



Green Tibet

Annual Newsletter 2010
Environment & Development Desk



Editorial

In the News

- China to build world's highest airport in Tibet by 2011
- Tibet publishes 10-year tourism development roadmap
- China National Gold's Tibet mining project begins production
 - China begins Tibet railway extension
- China begins damming Brahmaputra river for hydropower project
 - Tibetan villagers forced to move
- China discovers 2.46 million tons of lithium in Tibet
 - Chamdo to build 25 terraced hydropower stations

Focus

Human error behind drugchu mudslide tragedy

Reports

- Grassland on the Tibetan Plateau: A Review
- Environmental issues and concerns on the Tibetan Plateau

Environment and Development Desk

Central Tibetan Administration established the Environment Desk in March 1990, which later evolved into the present Environment and Development Desk (EDD).

EDD operates under the Department of Information and International Relations (DIIR) of the Central Tibetan Administration headquartered in Dharamshala, India.

The primary goal of the desk is to monitor People's Republic of China's (PRC) policies and practices related to environment and development in occupied-Tibet. EDD works in close coordination with the media, experts and environmental advocates and various governmental and non-governmental organisations all over the world to preserve Tibet's fragile environment. The desk helps increase global awareness on environment and development in Tibet and campaigns against PRC's unsustainable development policies in Tibet causing rampant degradation of Tibet's environment. It conducts subjective researches and publishes timely educational materials. The Desk also imparts trainings, workshops and seminars on environmental education to Tibetans in exile.

EDD's spheres of activities are mainly focused on Tibet, and its primary goals are to;

- monitor and research on environment and development issues inside Tibet
- disseminate information and carry out selective advocacy on promoting sustainable development inside Tibet
- create awareness and educate public on Tibet's environmental issues throughout the world and to the exiled Tibetan community in particular.

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Dear Friends,

This is the first issue of the e-version of our annual newsletter 'Green Tibet', and with this 'Green Tibet' goes green. To reduce the carbon footprints of our office, we have decided not to bring out the print edition of the newsletter. Henceforth, you will receive the e-newsletter.

EDD dedicated the year 2010 creating awareness on environment in Tibetan schools in India to mark the 75th birth anniversary of His Holiness the Dalai Lama. Environmental awareness programs were launched covering Tibetan schools in Ladakh in the far north of India to the southern state of Karnataka. At the international fora, EDD participated in the Second Congress of the Asia Pacific Greens Network held in Taipei, Taiwan. Besides dissemination of information on the state of the Tibet's environment, the congress was a good opportunity to interact and exchange views with experts, diplomats, scholars and environmental activists from all over the Asia-Pacific region. It also enhanced EDD's efforts in establishing better communications with the Asia Pacific Greens Network members.

EDD also took part in few other important meetings and conferences held last year and successfully highlighted Tibet's environmental issues. The executive head of EDD, Mr. Tenzin Norbu, gave briefings on environmental and development issues inside Tibet during the 15th session of the UN Human Right Council held in September in Geneva. We regret to inform our readers that our Desk could not participate in some important conferences such as the International Association of Tibetan Studies held in Vancouver in August and UNFCCC COP 16 held in Mexico in December last year.

This year we are looking forward to bring out a Tibetan version of our recent climate change report and a short documentary film on Climate Change.

EDD extends its gratitude to all its interns and volunteers whose enthusiasm and expertise have made our work more constructive and productive.

Dear Friends of Environment and Development Desk

I apologize for the delay in bringing out this issue.

Tibet in recent years has been undergoing incessant “development” in mining, hydropower and grassland management. This so-called development, driven solely by China’s growing hunger for raw material and power for its ever expanding industries, has been taking place on ‘the roof of the world’ without proper and impartial environmental impact assessment and thus causing an irreparable loss to the fragile environment of the Tibetan Plateau. Time and again, environmental activists within and without China have been criticizing Beijing for its detrimental development projects on the Tibetan Plateau which is the source water for the sustenance of some 3 billion people living downstream of the rivers originating in Tibet.

After much denials, Beijing finally disclosed the construction of dam on the Brahmaputra river (Tib: Yarlung Tsangpo). If one recalls, People’s Republic of China (PRC) till date had tried to douse media and termed the damming of Brahmaputra as infeasible and unscientific. But construction of Zangmu dam on the Brahmaputra is already underway and three or four more dams have been planned along the upper stream of the river. There is also speculation that a dam with a potential capacity of 38,000 megawatts is being planned at the great bend where the Brahmaputra makes a sharp u-turn before flowing down into India.

Just in December 2010 Beijing announced projects to build more than 20 dams in Chamdo in eastern Tibet on rivers that are tributaries of some of the major rivers that flow down to different countries. Beijing’s frenzy of dam building will not only cost a great deal to Tibet’s environment but also put the lives of millions of people in the downstream countries at risk.

Critics have termed the Drugchu mudslide that killed thousands of people in August last year (eastern Tibet) as a manmade disaster. Researchers at the Chinese Academy of Science held rampant deforestation and construction of dams in the area responsible for the disaster.

Mining on the Tibetan Plateau has also become extensive. Gyama Mining in the area of Medrogongkar under Lhasa Municipality is taking a large toll on both the local residents and their environment. Eyewitness interviews have told of the vast destruction of the environment due to mining.

The forced resettlement/removal of Tibetan nomads under the pretext of grassland protection has economically and socially marginalised the nomads and brought an abrupt end to the nomadic culture that embodies freedom.

The recent built Gunsa airport in Ngari in western Tibet has left many skeptical. Beijing always asserts that development in Tibet is for the welfare of the local Tibetans but at a place like Ngari where the population density is only 0.2 per square kilometer. What is the real need for such development?

We hope this issue provides our readers with knowledge on current environmental crisis on the Tibetan Plateau. We request all our readers to create awareness on these issues among your friends and your communities.

We wish our readers a very happy new year.

China to build world's highest airport in Tibet by 2011

Source: <http://travel.usatoday.com/flights/post/2010/01/china-to-build-worlds-highest-airport-in-tibet-by-2011/14726/1>

By Ben Mutzabaugh

Expect the title of “world’s highest airport” to change hands by 2011. That’s because China announced via its Xinhua News Agency that it plans to build an airport in Tibet that – at 14,553 feet – will be the “roof of the world,” according to AFP. The new Nagqu airport will be located about 140 miles of the regional capital of Lhasa.

The Associated Press writes the airport “is expected to surpass Bamda Airport, also in Tibet, by 335 feet as the world’s highest altitude airport, the official Xinhua News Agency reported. The new airport is part of Beijing’s ongoing plan to encourage development of transportation and other industries in the long-isolated region as a way to promote its economic growth and raise living standards. Six new railway lines in and around Tibet are in the works, following the opening in 2006 of the final link in a line from Beijing to the capital Lhasa.” (*Some of the best grassland in Tibet lies in Nagchu Prefecture including the vast Changtang grassland. On one hand Beijing is removing nomads from this land to “restore grassland” and on the other hand hard infrastructure such as this one is being constructed on the restoration area*)

“With the airport, Nagqu, which is also on the Qinghai-Tibet railway line, is expected to become the centre of an economic hub in the plateau region,” Nagqu prefecture commissioner Tan Yongshou says, according to the AFP recap of Xinhua’s report.

However, AFP notes that “critics of China’s rule (of Tibet) say new infrastructure such as the recently completed railway and new airports are allowing its ethnic Han majority to flood Tibet, exploit its resources and consolidate political control.”

Tibet publishes 10-year tourism development roadmap

Source: http://tibet.news.cn/english/2010-05/17/c_13299000.htm

17/05/2010

BEIJING, May 17 — Tibet Tourism Bureau has published a ten-year plan for the development of the Tibetan tourism.

According to the roadmap, Tibet will spend ten years building a tourism layout of “two centers, two axis, four tourist routes and seven areas”. By the end of 2020, the number of annual visits to Tibet should reach 20 million and tourism revenue should reach 20 billion, making Tibet a world class tourism destination.

Tibet’s tourism layout will include: the human culture tourism center Lhasa and the ecotourism center Nyingchi; east-west tourism development axis and south-north tourism development axis that can connect Tibet with the outside; four boutique tourist

routes in east, west, south, and north; seven scenic areas including the Potala some famous tourism brands such as the Potala Palace, Mount Everest, Brahmaputra Grand Canyon, and Kailash Mansarovar. It will build at least two AAAAA level scenic areas and ten AAAA level tourist areas in 2010, and will also build at least six AAAAA level scenic areas and 15 AAAA level scenic areas. Meanwhile, it will speed up the development of special tours such as hiking, mountaineering, climbing, and bungee jumping. (*There are five Five-Stars hotels in Tibet’s sacred city Lhasa including those under constructions. Will these benefit Tibetans? Read CHINA’S GOLDEN MOMENT: MAKING IT LAST FOREVER by Gabriel Lafitte at www.phayul.com*)

According to Ba Zhu, the director of Tibet Tourism Bureau, if all the targets are achieved in ten years Tibet will become a distinctive world class tourist destination with special features, good environment, convenient traffic, comprehensive facilities, normative management, standardized service, an international market, and social development that can meet the needs of various groups.

China National Gold’s Tibet mining project begins production

Source: http://news.xinhuanet.com/english2010/china/2010-07/19/c_13405066.htm

19/07/2010

LHASA, July 19 (Xinhua) — China National Gold Group (CNGG) said Monday the first phase of its Gyama polymetallic mine in Lhasa, capital of the Tibet Autonomous Region, began production Monday, giving a boost to economic development in the mineral-rich region.

Located in Meldro Gungkar County, the first phase of the project has an expected daily output of 6,000 tonnes.

CNNG subsidiary Tibet Huatailong Mining Development Co. started construction on the 8 billion yuan (1.18 billion U.S. dollars) project in 2008.

The mine will eventually have a daily output of 15,000 tonnes, but the company did not say when that will be.

The company will pay up to 700 million yuan per year in taxes once the whole project is operational, according to the company.

Hao Peng, deputy secretary of the Chinese Communist Party regional committee in Tibet, said the project will promote economic development in Tibet and help meet China’s soaring demand for non-ferrous metals.

Sun Zhaoxue, CNGG general manager, said the company invested 250 million yuan in work safety and environmental protection for the project.

CNCG, China's largest gold producer, has more than 1,300 tonnes of gold reserves, 8 million tonnes of copper reserves and 1.2 million tonnes of molybdenum reserves. *(An excerpt from an interview with eyewitness account of the Gyama mining: "Chinese authorities are mining mineral resources in our area on a large scale rapidly depleting the reserves left intact so far. We feel that our coming generations will soon be bereft of these resources. Moreover, in the mining process, grasslands used by Tibetan nomads are being destroyed. Local Tibetans are not allowed to cut any trees but people engage in mining can fell trees to make space for exploration")*

China begins Tibet railway extension

Source: <http://www.bangkokpost.com/breakingnews/198451/china-begins-tibet-railway-extension>

27/09/2010

China has begun building a 13.3-billion-yuan (two-billion-dollar) extension to the world's highest railway line, which links Tibet to the rest of the nation, state media reported Monday.

A train passes through the mountains outside of Golmud on the first part of the Qinghai-Tibet railway in China's northwest Qinghai province, in 2006. China has begun building a 13.3-billion-yuan (two-billion-dollar) extension to the world's highest railway line, which links Tibet to the rest of the nation, state media has reported.

The extension linking the Tibetan capital Lhasa to Xigaze — the Himalayan region's second-biggest city — should be completed in four years, the official China Daily said.

The building of the 253-kilometre (155-mile) line, which began on Sunday, is the first extension of the Qinghai-Tibet railway, which opened in July 2006, the report said.

Nearly half of the line will be laid in tunnels or on bridges, it added.

Chinese authorities see the railway as an important tool in modernising and developing the vast region.

However, critics say that the line is allowing the Han Chinese, the nation's majority ethnic group, to flood into Tibet, harming local culture and accelerating environmental degradation of the pristine region.

"The railway will detour around nature reserves and drinking water sources," Zhang Qingli, Tibet's Communist Party chief, was quoted as saying by the state-run Xinhua news agency.

"More measures will be taken during construction to better protect the fragile plateau environment."

Railways minister Liu Zhijun said the extension would play a "vital role in boosting tourism in the southwestern part of Tibet and promoting the rational use of resources along the line," according to the China Daily.

Authorities are also planning another extension from Lhasa to Nyingchi in the southeast of Tibet, the report said.

The railway climbs over a pass at 5,072 metres (16,737 feet) above sea level, making it the highest railway in the world. *(The extension is seen as tool for mining company to transport mines to smelter and then to its market from the mining site (Shetongmon (Ch: Xietongmen) in Shigatse (Ch: Xigaze). http://www.hdgold.com/i/pdf/KMK_2005-12-01_NR.pdf)*

China begins damming Brahmaputra river for hydropower project

Source: <http://www.hindu.com/2010/11/16/stories/2010111658172000.htm>

By Ananth Krishnan, 16/11/2010

BEIJING: China has started damming the middle reaches of the Brahmaputra river, or the Yarlung Tsangpo as it is known in Tibet, to begin construction on a 510 MW hydropower project that has raised concerns in India.

The government for the first time revealed that it has, since November 8, begun damming the Tsangpo's flow to allow work to begin on the hydropower project at Zangmu. This is the first major dam on the Brahmaputra and has been billed by the Chinese government as a landmark hydropower generation project for Tibet's development.

A news report on Monday said the "closure of the Yarlung Zangbo river on November 12 marked the beginning of construction." Work is expected to continue beyond 2014, when the first set of generators will be put into operation. The total investment in the project is 7.9 billion yuan (\$1.2 billion).

The Indian government has raised concerns about the possible downstream impact of this project during talks with China earlier this year. Chinese officials have assured their Indian counterparts that the project would be "run of the river," having little impact downstream.

China has said that its projects were only for hydropower generation, and were neither storage projects nor designed to divert the water.

Officials at India's Ministry of External Affairs have, however, voiced frustration over China's general lack of willingness to share information regarding the Zangmu project, meaning they had little means to verify claims on the specific construction plans and impact on flows.

According to Ramaswamy R. Iyer, former Water Resources Secretary of the Government of India, for India "the point to examine would be the quantum of possible diversion and the impact it would have on the flows to India."

Usually, to ensure that the flow downstream remains unaffected during the period of construction of a dam, the water is diverted through streams around the construction site and returned to the river.

“Since the flow of the water cannot be stopped, the water will be diverted so there will be no reduction of flow in this stage,” Mr. Iyer, who is an authority on dams and transboundary water issues, told *The Hindu* on Monday, speaking from New Delhi.

He stressed that he was speaking in general terms regarding any dam construction, and did not have specific details regarding how China was carrying out this particular project.

There is still some uncertainty on what China intends for the project, and whether or not a storage reservoir, which could affect downstream flows, will be built beyond the minimal “pondage” required to operate the turbines.

Chinese media reports indicated that the Zangmu project is unlikely to be the last on the Brahmaputra. A news report on the widely read portal Tencent said the Zangmu dam was “a landmark project” for Tibet’s development, being the first major dam in Tibet, and “a project of priority in the Eleventh Five Year Plan.”

The report said that such projects would “greatly relieve the energy stress in the middle regions of Tibet” and upgrade power capacity from 100 MW to over 500 MW.

Mr. Iyer said a larger concern for India was the absence of a water-sharing treaty with China, which does not allow India to either qualify or address Chinese claims regarding specific projects.

“Between India and Pakistan, we have a treaty which specifies what we should do,” he said. “We’re not supposed to retain a drop, and [even] during a stated period of construction, inflow is equal to outflow.”

“But with China,” he added, “we have no treaty. So what they will do, we have no idea.” (*Chinese lobbyists are pursuing the construction of the world biggest hydro-electric project at Great Bend of Brahmaputra where the hydropower potential is estimated to 38 000 Megawatt. Find out more at <http://www.guardian.co.uk/environment/2010/may/24/chinese-hydroengineers-propose-tibet-dam>*)

Tibetan Villagers Forced to Move

Source: <http://www.rfa.org/english/news/tibet/relocations-12092010131710.html>

2010-12-09

A Chinese development project will flood farmland and homes, forcing thousands to relocate.

Up to 4,000 Tibetan villagers may be forcibly relocated by Chinese authorities to make way for a hydroelectric project in an area north of Tibet’s regional capital Lhasa, according to Tibetan sources.

The project, to be completed in the Phodo area of Lhundrub county in the Tibet Autonomous Region, is set to displace about 500 households, a local Tibetan said, speaking on

condition of anonymity.

“That means, as of now, somewhere between 3,000-4,000 people will be affected,” the man said.

“The Chinese are building bridges and blocking the flow of the river,” he said. “The Chinese have already built houses exclusively for the Chinese soldiers who have arrived to work on the dam.”

Some households have already been relocated, with others told they will have to move before the areas in which they live are submerged, the man said.

“They are being told they are not permitted to irrigate or plow their land or harvest any crops . . . By September next year, all must have moved.”

None of the affected families wants to move, the man said, adding, “They fear that they and their animals will suffer from diseases such as diarrhea and from maladjustment to unfamiliar surroundings.”

Despite repeated pleas, all have been “coerced” into leaving their homes, the man said.

Requests denied

Requests that all households be relocated to the same place have also been denied, with some groups now set to be moved to nearby Yulnga, Taglung, and Radreng, and others going to Lhasa.

Family groups sent to Lhasa will face particular hardship due to the largely urban area’s lack of grazing land for animals, the man said, adding, “They will be forced to sell their livestock and leave.”

“Each family is supposed to be given a sum of about 10,000 yuan (\$ U.S. 1,500) in compensation, but they are being ordered to spend the money to build new houses into which they can move.”

Speaking separately, a source outside Tibet confirmed the report, saying he had heard that six towns and villages in the Phodo area are marked for resettlement.

Because three rivers near Phodo—the Radreng, the Lhachig, and the Pachoe—are scheduled to be dammed, he said, not just Phodo itself but also the surrounding county will be affected, he said.

“All the workers at the dam project are Chinese,” he added, citing contacts in the area.

“I heard earlier that there are already about a thousand Chinese soldiers in Phodo. On top of that, I now hear another group of

two thousand soldiers has arrived.”

“Besides adversely affecting people and livestock, historic monuments such as a famous iron-link suspension bridge and a small nunnery will be submerged under water,” he said.

Chinese development projects in Tibet have led to frequent standoffs with Tibetans who accuse Chinese firms of disrupting the lives of local people and of polluting and damaging the environment.

Reported by RFA's Tibetan service. Translations by Benpa Topgyal. Written in English by Richard Finney.

China discovers 2.46 million tons of lithium in Tibet

Source: <http://tibetanreview.net/news.php?id=8155>

18/01/2011

China said Jan 15 that it had discovered a 2.46-million-ton lithium carbonate mine in Tibet Autonomous Region (TAR), adding that this will reduce the country's cost of lithium production and help its new energy industry. Its official *China Daily* newspaper said Jan 17 the discovery was revealed by Wang Min, China's vice-minister of land and resources, at a national conference in Beijing on Jan 15. The report did not say where exactly in Tibet the discovery was made.

The minister had also said the Yin'e Basin in Qiangtang Basin on the Tibetan Plateau had been found to have rich oil and gas resources. He had also referred to the discovery of natural gas hydrate in the frozen-soil areas at Qilian Mountain in Qinghai Province, calling it a breakthrough in locating new energy resources.

Wang had said that thanks to the efforts of the geologists, new resources detected in the past 10 years – many in different parts of ethnographic Tibet – accounted for about half of all resources found in the past half century, with the amount of new resources found each year having surpassed their annual consumption.

The minister had noted that China had become the world's biggest consumer of coal, steel, alumina, copper and cement. However, it relies on imports to meet more than half of its petroleum and iron consumption, about 70 percent of its copper consumption and 64 percent of sylvite consumption.

China is the global price-setter for oil, coal and base metals because of its huge demands for these commodities, noted a *Telegraph.co.uk* analysis Jan 16. *(Most of these mining in Tibet are operating against the will of the local Tibetans. The voices against these are being suppressed with military forces. <http://www.tibet.net/en/index.php?id=2129.&articletype=flash&rmenuid=morenews&s&tab=1#TabbedPanels1>)*

Chamdo to build 25 terraced hydropower stations

Source: http://eng.tibet.cn/2010hb/xw/201101/t20110119_860446.html

Amanda Wu, 2011-01-19

Eastern Tibet's Chamdo Prefecture plans to build 25 terraced hydropower stations in accordance with the water-resource development plan along the Drichu River, Dachu River and Ngulchu River, said Ugyen Phuntsog, vice secretary of the Chamdo Party Committee.

So far, Chamdo has completed the preliminary surveys on seven terraced hydropower stations, and the feasibility studies on the Yerpa Beach, Lawa and Suwalong terraced hydropower stations have been in full swing.

In Chamdo, the total water reserve amounts to 40.46 million kw while the overall hydropower generated in Chamdo was 280,000 kw as of the end of 2010.

Chamdo will build several major power plants along the three rivers in the 12th Five-Year Plan period (2011-2015), with its installed capability estimated to over 5 million kw by 2015.

By 2020, Chamdo's installed capability is expected to exceed 10 million kw and then it will basically set up a national energy base to transmit electricity from the western to the eastern regions.

(Will these hydropower stations benefit the local Tibetans or is it meant to transmit power to the emerging mining industries in Chamdo (one of the three mineral bases set up in TAR) to exploit 15 million tonnes of proven copper, lead and zinc in the coming next five years. <http://english.cntv.cn/program/china24/20101028/100670.shtml>)

“There is great reason to heed these signals as grave warnings of far more disturbing consequences to come that will have global significance over the coming next several decades.”

Michael Zhao, Tibetan Plateau in Peril

Human Error Behind Drugchu Mudslide Tragedy

Monday, 24 January 2011

Drugchu exploited its mountains, its water and its rivers and, in return, suffered a powerful mudslide

DHARAMSHALA: The rampant exploitation of natural resources increased the risk and impact of last year's powerful mudslide disaster in Tibet's Drugchu region which killed thousands of ordinary people, a top Chinese researcher wrote in an article posted in ChinaDialogue. Over 1,239 people were killed and more than 505 went missing in the disaster.

Jiang Gaoming, the chief researcher at the Chinese Academy of Sciences' Institute of Botany, listed three major factors – indiscriminate deforestation and building of hydropower dams and construction of residential houses near river courses - which compounded the disaster.

"The area was known for its forests, rich water resources, fertile land and pleasant climate. But after the felling of tens of billions of cubic meters of timber and the construction of huge numbers of hydropower dams, the area's hills have been left barren and unable to absorb rainfall," he said.

Mr Jiang corroborated his findings with statistics of the region's forest cover. "Drugchu county, known for its rich vegetation, has 65% or 1,940 square kilometers land available for forestry. Of this, 820 square kilometers, or 45% was actually forested, a higher percentage than the natural average of 22%. Unfortunately, these forests have been decimated by three decades of felling. In the 1970s, 80,000 cubic meters of lumber were already being chopped down annually. Unchecked tree felling and trading eventually led to the county's forestry resources diminishing by 100,000 cubic meters per year," he said.

"Following last August's devastating mudslide, reporters noted that the hillsides above the Sanyan valley, one of the worst areas, were bare of trees and even the brush was sparse. Without the vegetation, heavy rain was able easily to loosen soil and stones, triggering landslides that threatened lives and property below," he added.

Secondly, widespread construction of hydropower dams along with the rampant deforestation has contributed to the area's vulnerability. "As many as one thousand large and small dams were built on the main Bailong river with no thought given to upstream ecologies, such projects have increased the likelihood of mudslides. The Bailong flows through a zone that is prone to earthquakes and the quarrying of stone from the banks of the river to build the dams has further destabilised the hillsides," Mr Jiang said.

He further noted that hydropower construction often conflicts with environmental protection goals. "Dam-building has led to the destruction of forest reserves, for example, and intervention by the forestry authorities is rarely effective," he said.

"Between 2003 and 2007, contracts for 53 hydropower projects were signed in Drugchu. Forty-one of these have since been built or are now under construction and the remaining 12 will soon follow. Together, they account for 80% of the county's development projects. It is estimated that the under construction of forty-one dams will result in the dredging of 38.3 million cubic metres of sediment and the loss of 749,000 tonnes of soil. On completion of a dam, water soaks the hillsides and loosens the earth, creating a situation where landslides could happen at any time. The dredging of sand also leaves the river bed covered in rocks which can be swept away by floodwaters, making those floodwaters much more dangerous," he said.

The third major problem is the lack of urban planning and construction of residential houses near river banks. "Although mudslides and landslides have raised awareness of the dangers among local people, there is still a lack of urban planning and construction is still happening in vulnerable areas. The narrow valley floor on which Drugchu lies is just 12 square kilometres in area. The population has been growing for decades, and the only place left to build is the river banks. Property developers see the Sanyan and Luoia rivers as their only option and have been buying up land for construction," Mr Jiang said.

"The riches of economic development are not as valuable as green mountains and clear rivers. And it is ordinary, local people who are left to endure the impacts of environmental disasters. The suffering in Drugchu is environmental suffering. It is time for an approach to human development that avoids putting environment, lives and property at risk simply for the sake of economic growth," Mr Jiang concluded.

(Note: Researcher Jiang Gaoming used "Zhouqu" as the Chinese name for Drugchu in his article)

Grassland on the Tibetan Plateau: A Review

Tibet's rangeland, from the Northern Plateau of upper Tibet to the extreme eastern edge of the plateau, with an average altitude of 4500 meters, covers approximately 70% of the total area of Tibet. The types of rangeland on the Plateau vary from alpine meadows and mountain shrub to mountain sparse wood and mountain desert. This diversity of habitats helps sustain domestic herds and nurture a wide variety of wildlife species.¹

The Tibetan nomads maintained an extraordinary biodiversity of grasses and sedges by practicing skilful herding, enabling human life to flourish at roof of the world. Herds were regularly moved to maintain the grassland quantity and quality. Nomadic knowledge of how, when and where to graze, and the nomadic willingness to live in portable woven yak hair tents, summer and winter, with their animals, kept the pasture free of invasive toxic weeds, erosion, shrub invasion, and infestations of pests.

Change in Land use of Grassland

In general, many factors are responsible, over a long period of time for the prevailing condition of the Tibetan Plateau's alpine grasslands and meadows. Apart from the natural climate warming and its feedback, various human factors on the Tibetan Plateau are responsible for the acceleration of this degradation. According to Feng Y. *et al* (2008)² the problem is caused by changes in the land use of grassland during different time periods throughout the past 30 years. In brief, the overall plan during those periods of *Collectivization* and *Household Responsibility* concern the maximization of agricultural and animal production.

During this era³ almost 20 million hectares of grassland in Tibet and Inner Mongolia were converted to croplands by state-owned farms, state-owned forestry operations, and other state-owned enterprises. The State accomplished this by labeling the land "Newly Claimed Virgin croplands" in the 1950s, a trend that continued over the last few decades. Because of the conversion towards massive agricultural expansions, these grasslands are now severely degraded.

Does resettlement of nomads improve their condition?

For many different researchers,^{4,5,6} the degradation of the Tibetan Plateau grassland is also linked to factors such as permafrost degradation, irrational human disturbance mining, road construction, conversion to cropland, gold collection, overgrazing etc, climate warming and drying leading to desertification. But as of today, the nomads, and their grazing livestock are seen as causing grassland degradation. To offset this issue and to benefit nomads, they have been removing nomads with their livestock from the grassland. But in interviews with the Environment and Development Desk, newly arrived Tibetan nomads from Tibet clearly denied having such benefits from the resettlement policy.

A newly-arrived nomad said, "Settling the nomads does not bring any benefit because the nomads have many problems adapting to their new lives while historically they have spent their whole lives on rangeland. They cannot adapt to this new lifestyle."

Another nomad EDD interviewed with expressed the same concerns by saying, "The consequences for the settling of nomads are the degradation of skills in animal herding. However, many changes have come to their lives including clothing and lifestyle. For example, girls now have fancy hairstyles and wear makeup, a stark contrast to their old traditions. Nomads have lost their main occupation, loosing income with no other new skills to survive. Some survive by scavenging waste materials, such as iron and steel."

Contrary to Beijing's logic on grazing ban, Julia Klein *et al* (2004)⁷ has revealed clearly in their field research work at Haibei (Tibetan: Tsojang) Research Station north of the Qinghai capital Siling (Ch:Xining) that grazing (*simulated by clipping*) is practically reversing the grassland degradation. Grazing maintained rangeland quality by increasing total ANPP (Above Ground Net Primary Production). Grazing can mitigate the negative warming effects on rangeland quality. They have indicated that grazing prolongs the growing season and improves the plant carbon to nitrogen ratio.

In their case study presentation on soil carbon and its potential for sequestration in the Guardian Newspaper's "*Manchester Report*", Tony Lovell and Bruce Ward reported that grazing can easily increase proportion of carbon stored in dry soil from 1 to 2 %; this is equivalent to removing 100 tonnes of carbon from atmosphere into each hectare of land.⁸

The natural movements of animals cause packed soil to loosen as their hooves work to plow the land, leaving readily available organic matter to compost and leave healthier soil. In arid areas, seeds are needed to plant deep enough to reach its root to water or it will die. However, the hooves of grazing animals helped protect the soil from doing this over the large areas for thousand of years.⁹

Some of the rancher ecologists have pointed out that grazing plays a critical role in improving and protecting habitats for other wildlife.¹⁰

Impact: Social and Environment

Once the grasslands have been degraded, desertification takes over due to the warming climate.

Desertification is now a major issue for Tibet. The source regions for the Machu (Ch: Yellow) and Driчу (Ch: Yangtze) Rivers, especially in the northeast, have been affected by this problem. The field evidence and analysis of remote sensing images (as of year 2004) shows the area of grassland degradation and soil erosion at the source area of Driчу has reached 106,300 km², accounting for 67% of the total area.¹¹

According to the United Nation Development Program report (2007),¹² Tibet's grasslands are being turned into desert at a rate of 2,330 km² each year. In a separate study conducted by Yang M. *et al* (2004)¹³, the expansion of the desertification in Qinghai has now grown to 10.95% of the total provincial area. Because of these conditions one of the worst sandstorms ever recorded in the area hit northern China on 19 March 2010. According to AP news, the sandstorm was expected to sweep as far as into South Korea. The storm was said to be a product of the worsening desertification in the northwestern regions of China (Tibet and Inner Mongolia).¹⁴

The policy of 'Sedentarisation' (settling nomads permanently) has not only taken the pride of the nomads but also made them dependent on the central government for future aid. According to China's state *xinhua* news agency, officials have resettled about 300,000 families, involving 1.4 million nomads and farmers in 'Tibet Autonomous Region'.¹⁵

Because they were left with no other options but to move into concrete barrack housing, some of the newly moved nomads interviewed by EDD clearly express the deprivation of the aesthetic values and helplessness.

Endnotes

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⁵ Meixue Yang, Shaoling Wang, Tandong Yao, Xiaohua Gou, Anxin Lu & Xuejun Guo, Desertification and its relationship with permafrost degradation in Qinghai-Xizang (Tibet) plateau, Cold Regions Science and Technology 39 (2004) 47- 53

⁶ P. Yan, G. R. Dong, Z.Z. Su and D.S Zhang, Desertification problems in the Yangtze River source area, China, Land Degradation & Development. 15: 177-182 (2004)

⁷ Julia A. Klein, John Harte and Xin-Quan Zhao, Experimental warming causes large and rapid species loss, dampened by simulated grazing, on the Tibetan Plateau, Ecology Letter, (2004) 7: 1170-1179

⁸ Grazing cattle in a way that imitates the movements of wild herds could lock huge quantities of CO2 into the world's dry soils, Duncan Clark , [guardian.co.uk](http://www.guardian.co.uk), Monday 13 July 2009 00.10 BST, <http://www.guardian.co.uk/environment/2009/jul/13/manchester-report-grasslands>

⁹ Ibid

¹¹ P. Yan, G. R. Dong, Z.Z. Su and D.S Zhang, Desertification problems in the Yangtze River source area, China, Land Degradation & Development. 15: 177-182 (2004)

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¹³ Meixue Yang, Shaoling Wang, Tandong Yao, Xiaohua Gou, Anxin Lu & Xuejun Guo, Desertification and its relationship with permafrost degradation in Qinghai-Xizang (Tibet) plateau, Cold Regions Science and Technology 39 (2004) 47- 53

¹⁴ China's sandstorms blast Beijing with dust, sand. AP (Tuesday, March 23, 2010 13:43) By Christopher Bodeen

¹⁵ China: Tibet party chief on region's past, future economic development, 9 January 2011, BBC Monitoring Asia Pacific

Tibet referred to as 'The Third Pole' and 'The Water Tower of Asia' is currently facing a huge challenge to cope with climate change and its impacts. It is one of the earth's most sensitive environments and a unique biogeographical zone on our planet. Despite its cold environment, for thousands of years the Tibetan people occupied this Plateau and created cultural landscapes based on the principles of simplicity and non-violence that are in harmony with the environment.

Glacial Retreat and Rivers Originating from the Tibetan Plateau:

According to a study conducted by a NASA scientist, Jordan Camp 20 percent of Tibetan glaciers have retreated in the past 40 years and if the current trend continues, more than 60 percent of the existing glaciers could be gone in the next 40 years. The same would cause widespread water crisis across Asia. The IPCC (Intergovernmental Panel on Climate Change) also warned that the continued melting at the current rate will result in massive flooding followed by severe droughts. Without these glaciers the flow of rivers would become seasonal, leaving the livelihoods and lives of tens of millions of people swinging between flood and drought. The snow covered mountain ranges and glaciers on the Tibetan Plateau are the sources of major rivers that flow into Asia. Mighty rivers such as the Yellow and Yangtze rivers, along with the Brahmaputra and Indus flow down from the glaciated peaks of the Tibetan Plateau.

At some point, the livelihood and well being of about 47 percent of the world population is connected to the unique location of the Tibetan Plateau and the major rivers originating from it.

The Chinese dam building frenzy is creating huge discussions on whether these dams could be an initial step in enhancing its ambitious water transfer projects. (Some experts believe that the current railway network linking Beijing and Lhasa would further enhance the needful transportation of technical staff and inventories to initiate this water diversion project.) After many years of denial, the Chinese side finally accepted in building a HPP (Hydropower Plant; 500 megawatts) on the upper reaches of Yarlung Tsangpo at dZam (Ch: Zangmu), at Lhoka prefecture in Tibet. They have further plans to build five more HPP along the Yarlung Tsangpo.

According to South China Morning Post (April, 2010), 'the duties of the armed police include dam-building and mining, particularly when these take place in strategically sensitive areas'. The Tibetan Plateau also plays a huge role in influencing the Asian summer monsoon and its permafrost landscape acts like a sponge in conserving and managing the flow of the mighty rivers. Recent scientific journals have indicated that the climate warming over the Tibetan Plateau is also responsible for degrading these permafrost and frozen soils.

Development for Whom?

According to Professor Amartya Sen (1998 Nobel laureate), development is 'not the mere accumulation of goods but the enhanced freedom to choose, to lead the kind of life one values'. The ongoing campaigns and activities of boosting Tibet's economy (by investing huge amounts in tourism and industries) are encouraging mass influx of Chinese migrant workers and their extended families to settle in Tibet. It is true that tourism has favored a few Tibetan families but the majority of the households are not able to react to the changes identically or on equal basis. Chinese researchers and academicians have also mentioned that the cash economy is rapidly replacing the traditional self-sufficient economy and exposing the farmers to more volatile market-oriented economic crops and activities, to which they have never coped with earlier.

The Chinese authorities have long regarded tourism as one of Tibet's pillar industries. According to Chinese state run media, 'Tibet Autonomous Region (TAR)' alone is expected to receive 6 million tourists this year (2010). Lhasa, the holy city, a place of spiritual power is now being replaced with resorts and hotels to boost tourism industry in Tibet. There are now international luxury hotels being constructed in Lhasa including the 2000 rooms Intercontinental Hotel and many more. With little regard and respect to the available local human resources, these development projects would attract many migrant and skilled workers from mainland China. About 1.2 million rural Tibetans, nearly 40 percent of the region's population, have been moved into new residences under a 'comfortable housing' program to make room for large-scale projects, like dam and roads. At present, in 'TAR' there are more than 140 star rated hotels and over 1000 other hotels.

The People's Republic of China's (PRC) National Development and Reform Commission plans to provide 682 billion Yuan (US\$100bn) as financial support for the western region over the next few years. The funds will be used for 23 new infrastructure projects, including railways, roads, airports, coal mines, nuclear power stations and power grids. - (July, 2010).

The central government invested \$3 billion in the 'TAR' last year, a 31 percent increase over 2008. Recently, China mentioned that it had completed the drawing up of a detailed 'Action Plan for Building Lhasa into an International Tourist City in Five Years'. According to Edward Wong (The New York Times) makeshift restaurants and houses run by ethnic Han businesspeople have sprung up even at a remote lake (Nam Tso) north of Lhasa. He further writes that the influx of money and people has brought new prosperity, it has also deepened the resentment among many Tibetans. Migrant Han entrepreneurs elbow out Tibetan rivals, then return home for the winter after reaping profits. Large Han-owned companies dominate the main industries, from mining to construction to tourism. Chinese officials say Tibetans make up more than 95 percent of the region's 2.9 million people, but refuse to give estimates on Han migrants, who are not registered residents. In the cities of Lhasa and Shigatse, it is clear that Han neighborhoods are dwarfing Tibetan areas.

Xiang Huangv in her thesis report estimated, that with the current economic development and dramatic demographic change in the region, the total municipal solid waste (MSW) generation in 'TAR' would increase by 37 percent in 2020 as compared to the year 2006. Such increase in the MSW output would severely cripple the municipalities, - attracting unwanted scavengers and spreading diseases. With non existing municipal waste treatment facilities, and the prevailing practice of discharging the waste into rivers and dumpsites near the settlements would seriously pollute the aquifers and rivers beyond human control. We are concerned that in few years time, many sanctified areas might transform into dumpsites to manage the inflow of MSW generated by tourists and migrant workers.

Apart from the waste and housing episode, Beijing's uncertainty and ever-changing policy has once again excluded skilled Tibetan tourist guides from the industry. According to the 'TAR' Tourism Bureau, each guide must possess a national or regional certification and an employee's card issued by 'TAR' tourism department.

The same would be issued only after passing the examination conducted by 'TAR' Tourism Training Center. According to some recent information received, many Tibetan tour guides are losing their jobs to Chinese counterparts due to the current requirements. Not only are the local Tibetans losing their jobs to migrant Chinese but it creates a deep resentment against the whole system. A BBC video clip shows a Chinese government translator (BBC Taken on Rare Escorted Visit of Tibet) doing wrong translation when interviewing a monks. Who knows these new tour guides are trained in a special way to prevent their clients from seeing and hearing the reality!

Natural Resource Exploitation:

It has regularly been mentioned that one main reason for Tibet's occupation by China lies in its unearthed treasure troves. China refers to Tibet as 'Xizang' which literally means the western treasure house. The Plateau's rich natural resources became more or less like a resource curse for the local residents and its ecosystem. Since late 60's, these resources have been exploited in various scales and mostly under very poor environmental norms and regulations. The potential for significant impacts is greater when mining occurs in remote, environmentally or socially sensitive areas. Besides destroying the ecologically harmonious relationship, most of these mining projects create social tension and distrust when standard corporate policies are not followed or when the project undermines securing a corporate commitment.

Now with the ever expanding railway networks across the Tibetan Plateau, the logistic issue of transporting mineral ores and accessing the drilling sites remains the least of concerns.

There are many areas in Tibet where the local residents are silenced by Chinese military forces against any mining protests. We were told by a witness that loud announcements are carried out in the streets everyday declaring that 'the central government needs to develop and needs these mineral ores. Anybody found revolting against mining would be

considered as revolting against the state'. But even under such circumstances, in the past two years, we have witnessed several local oppositions against mining activities in the Tibetan areas as follows;

- *March 2009, Bathang county, Kham Karze (Eastern Tibet)*
- *May 2009, Ser Ngul Lo, Lhara Village, Markham county, Chamdo (Eastern Tibet)*
- *June 2009, Meldro Gyama, Meldro Gungkar county near Lhasa*
- *May, 2010, Wu Yug Sogchen of Namling district in Shigatse (Central Tibet)*
- *August, 2010, Payul County, Kham (Eastern Tibet)*

In all of the above cases, when local people took to the streets, it often involved the concerned mining company directly disregarding the aesthetic and social value of the residents or when the higher authorities turned a blind eye to their grievances against these companies.

We strongly believe that the recent landslide incident at Drugchu [(Ch: Zhouqu), in the south-east of Kanlho-Tibetan Autonomous Prefecture, that took more than ten thousand innocent lives] was also triggered by uncontrolled mining, logging and hydropower projects in that area for many years. Let us not stand still and wish the Constitution of PRC [Article 9 and 26 (under the general principles) and Article 27, 28, 45 & 66 of 'Regional National Autonomy'] to prevail in these testing times. Anytime this year, the Canadian mining company run by Hunter Dickinson Inc. through its subsidiaries of Continental Minerals will be shifting large Caterpillar earth scrapers and wheel loaders for its Shethongmon copper mining project near Shigatse. Once officially in operation, the company is expected to have an annual production of 1.17 million ounces of silver, 116 million pounds of copper, and 190,000 ounces of gold.

According to latest (30 August,2010) media sources China Gold International, based in Vancouver, has entered into an agreement to acquire the Gyama copper polymetallic metal mining property located in Meldro Gungkar county. The development will include two pits plus an underground mine that will be accessed from two shafts. It was estimated that the mining facility would excavate daily around 12,000 tonnes of ore for three decades. Production will consist of copper concentrate, molybdenum concentrate and lead concentrate. Gold and silver will be separated and smelted in downstream processing.

Looking forward:

The knowledge and experience of Tibetan herders should be incorporated into rangeland management practices. The Tibetan herders should be directly involved in the decision making process or at the least their concerns should be respected before issuing policy decisions. Beijing should give the Tibetan herders the right and the power to take control of the restoration of degraded grassland rather than giving this responsibility to inexperienced Chinese officials.

Central Tibetan Administration Dharamsala welcomes development activities related to social and economic upbringing of Tibetan communities inside Tibet, but these developments besides being sustainable, should not outweigh the preservation of the unique Tibetan culture, language and its environment. These development projects should not spark off any social tension and unrest amongst the Tibetan communities. The development projects should first prioritize on training the local Tibetans in their daily life skills and the technical knowhow. More attention should be given on improving the health and education sectors reaching down to the village levels.

Tibet matters because not only are its glaciers melting fast but the Plateau is warming faster than other areas on the earth, resulting in more extreme and unpredictable weather across Asia. And with the major Asian rivers originating from its Plateau and also being a significant factor for influencing the Asian summer monsoon, the social security and well being of billions of people are in threat. A healthy Tibetan Plateau would not only benefit the entire Asian continent but also helps in promoting peace and harmony within the region, especially between two major emerging powers India and China.

EDD creates awareness on Tibet's environment to the Tibetan school children in India to commemorate the 75th birth anniversary of His Holiness the Dalai Lama.



EDD in TCV School in Ladakh



EDD in CST school, Gurupura, Hunsur (South India)



EDD in Tibetan school (South India)

EDD - talks/ Seminars/ Workshops participated: (2010-2011)

Date	Event	Venue
30 April to 2 May 2010	APGN 2010 Congress	Taipei, Taiwan
25 May 2010	TPPRC, Youth & Leadership Workshop	Dharamsala
2 June 2010	10th Gurukul FUR	Dharamsala
5 June 2010	TESI World Environment Day	Dharamsala
5 June 2010	World Environment Day Rally	Gandhi Samriti, Dharamsala
16 June 2010	Navdanya	Delhi
31 July 2010	Talk organized by Lifeworks International	Dharamsala
6 September 2010	Talk to Miami university students	Sarah, Dharamsala
18 September 2010	15th session of the UN Human Rights Council	Geneva, Switzerland
10 October 2010	Global Day of Climate Action	Dharamsala
10 October 2010	Global Work Party	Sambhota Tibetan School Paonta
5-7 November 2010	Sixth international Tibet Support Groups Conference	Surajkund, Haryana
12 January 2011	Tibet Festival	MSU, Baroda
25-January 2011	Relevance of Tibet in the Emerging Regional Situation	IIC, Delhi
3 February 2011	Talk on impacts of environmental changes on the Tibetan Plateau	Brisbane, Sydney, Canberra, Melbourn
5 February 2011	IIMC Students ITCO	Dharamsala
9 February 2011	Tibet Festival 2011	Chandigarh

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