Climate Crisis in Tibet – Part II

Dam Construction & Tibet as a Hydropower Zone: Implications on Tibet's Climate Crisis?

Webinar Report

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Institute for Security & Development Policy

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About ISDP

The Institute for Security and Development Policy is a Stockholm-based independent and non-profit research and policy institute. The Institute is dedicated to expanding understanding of international affairs, particularly the interrelationship between the issue areas of conflict, security and development. The Institute's primary areas of geographic focus are Asia and Europe's neighborhood.

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LIST OF SPEAKERS

Dr. Antonina Łuszczykiewicz-Mendis, a former Fulbright senior scholar at Indiana University-Bloomington in the United States, served as the founding director of the Taiwan Lab Research Center at the Jagiellonian University in Krakow until February 2023. She is an assistant professor at the Jagiellonian University and a research fellow of the Central European Institute of Asian Studies in Bratislava. Antonina is the author of over 150 books and book chapters, journal articles, and conference papers on China-India-US relations, Poland-Taiwan relations, and Cold War history. She was educated and gained her research experience at the Jagiellonian University in Krakow, Xi'an Jiaotong University in China, and the University of Cambridge.

Mr. John Jones is Head of Campaigns, Policy and Research at Free Tibet and Tibet Watch, where he has worked for nine years. Working with a dedicated Tibetan field team, he has conducted and overseen research on a range of topics. These include Tibet's environment, the ecological and social effects of mega development projects on Tibet and environmental protests by Tibetan communities against mining and hydropower dams. He has a background in conflict and development studies and human rights.

Dr. Medha Bisht is an Associate Professor in the Department of International Relations and works at the intersection of water governance and diplomacy at international, transboundary, and local scales. She also looks at transnational networks in International Relations (with a special focus on the water, climate, and energy sectors). She has undertaken consultancies with UNIFEM, ICIMOD, UNDP, IUCN, OXFAM, DFID/Asia Foundation, University of Arizona on issues related to women and governance, water diplomacy and energy cooperation. Dr Bisht also regularly delivers lectures at the Sushma Swaraj Foreign Service Institute, Ministry of External Affairs on transboundary water issues and has participated in Track 2 and 1.5 dialogues on climate change. She is a member of regional and international working groups on transboundary rivers

and climate change at ICIMOD and has led and co-led international projects on water governance and diplomacy with Dhaka University, IUCN, Uppsala University, Sweden, WWF (P), Lahore, IHE, Delft, Netherlands.

Ms. Dechen Palmo is an environmental researcher at the Tibet Policy Institute, specializes in Tibet's transboundary rivers, with a focus on the Mekong and Brahmaputra. Her research delves into the damming crisis, examining China's strategic interests in these vital water systems. By assessing the environmental and geopolitical ramifications of hydropower projects, Dechen sheds light on their impacts on regional ecosystems and international relations, advocating for sustainable policies to manage transboundary water resources effectively.

Dr. Anna Hayes is a senior lecturer in International Relations in the College of Arts, Society and Education at James Cook University, Cairns. She is also an Honorary Research Fellow at the East Asia Security Centre. Anna specialises in non-traditional threats to security, with a particular focus on China. She has presented numerous papers in Beijing, on topics ranging from the situation in Xinjiang, how the BRI has been viewed outside of China, as well as the Quad and the Indo-Pacific from the Australian perspective. Anna has published numerous articles, book chapters and edited books on these topics.

Moderator

Dr. Jagannath Panda is the Head of the Stockholm Center for South Asian and Indo-Pacific Affairs (SCSA-IPA) at the Institute for Security and Development Policy (ISDP), Sweden. Dr. Panda is also a Professor at the Department of Regional and Global Studies at the University of Warsaw; and a Senior Fellow at The Hague Center for Strategic Studies in the Netherlands. As a senior expert on China, East Asia, and Indo-Pacific affairs, Prof. Panda has testified to the US-China Economic and Security Review Commission at the US Congress on 'China and South Asia'. He is the Series Editor for *Routledge Studies on Think Asia*.

DISCUSSION

This webinar, organized by the SCSA-IPA at the Institute for Security and Development Policy (ISDP), was held on January 20, 2025. It is the second in a series on the Climate Crisis in Tibet, which sought to address China's key hydropower projects in the region. This webinar analyzed the number of "Super-Dams" impacting the Tibetan Plateau, alongside the rivers affected, those involved, and what havoc this would bring to the Himalayan region and beyond. It considered the ecological impact, China's weaponization of natural resources, and how the international community should respond.

China has been constructing dams on rivers originating in Tibet such as the Yarlung Tsangpo (called the Brahmaputra River in India) for hydroelectricity generation and irrigation purposes. As per reports, China has built thousands of dams (more than 87,000) over the years. Moreover, China's Ministry of Water Resources has accelerated the construction of reservoirs, dikes, and detention basins, with the capacity of the country's reservoirs being increased by 163 billion cubic meters.

Naturally, as a number of rivers originate in Tibet and as most are often trans-boundary rivers (Brahmaputra; Mekong; and Salween, the second-longest river in Southeast Asia after the Mekong where thus far no dams, have been completed, to name a few), the environmental impact will be borne heavily by Tibet and the lower

riparian countries like India, Bangladesh, Laos, Myanmar, and Vietnam. One of the CPC's strategies to control access to water for China "hydro-hegemony" purposes.

The repercussions are already beginning to show: In Southeast Asia, farmers and fishers across the Mekong River region experienced debilitating droughts in 2020 itself. Research has shown that this was directly due to Chinese engineers actively working to limit the river's flow. Notably, China's over-damming of Tibetan rivers has been pursued under a faulty assumption of the seismic potential on the Tibetan Plateau. Increased seismic activity could impact the structural integrity of the dams, further threatening the geological equilibrium and potentially causing damage to cultural heritage sites built along the rivers.

Be it the planned construction of the Kamtok (Gangtuo) dam in the sacred Tibetan mountains – one of the many dams proposed along the upper reaches of the Drichu (Yangtze) river – or reports about a new dam on the Mabja Zangbo River (which flows into Nepal's Ghaghara or Karnali before joining the Ganges in India) in Tibet's Burang county, bordering Nepal and India, the Chinese strategy to control Tibetan resources and divert waters for its own insatiable energy and other requirements will wreak havoc on the whole Himalayan region, and beyond.

Although international forums and research organizations such as the United Nations Framework Convention on Climate Change (UNFCCC), the Intergovernmental Panel on Climate Change (IPCC), and the Nepal-based International Centre for Integrated Mountain Development (ICIMOD have already highlighted the impact of unfettered and large-scale hydropower development on ecological concerns, precious little has been achieved. Given the urgency of global warming and the melting of the Third Pole in particular, such hydropower investments need to be examined in greater detail.

The webinar sought to discuss the following key questions:

- What are China's key hydropower projects? How many of these are mega dams? Which rivers originating from the Tibetan Plateau will be impacted?
- What is the projected and actual scope and ambit of these initiatives? More importantly, what are the ecological effects on wildlife and on biodiversity?
- Are other countries in South and Southeast Asia partnering with China? Which countries are involved? And, why are they involved?
- To what extent has China already weaponized water as a critical resource? What can be done to control this weaponization?
- What are the regional and global implications of both China's damming and its developing Tibet as a hydropower zone?
- How can awareness about the projects and their impact be increased among the international community? What must the

"The Chinese are continuously and systematically building dams in the Himalayan region. What is particularly alarming about the new announcement is the effect it will have on the climate, the environment, and the spatial ecology of the region."

– Jagannath Panda

world take note of?

- How can international forums, including UN-led multilateral forums like the UNFCCC, contribute to stemming over-damming of trans-boundary rivers?

Dr. Jagannath Panda, Head of the South Asia and Indo-Pacific Centre at ISDP, opened the session with a discussion on China's activities on the Tibetan Plateau, which are escalating into a serious crisis. Recent dam constructions pose significant challenges to the region. While such projects are not unprecedented, there has been an alarming increase in construction efforts, typically at substantial environmental and social cost.

He informed that China had recently announced a project for the world's largest hydroelectric plant on the lower stretches of the Yarlung Tsangpo (Brahmaputra) River in Tibet, which will impact the entire Himalayan region, especially downstream areas. Dr. Panda framed the broader discussion by highlighting how these hydroelectric programs raise extensive environmental concerns, social and cultural implications, and alarms over resource scarcity.

To begin the discussion, Dr. Panda posed two major questions to the panelists: How do you really perceive the announcement vis-à-vis China's recent "Super-Dam" project? Secondly, how can China be incentivized to be transparent or negotiate on these water projects? He emphasized the importance of international unity on this global issue, noting that Tibet – as the "water tower of Asia" – is critical to the entire world, and any environmental impact felt there will undoubtedly have broader consequences.

Dr. Antonina Łuszczykiewicz-Mendis, research fellow of the Central European Institute of Asian Studies in Bratislava and assistant professor at Jagiellonian University set the stage for the discussion. She highlighted the significance of China's most recent project on the Brahmaputra River, prior to its entry into India. Despite already possessing the world's largest dam, China's new project is allegedly expected to be three times bigger than its predecessor.

The scholar detailed the social implications of these ambitious projects: the previous "Super-Dam" forced 1.4 million people to relocate and cost 137 billion USD. India has already signaled concerns about the potential risks unravelling here. The Brahmaputra flows through an extremely steep region, with 2000-meter drops across 50km distances in some areas, which theoretically appears ideal for dam construction. However, this also makes it a highly seismically active area, increasing the likelihood of earthquakes and landslides.

Dr. Łuszczykiewicz-Mendis stressed these implications, noting that since the project's announcement in December 2024, two earthquakes have occurred in the area, one of which resulted in over 100 fatalities.

She concluded by acknowledging China's water scarcity challenges while emphasizing that its seemingly insatiable expansion of operations has become an international concern. This is especially relevant to displaced Tibetans who face arrests, beatings, and disappearances if they protest these constructions. In closing, she stated that China actions as a 'hydro-hegemon' upstream shall have grave consequences for those downstream.

"As Dr. Jagannath Panda mentioned at the beginning, this is an international issue. Whatever China – the hydro-hegemon – does on its rivers will affect all the countries downstream."

– Antonina Łuszczykiewicz-Mendis

Mr. John Jones, Head of Campaigns, Policy, and Research at Free Tibet and Tibet Watch added to the discussion by highlighting the intriguing timing of this announcement and its potential target audience. He echoed experts who argue that the project may be as much about land acquisition as natural resources. Mr. Jones noted the uncertainty surrounding the project's progression, particularly after a recent earthquake prompted an investigation of fourteen dams in Tibet, with five found to be cracked and three reservoirs subsequently emptied.

Mr. Jones referenced Chinese experts' varied perspectives, noting that while some hail these projects as technical marvels, others express significant concerns. He cited specific examples of previous dam-related environmental challenges, such as the Three Gorges Dam in Hubei province, which experienced a 70 percent increase in landslides due to rising water levels. A 2012 report documented 430 landslides and nearly 3,000 smaller geological incidents, including one instance where sixty-foot waves killed 14 people, with an additional 31 people killed in a separate landslide.

The expert highlighted that while some Chinese professionals question the strategic locations of these projects – noting safer and more cost-effective alternatives within Tibet – financial incentives remain compelling. The project's proximity to India's borders adds another layer of strategic complexity.

"One report from 2012 noted 430 landslides and close to 3000 smaller geological incidents since the construction of this dam, including one instance where waves reached sixty feet high and killed 14 people."

– John Jones

Mr. Jones emphasized the need to be cognizant of their location and the financial motives, every bit as much as Beijing's touted claim of hitting Net Zero by 2060. Despite this, the dam is supposed to be complete by 2033 but there have been no environmental surveys on how this will be achieved.

Dr. Medha Bisht, an Associate Professor in the Department of International Relations at South Asian University in New Delhi augmented the discussion via an analogous analysis of China's hydro-politics. She advised that any kind of strategic interpretation should involve both strategic foresight and hindsight, referencing China's economic development trajectory since 1995, a period of systemic economic growth and investment in China. She traced the evolution of China's water resource strategies through its Western Development Program and subsequent Five-Year Plans, which consistently underscored water, energy, and minerals as essential state resources.

Dr. Bisht, citing the Zangmu Dam project, highlighted the strategic chronology of dam construction, noting how China's initial focus on the upper and middle stretches of the Brahmaputra River initially mitigated riparian concerns. A decade later, China has constructed 193 dams in Tibet, and Zangmu is operating in conjunction with several auxiliary dam projects.

The new Medog "Super-Dam" has intensified fears due to its location in the lower stretches of the Brahmaputra. She concluded that while the dam will address water, energy, and economic needs, it is likely part of a broader Indo-Pacific strategic matrix with significant geological, geo-economic, and geopolitical connotations.

"Tibet is part of a broader strategic matrix with significant geological, geo-economic, and geo-political connotations."

– Medha Bisht

Ms. Dechen Palmo, an environmental researcher at the Tibet Policy Institute, emphasized the urgent need for international attention to the fast developing climate and social crisis in Tibet. She highlighted that the rivers originating on the Tibetan Plateau are lifelines for millions and a crucial component for biodiversity. While any dam supports carbon neutrality goals, it overlooks broader environmental, geopolitical, and social implications.

Ms. Palmo further pointed out that the Yarlung Zanbo Gorge where the new "Super-Dam" is planned falls in Tibet's Medog County which is a nature reserve.

She cited Article 32 of the Chinese Regulation on Nature Reserves, which restricts activities in core and buffer zones, arguing that the construction would contradict China's own environmental protection laws. She also stressed the displacement of residents who have lived along these rivers for generations and highlighted the plans to drill a tunnel through the sacred Namjagbarwa mountain.

Such massive construction in these protected areas could trigger earthquakes and landslides, posing significant risks to local Tibetan communities. Ms. Palmo revealed how the nexus of dams built across Tibet have resulted in a complete lack of unilateral action.

"According to Article 32 of the Chinese Regulation on Nature Reserves, there is a restriction on activities within the core and buffer zones of these reserves. Yet this construction project would contradict China's own laws pertaining to these protected areas."

– Dechen Palmo

Dr. Anna Hayes, a senior lecturer in International Relations at the College of Arts, Society, and Education at James Cook University offered a broader overview of the topic. The scholar explored how Tibet fits within China's broader expansionist dogma and grand strategy. She contextualized Tibet alongside the Uighur region and Inner Mongolia as modern-day colonies, often justified as "inseparable parts of the motherland since ancient times."

Dr. Hayes argued that China employs settler-colonialism to suppress dissent, systematically altering ethnic ratios, and cracking down on protesters. She described China as an extractive colonial state, using frontier regions' natural resources to serve inner-city populations (sending Western electricity Eastward). These peripheral frontier regions are important to Beijing and the ongoing prosperity of China. Thus, their government views any region with direct or any indirect relation as "Politically China".

The Tibetan Plateau becomes a strategic area to enhance China's hydro-hegemony and sphere of influence. Beijing can coerce regional states through its "upstream position" and Belt and Road Initiative, establishing tributary relations via loan repayments and water diplomacy.

Dr. Hayes concluded by highlighting

"Asymmetrical power differences weaken the negotiating power of other nations. Against this backdrop, countries are less likely to confront China on key issues under concerns over other projects or broader economic reasons. They are ultimately more likely to accept China's hegemony over the region."

– Anna Hayes

how these asymmetrical power dynamics weaken other nations' negotiating capabilities, making them more likely to accept China's regional hegemony to avoid confrontation over broader concerns

Q&A

Following the initial presentations, the webinar transitioned into an engaging question-and-answer session moderated by **Dr. Jagannath Panda**. The segment allowed participants and panellists to delve deeper into the critical issues raised. **Dr. Panda** initiated the discussion by exploring the environmental implications of the proposed dam projects, focusing on their potential impacts on the Himalayan ecosystem and water management policies.

Mr. John Jones provided a concise overview of the ecological challenges, highlighting several key concerns: The massive concrete infrastructure will consume significant fossil fuels, potentially accelerating the warming of Tibet's permafrost. This region is already experiencing warming at a rate faster than the global average, raising fears of methane escaping from thawing ground.

Mr. Jones emphasized the need for renewable energy alternatives over large-scale concrete structures. The discussion then pivoted to broader geopolitical implications, with particular attention to Tibet's lack of sovereignty in resource management. **Mr. Jones** stressed that social, cultural, and environmental damages could only be addressed through a unified international response and maintained pressure on the international companies supporting China's efforts.

Ms. Dechen Palmo expanded on the urgent environmental concerns and the desire for a unilateral response. She noted that Tibet is warming at twice the global average, with rivers serving as critical lifelines for multiple countries, including China, India, and Bangladesh. **Ms. Palmo** highlighted the profound social impacts, including community displacement and destruction of cultural heritage sites. She cited entities like the International Centre for Integrated Mountain Development (ICIMOD) which are encouraging engagement with China. However, there should be more transparency and cooperation from China as well.

Dr. Medha Bisht provided a geological perspective, referencing the 1950 Assam-Tibet earthquake centerd in Medog county – the proposed location of the "Super-Dam". She emphasized the region's geological complexity as a young mountain range naturally prone to seismic activity. **Dr. Bisht** also warned about the threat of desertification due to grassland destruction, illustrating the broader constellation of ecological consequences.

Dr. Anna Hayes addressed the human dimension, noting the virtual elimination of protests in the region due to severe governmental repression. She described the super-projects as manifestations of Chinese modernization that prioritize

infrastructure over human and cultural preservation, causing social dislocation and an economic toll on local inhabitants. The scholar stressed the importance of looking at international initiatives in conjunction with the "Belt and Road initiative" (along with arms sales) which will typically supersede public condemnation from other governments.

Dr. Antonina Łuszczykiewicz-Mendis offered a nuanced conclusion, acknowledging the complexities of transboundary water management. She highlighted that while the "Super Dam" project is controversial, similar water security challenges exist in other regions. She pointed out the intricate dynamics among ASEAN countries, where downstream nations are simultaneously upstream to others.

However, the scholar highlighted China's reluctance to cooperate, citing the U.S. Strategic Framework for the Indo-Pacific which features water diversion by China as a "continental challenge". There is no mention of Tibetan sovereignty, yet China reacts with a declaration of meddling in its internal affairs, rather than diffusing these global concerns. **Dr. Łuszczykiewicz-Mendis** urged a measured approach, avoiding outright condemnation while maintaining critical scrutiny. She emphasized China's responsibility as a primary actor in regional water management. The panel collectively highlighted the urgent need for international transparency, ecological preservation, cultural protection, multilateral dialogue, and recognition of Tibet's critical role as Asia's "water tower".

KEY TAKEAWAYS

- The panelists collectively recognized China's role as an upstream 'hydro-hegemon' which shall have grave consequences for areas situated downstream, including India and Bangladesh.
- The new Medog "Super-Dam" has garnered fears over its location on the lower stretches of the Brahmaputra. While the dam will address water, energy, and economic needs, it is likely part of a broader Indo-Pacific strategic matrix with significant geological, geo-economic, and geopolitical implications.
- There are considerable environmental concerns from this project, including but not limited to flooding, earthquakes, desertification, and shifts in sediment.
- There are also considerable social risks, including displaced communities, destroyed cultural sites, and deaths resulting from landslides and earthquakes.
- The Belt and Road initiative is being used to extend Beijing's sphere of influence by establishing tribute relations via loan repayments and water diplomacy in the region.
- The Yarlung Zanbo Gorge in Tibet's Medog County, where the new "Super-Dam" will be constructed sits within a protected area, contradicting China's own environmental protection laws.
- The lack of an international response is likely attributed to China's grasp on natural resources, the arms trade, and initiatives like the Belt and Road. Further, countries are more likely to accept China's regional hegemony to avoid confrontation over broader concerns.
- There is a need to be cognizant of the "Super-Dam" location and financial motives, every bit as much as Beijing's touted claim of hitting Net Zero by 2060.
- While similar water security challenges exist in other regions (including among ASEAN countries), China's reluctance to transparency and cooperation on this issue poses considerable concern.
- The panel collectively recognize the water security challenges facing China but condemn its approach to tackling the issue.
- The panel collectively highlighted the urgent need for collective transparency, ecological preservation, cultural protection, multilateral dialogue, and recognition of Tibet's critical role as Asia's "water tower."

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