 16 August 2013, more than 4,500 local Tibetans from Zachen, Atod and Chiza nomadic communities of Zatoe (northeastern Tibet) in Tibet protested against mining on their sacred mountain located inside the Sanjiangyuan National Nature Reserve (SNNR).[17] As around 500

Chinese para-military forces brutally fired tear gas and rubber bullets on the peaceful protestors, a local protestor named Sokpo Choedup stabbed himself in desperation, saying "I felt a sense of helplessness, as there was no one we could go for justice."

A similar case of extreme helplessness is expressed in other instances as well (refer to case no.4).

The SNNR was established in the year 2000 by the Chinese government to protect the head source of Yangtze (Drichu), Yellow (Machu) and Mekong (Zachu) rivers. The nature reserve covers a vast grassland where one of the largest Tibetan nomadic community has been living, and with the declaration of the region as a nature reserve, many nomads were forced to move out from the area. But ironically, in year 2013 the Qinghai government issued mining licenses for resource extractions in Atod and Zachen, areas which were clearly listed as a part of the SNNR,[18] thereby violating the very law the Chinese government proclaimed 13 years earlier. This action strengthened the long-held fear that the Chinese government's policy to remove Tibetan nomads from the vast grassland was motivated by their plans to make space for Chinese mining companies. The declaration of more and more nature reserves in recent years is a welcome gesture, but the apparent lack of sincere effort by the Chinese government to protect those nature reserves is startling.

2. Landslide at Gyama mining site caused by mismanagement

On 29 March 2013, 83 miners were killed by a landslide at the Gyama mining site. Chinese officials hurriedly concluded that the landslide was caused by natural factors.[19] And *Xinhua News*, as always, obediently published the official statement without conducting a journalistic investigation, despite the loss of so many lives. But according to an Assessment Report[20] published by the Environment and Development Desk (EDD) of the Central Tibetan Administration on 9 April 2013, the actual cause of the Gyama mine landside was due to mismanagement of the mine.

> In order to acquire maximum profit in the shortest possible time, mining in Gyama has been pursued aggressively. Whole swathes of land have been excavated in several sites and in some cases the whole face of a mountain has been stripped off in the process of exploration, water

> diversion, mining and road construction. It was just a matter of time that such large scale and aggressive expansion of mining was going to cause a large-scale disaster.

The report further stated that,

> The landslide in Gyama is a man-made phenomenon rather than a natural disaster. The rocks were disintegrated into smaller pieces as part of the mining process and not due to glacial dynamics as Chinese officials are trying to make us believe. EDD has enough evidence to suggest that loose rocks that turned into a landslide came from the surface mining at the top of the mountain which had been dumped on the eastern flank where the landslide originated.[21]

3. River pollution in Minyak Lhagang from lithium mining

The Chinese white paper stated that "the Qinghai-Tibet Plateau is one of the regions with strictest water resource management and water environment protection in China", but there were many cases of Chinese factories and mining companies causing serious water pollutions in different parts of Tibet with full impunity. For instance, a lithium mining company called Ronda Lithium Co Ltd released toxic mine waste into a local river called Lichu in Minyak Lhagang in eastern Tibet, causing serious water pollution and mass death of fish. This brought hundreds of local Tibetans out on the street on 4 May 2016, protesting against the mining company.[22] The local government informed the protestors that it had temporarily halted the mining company, but locals soon realized that the government has lied to them as continued operation at the mine were reported. This was not the first time or an isolated case of river water pollution: in 2013, the same river had been polluted with lithium mine waste, causing the deaths of marine life and threatening local drinking water.

In a similar case on 23 September 2014, more than 1,000 local Tibetans of Dokar and Zibuk villages of Lhundrup County near Lhasa, the Tibetan capital city, protested against the poisoning of their river by the Gyama Copper Poly-metallic Mine. The mine is located close to a river that locals use for drinking water, irrigation and feeding animals. Predictably, local officials declared that the water pollution in the river was caused by natural factors and not by the mining company. But a 2010 article, "Environmental impact of mining activity on the surface water quality in Tibet: Gyama valley" by Xiang, a Chinese scientist firmly states:

> The great environmental concerns are the many mining and processing deposits in the valley, containing large amount of heavy metals, such as lead, copper, zinc, manganese, etc. These deposits are prone to leak its contaminants through seepage water and erosion of particulates, and therefore pose a future risk for the local environment and a potential threat to the downstream water quality. [23]

A local resident of the village told Radio Free Asia (September 2014), *"*In the past, our rivers were crisp and clean, the mountains and valleys were known for their natural beauty. But now the rivers are polluted with poisonous waste from the mines".[24] This clearly shows the rapid destruction of the local environment.

4. Mining on a sacred mountain in Amchok

On 31 May 2016, an estimated 2,000 local Tibetans in Amchok gathered to protest mining activities on their sacred Mt. Gong-ngon Lari. Eight different local communities consider the mountain highly sacred and mining on that mountain brazenly disregarded their beliefs.

Amchok is in the Labrang region of Amdo, a Tibetan area incorporated into the Chinese province of Gansu (Sangchu County, Kanlho Tibetan Autonomous Prefecture). The protestors were calling for "protection of environment, protection of the sacred mountain and protection of people's safety". The Chinese government brutally suppressed the peaceful gathering, seriously injuring many protesters and detaining six of them.

The total disregard for locals' concerns and the unbearable agony caused by mining on their sacred mountain led to three successive self-immolation in the region. Tsering Dhondup (20 November 2012) and Konchok Tsering (26 November 2012) set themselves on fire at the mining site in a desperate act. A third self-immolator, Tsultrim Gyamtso (19 December 2013) self-immolated a year later, expressing immense agony caused by the mining on their sacred mountain as a reason for his sacrifice.

Article 10 of the Mineral Resources Law of the People's Republic of China states: "In mining mineral resources in national autonomous areas, the state should give consideration to the interests of those areas and make arrangements favorable to the areas' economic development and to the production and well-being of the local minority". But in recent years, an increasing

number of cases of environmental destruction caused by mining and the suppression of peaceful environmental protests shows the absence of protection and respect for local interests. As frustration with these policies deepens among Tibetans, the Chinese government shows a lack of understanding or concern for Tibet's environment, culture and people.

V. Irresponsible damming: Mega dams destabilizing the fragile plateau and threatening millions of lives in Asia

Tibet has seen unceasing construction of dams on its rivers since the 1950s. A new trend of building mega dams, however, poses an even more serious threat to the world's highest plateau, which is highly prone to seismic activities[25] that could be further aggravated by the more recent cluster of competing mega dams on its rivers. Probe International warned in April 2012 that 98.6 per cent of the dams being constructed in western China were located in moderate to very high seismic hazard zones.[26] In the month of November 2017, a series of earthquakes occurred in the Nyingtri region[27] where many of the mega dams on Yarlung Tsangpo were built.

The impact of mega dams on the region's wildlife habitat and river flow is apparent, but the most dreadful threat is from Reservoir-Induced Seismic (RIS) activities such as the Wenchuan and Ludian earthquakes. Scientists believe mega dams can be both the trigger and the victim of earthquakes; damage to any mega dams from an earthquake is likely to cause a chain reaction that expands the earthquakes' impact. According to Fan Xiao, the 2008 Wenchuan earthquake that killed 80,000 people and the 2014 Ludian earthquake in Yunnan were both induced by nearby mega dams (Zipingpu Dam and Xiluodu Dam).[28] Despite the known risks and clear warnings from scientists, the Chinese government continues to build mega dams on the highly seismic-prone regions of Tibet. These include the 510-megawatt Zammu hydropower dam on the Yarlung Tsangpo in Gyatsa area of Central Tibet, which is not very far from the fault line of the devastating 2015 Nepal earthquake; the 295-meter-high Lianghekou Dam on the Nyakchu River in the Nyarong area of eastern Tibet, which is also close to the fault lines of both the Ludian and Wenchuan earthquakes; and the recently declared 1.2 million kilowatt Suwalong hydropower station on the Yangtze River bordering Markham and Bathang regions of south-eastern Tibet.

One of the most powerful earthquakes of its kind on record, the 8.6 magnitude Assam-Tibet earthquake in 1950 killed hundreds of people in Nyingtri, Chamdo and Zayul regions of south-east Tibet. The intensity of the quake caused landslides and ground cracks and the village of Yedong in Metok was washed away as the area slid into the Yarlung Tsangpo. This powerful earthquake also caused massive damage in India, where large landslides blocked the Subansiri River in the then North Eastern Frontier Agency (NEFA) and Assam. This natural dam broke 8 days later, creating a wave 23 feet high, which inundated several villages and killed 536 people.[29] If a similar scenario of ground cracking occurs today, it could weaken existing dam walls, or landslides could splash and burst dams, resulting in an unimaginable catastrophe both within Tibet and downstream. Clearly, the current trend of quickly constructing a succession of competing mega dams on Tibetan rivers poses severe risk.

Since Tibet is a sparsely populated region with hundreds of large rivers, its energy needs could be easily met by small efficient hydropower stations, or by harnessing the vast solar energy potential. However, the PRC continues to build these dams to support the rapid expansion of mining and urbanization. For example, at a ceremony held on 28 November 2009, for the construction of the Guoduo Hydropower Station (the second largest hydropower station in the "Tibet Autonomous Region" at the time) in Chamdo, then vice-chairman of the "TAR", Pema Tsewang, stated that the station would ensure the availability of power for the Yulong Copper Mine.[30] Yulong is the largest copper deposit in China. Even the proposed Lhasa-Nyingtri-Chengdu railway line takes an unusual turn by making a long detour off the most direct route between cities to reach the Yulong mining site.[31]

Another motive behind the dam frenzy is to support the mass migration of Chinese into certain parts of Tibet, such as Nyingtri in southern Tibet, a resource-rich region that enjoys a temperate climate with immense forest cover. The Chinese government has heavily invested in the rapid construction of highways, railways, airports and mega dams to facilitate the eventual mass migration of Chinese into the Kongpo region of Tibet.

Extensive dam construction is also aimed at meeting the Chinese government's carbon emission goals. The PRC's commitment to peak carbon emissions and to source 20 per cent of its to-

tal energy consumption from renewable resources by 2030[32] is a welcome effort; but this should not be done at the cost of destruction of the Tibetan Plateau and displacement of the Tibetan people. About 6,000 Tibetans were forced out of their ancestral homes to pave the way for the construction of the Lianghekou dam in the Nyakchu area of southeastern Tibet.[33]

VI. Forceful removal of Tibetan nomads: Guardians of grassland are forced into poverty

Tibet's rangeland covers approximately 70 per cent of its total area. The alpine grassland at high altitude covers, in turn, 60 per cent of the total Tibetan rangeland. Pastoralism on the Tibetan Plateau involves adaptation to a cold environment at elevations above the limit of cultivation. According to archaeological fieldwork, pastoral nomads have developed a deep understanding of grassland dynamics and veterinary knowledge, and extensively used the Tibetan Plateau while maintaining a unique pastoral culture for more than 8,000 years.

To this day, Tibetan nomads have lived an eco-friendly and self-sufficient life spread out on the vast grasslands of the plateau. But the Chinese government has removed more than two million[34] nomads from their land and pushed them into large-scale settlements with no medical, educational or business opportunities to support a dignified life and to retain their identity.

The Chinese government continues to talk about restoring grassland by prohibiting grazing under the incorrect presumption that grazing is the only cause of grassland degradation. Many scientists, including Chinese scientists, have extensively written about the need for moderate grazing to maintain the ecosystem's health. The forceful removal of Tibetan nomads who have preserved the fragile grassland has in fact accelerated the degradation.

The forced resettlement of Tibetan nomads is a clear case of irresponsible governance on the part of China: first the nomads were blamed without sufficient scientific evidence for degrading grasslands, then forcibly alienated from their traditional way of life, and finally transferred into poorly planned settlements in the middle of nowhere without farms, livestock and jobs to sustain them.[35] The Chinese government while claiming massive progress in the creation of nature reserves, the plight of millions of resettled nomads are conveniently brushed aside. The lack of jobs and educational opportunities in the resettled areas have pushed the nomadic population into the margins of the society where they are compelled into alcoholism, prostitution and

children engaging in petty crimes. Schools, hospitals and jobs promised to the forcibly evicted nomads have yet to materialize. Tibetan nomads, who once lived happy and self-sufficient lives, have been suddenly thrust into dislocation and poverty. Ultimately, this is the state-engineered destruction of a culture and way of life.

VII. Rampant littering: Garbage treatment facilities provided only in cities

The Chinese government has neglected one of the most basic measures and mechanisms needed to cope with increasing human activities in Tibet: garbage management and garbage treatment facilities. The increase in human activity caused by rapid urbanization, the massive influx of tourists, pilgrims, construction workers, and the abundance of food products packaged in plastics have all inundated the Tibetan Plateau with unregulated garbage disposal. Lack of institutional measures or adept governance of waste management has bred rampant littering on the mountains and waste dumping in the rivers. The traditional ways of waste management—a natural process of waste decomposition due to the presence of a cold and dry climate is no longer a viable solution.

The Chinese white paper stated that RMB 6.3 billion was spent on domestic sewage and waste disposal projects, but in reality much of the government investment in waste management is concentrated in a few select tourist centers and cities that house government officials, such as Gyalthang, Dartsedo, Lhasa, Shigatse, Kyegudo and Zitsadegu. As soon as one travels outside these towns and cities, littering is rampant and waste management almost non-existent. The situation has compelled local communities to step up their own efforts: voluntary environmental groups have formed to collect truckloads of garbage from surrounding mountains. In the absence of infrastructural provisions to deal with the collected garbage, locals burn the waste, unintentionally causing greater environmental hazards. Local Tibetans have voiced their helplessness as the government has failed to provide them with necessary facilities, such as sending garbage trucks to rural areas to collect waste or building garbage treatment sites in the area.

Such a formidable scenario demands forward-looking leadership to provide sufficient and sustainable infrastructure and mechanisms to redress the severe problems. But the leadership in Beijing has utterly failed to surmount the pressing challenges. First, they have failed to make

the general public and government officials aware of the health hazards and the environmental impact of garbage; and second, they have failed to provide the required governance and basic infrastructure necessary for waste management in rural areas.

VIII. Increasing natural disasters in Tibet: A threat overlooked and badly managed

The mountainous Tibetan Plateau faces the severest impact of climate change due to its high elevation at low latitude. The situation is further exacerbated by unregulated constructions and mining activities in Tibet. Since 2016, Tibet has seen unprecedented number of natural disasters with numerous floods and landslides occurring simultaneously across the plateau. Unfortunately, the Chinese white paper does not mention these natural disasters or the efforts taken by the Chinese government to mitigate the impact and prevent recurrence of such disasters. This is apparently due to lack of real understanding of the current socio-environmental situation in Tibet by the Chinese government. The Chinese government has done very little to address climate change and put forth any preventive measures to mitigate the impact of increasing incidents of natural disasters. As is often the case, it has been the Tibetan monasteries who have rushed to the scene of natural disasters to help the public.

The scale and frequency of natural disasters in the year 2016 greatly worried local Tibetans. Mud floods and landslides on 9 July in Tsolho in northeastern Tibet killed two people and injured more than thirty. Drought in Chumarleb and Matoe in July in northern Tibet left behind dry rivers with hundreds of dead fish. A glacial avalanche on 17 July in Ruthog County of Ngari in western Tibet killed nine people and buried 110 yaks and 350 sheep.[36] A flood in Labrang and Sangchu on 22 August in northeastern Tibet destroyed significant amounts of property. Tibet suffered even more extreme natural disasters during 2017 when 6,000 homes were flooded, affecting 30,000 people in Rongdrak on 15 June; four homes were damaged by floods in Sokzong on 16 June; many homes were damaged by floods in Derge on 6 July; and three people lost their lives and many homes were damaged by floods in Jomda in eastern Tibet in the month of July. Local Tibetans worry about the new trend of frequent natural disasters, a trend that scientists, researchers and the general public in Tibet fear might become the "New Normal in Tibet".[37]

In 2018, extreme climatic pattern continued with floods and landslides reported in many parts of Tibet, particularly in Shigatse areas (Shigatse, Sakya, Rinpung, Ngamring) of Central Tibet and different parts of Amdo region of Tibet in the months of July and August 2018. In a horrifying video (July 2018) from Tibet, nomadic homes were seen flooded as large portion of their summer pasture in Amdo were inundated due to heavy rainfall. The lack of rescue support from the Chinese government forced the nomads in the area to make extremely risky efforts. For example, in the same video, a man on a horse is seen pulling a woman and her baby, both wrapped in a plastic bag, through the flooded field to safety.

Unfortunately, the Chinese government has done little to combat these disasters. The loss of life and damage to property from the floods and landslides could have been greatly reduced had the Chinese government taken more proactive measures and implemented proper policies. Even the simple task of building necessary river embankments across Tibetan villages and towns located on river banks could have prevented much of the damage.

Although the Chinese Government was warned of increasing natural disasters including landslides, torrential floods, snow disasters and forest fires in a 2015 report[38] by the Chinese Academy of Sciences [39], the government has not taken necessary measures or framed new policy guidelines to face these challenges.

The impact of climate change has been aggravated by the increasing scale of resource extraction and dam construction across Tibet. Mining has become an enormous concern for both the land and people of Tibet, causing landslides, grassland degradation and water pollution. Local residents of Tsolho blamed the 9 July 2016 mud flood in the region on excessive mining and tunneling of mountains in the region.

Despite the severe impact from climate change, the lack of directives and awareness programs persists and the Chinese government does not attempt to mitigate the alarming climatic conditions impacting the Tibetan Plateau. Instead, much of its environment-related policies framed in recent years aim to solve urban coastal pollution problems rather than protecting the fragile environment in Tibet.

Conclusion

The introduction of the new Environment Protection Law in 2015 is a welcome step forward as it tries to strengthen the enforcement of the law and restructure the powerless environment protection offices in China. But fair and firm enforcement of the new environmental protection law across Tibet is yet to be seen. Hopefully, this is not yet another lofty law proclaimed but never implemented. The recent increase in the building of mega dams, expansion of resource extractions, and suppression of peaceful environment-related protests clearly contradict the new environment law.

Cases of such contradictions and insincerity are numerous. For example, Tibetans en mass abandoned the tradition of wearing animal fur and skin decorated clothes after 2006, as advised by His Holiness the 14th Dalai Lama. This unprecedented act of abandoning an age-old and highly-valued traditional dress is one of the greatest environmental contributions by Tibetans in recent history. However, the Chinese government continues to encourage and compel Tibetan officials in Chinese government to wear animal furs, clearly contradicting and undermining its own law that lists 125 species of wild animals under state protection.

The Chinese government must respect and protect the rights of the Tibetan people's cultural beliefs in the sanctity of the sacred mountains, lakes and rivers of the Tibetan Plateau. The Chinese government must set firm, uncompromising and transparent license procedures for mining permits in Tibet based on competitive and reliable Environmental Impact Assessments and Social Impact Assessment reports. The Chinese government must also strictly monitor and prohibit mining companies from dumping hazardous mine waste into the surrounding areas and rivers.

Tibetan pastoral nomads are expert custodians of the alpine pastures and their knowledge and experience must be incorporated into climate mitigation and adaptation practices. Decision-making mechanisms should be transparent and inclusive of all regional stakeholders, especially Tibetan nomads. There should be an immediate halt to the forceful removal of Tibetan nomads from their lands and those already re-settled should be allowed to return to their pastures, if they so wish. The Chinese government must also promptly address the poorly planned resettlement

programs of Tibetan nomads. Having lost their traditional, self-reliant ways of life, the Chinese government must provide the newly-resettled nomads with jobs, education, healthcare services and business opportunities to restore their dignity.

The formulation of stricter regulations on protection of nature reserves is a welcome effort. A similar policy is also urgently required to strictly regulate the influx of millions of tourists onto the plateau as it could leave massive carbon footprint on the fragile ecosystem of Tibet. In future, Tibetan cultural sentiments and local knowledge should be included in the formulation of such laws and policies, and the people's voices and needs should be also respected. The lives of millions of Tibetans residing in the areas declared as nature reserves should not be undermined.

The rapid expansion of towns and cities places a severe ecological burden on Tibet's fragile ecosystem. Clear urban planning guidelines must be established and rigorously adhered to by the Chinese government. The mistakes made in urbanizing mainland China must not be repeated on the Tibetan Plateau. The influx of tourists into Tibet must be regulated with clear guidelines to protect the plateau's fragile ecosystem. The Chinese government must involve the local Tibetan population in decision-making processes for any major development projects in Tibet. Urban planning should also take into account the impact of climate change. The increasing number of natural disasters in Tibet since 2016, with subsequent loss of life and damage to property, has been exacerbated by unregulated and poorly planned urbanization. As climate change accelerates, the effects will resonate far beyond the Tibetan Plateau, changing the water supply for billions of people and altering the atmospheric circulation over half the planet. Beijing has been a prominent player in the Paris Climate Accord and needs to show its intent - not just on paper but in practice. It needs to recognize the global environmental significance of the Tibetan Plateau and protect its ecosystem. It must respect the Tibetan people and their environmental concerns.

Ever since Xi Jinping became the president, there has been positive efforts on environmental protection across China and Tibet. But the lack of environmental knowledge, respect for environment and sincere desire for environmental protection among Chinese officials have led to various contradictions and confrontations. As a result, environmental conservation projects by various authorities in Tibet often end up further damaging the local environment and destroying

people's livelihood.

As His Holiness the Dalai Lama has constantly emphasized that the environmental conservation is a universal issue that rises above political concerns, Tibetan people and the Chinese government could work together for a more effective environmental conservation across Tibet. The Chinese government must make a sincere effort to protect the world's highest plateau from further damage and degradation.

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