

བོད་གཞུང་གི་རིམ་ཁོར་ཡུག་དང་འཛུགས་སྐྱོན་ཆོན་པ།



*Environment and Development Desk  
Department of Information and international Relations  
Central Tibetan Administration,  
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- Tenzin **Norbu**

**The 10 March Project 2011**  
**“Environment Situation on the Tibetan Plateau”**

*2<sup>nd</sup> , June, 2011*

*Rissho Kosei-kai Regional Center (Thailand)*



**EDD/ CS-Japan & ITN**

Glaciers: > 46,000 glaciers



## Water Tower/ Reservoir of Asia



**ALTITUDE:** 4000 - 4500 m...asl

## Roof of the World



Image courtesy: NASA & D. Miller

# Barometer of Asia

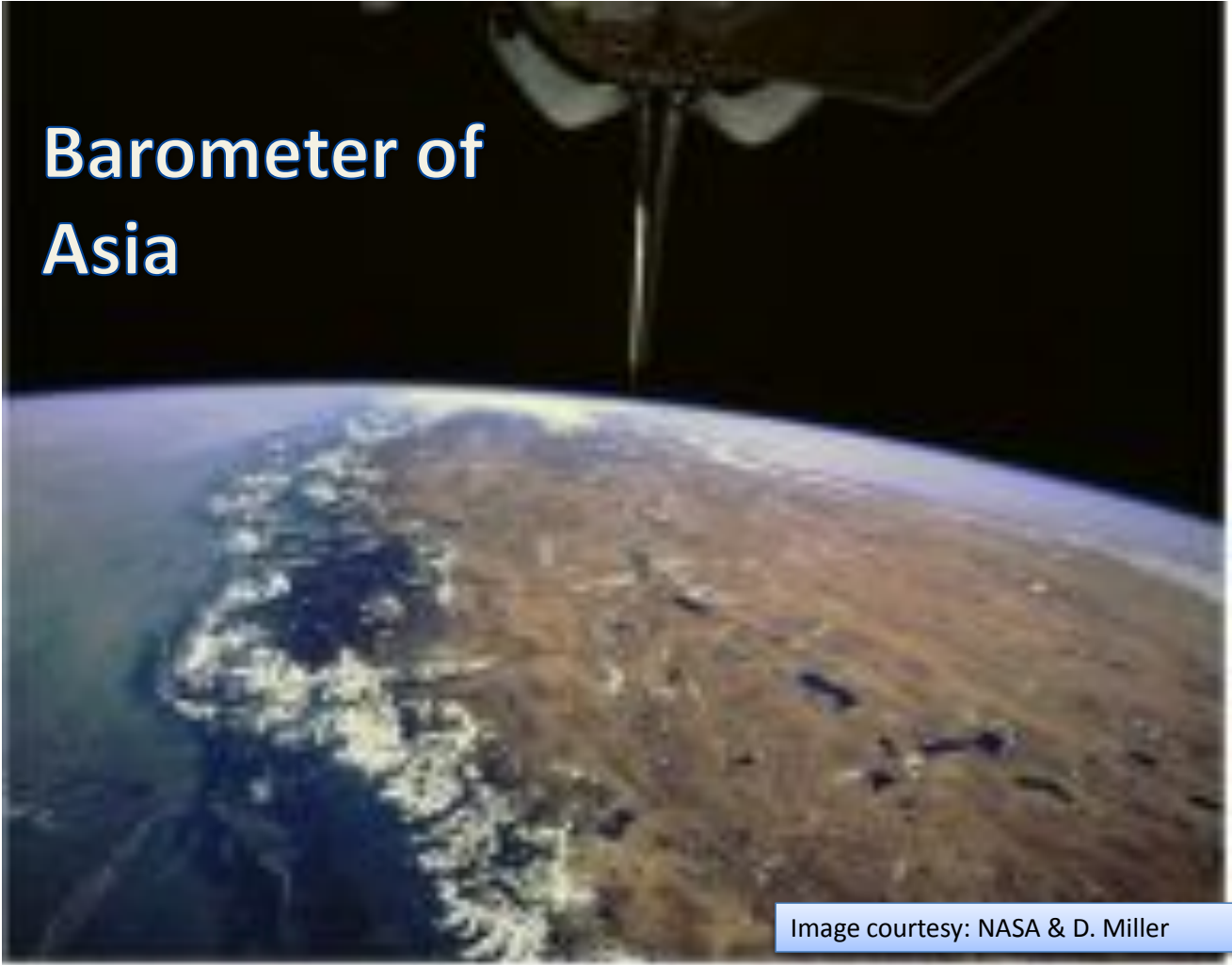


Image courtesy: NASA & D. Miller





Stores about 12.3 Pg C ( 12,300 Million tons of C)

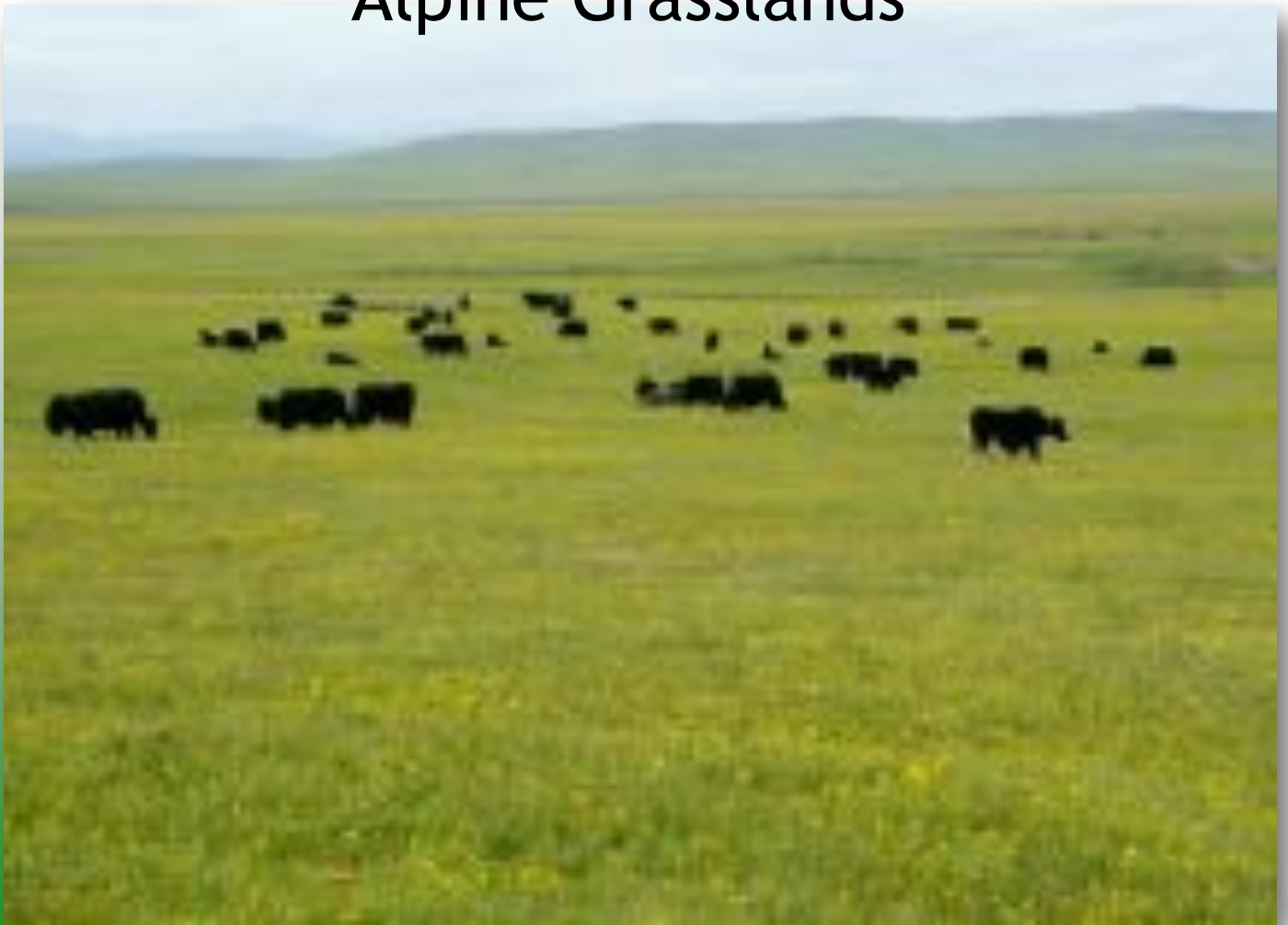
PERMAFROST & FROZEN SOILS

*Picture courtesy:  
Wild Yak*



*EDD/ DIIR 2010*

# Alpine Grasslands







# Pastoral Nomads of Tibet



# Mobility



*Pictures courtesy: Wild Yak*

# Adaptation



## Water Resources

### Water Tower of Asia





**Machu/ Yellow River**



**Amdo Bayanhari  
Mt.**



**Tibet,  
Inner  
Mongolia  
&  
China**







Yarlung Tsangpo/ Brahmaputra



Tibet, India & Bangladesh



EDD/ CS-Japan & ITN

**Drichu/ Yangtse**



**Tibet & China**





**ZACHU/ MEKONG RIVER**



**China, Burma, Laos,  
Thailand, Cambodia  
& Vietnam**



## Sources of these rivers

### Retreating glaciers: Himalayan Glaciers



# Impacts of Climate Change

36,000 glaciers have retreated





# Impacts of Climate Change



RONPUG WEST (near Mt. Everest -1921)

*(NASA, 2010). ....*

*[20 percent of Tibetan glaciers have retreated in the past 40 years .....]*

*[....more than 60 percent of the existing glaciers could be gone in the next 40 years]*



RONPUG WEST (near Mt. Everest -2007)

## Permafrost: underground sources of these rivers

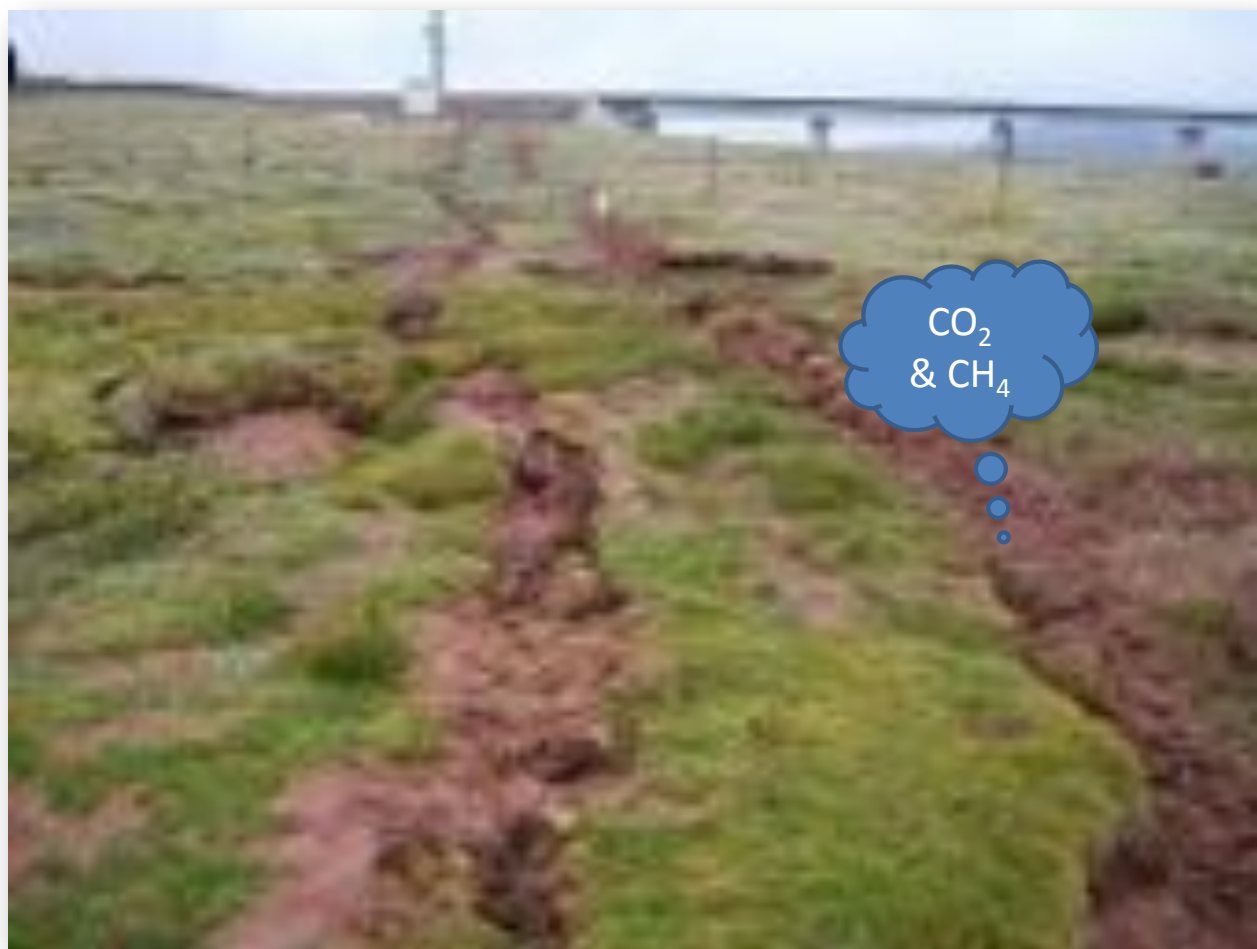


# Permafrost Degradation



Retrogressive Thermal Slumping

## Climate Feedback: Permafrost Degradation







Desertification near Prapung Orongga - 1997 DIIK



Desertification near Mt. Kailash © EOD / DHR



Desertification on the head region of Senyhe Xibubab - Indus River - 2007-08



10 June, 2010

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## Global warming spells doom for Asia's rivers

Completed: 2005-08-04 10:32



A major conflict point is the use of the existing capacity of Canada's existing power plants. It should be noted that the Government of Saskatchewan has been an active proponent of

### Fig. 10. Student T-scores

**BEIJING, Thursday 10 June 2010 (APF) -** The livelihood of thousands of farmers living on China's highest plateau is under threat as global warming and astronomical degradation dry up water sources for those empty farms, many experts say.

Expanding gardens and rising pavement in the mountains surrounding the fragile Qinghai-Tibet plateau are leading to erosion of grasslands and wetlands, threatening the watershed of the Yangtze, Yellow and Mekong rivers.

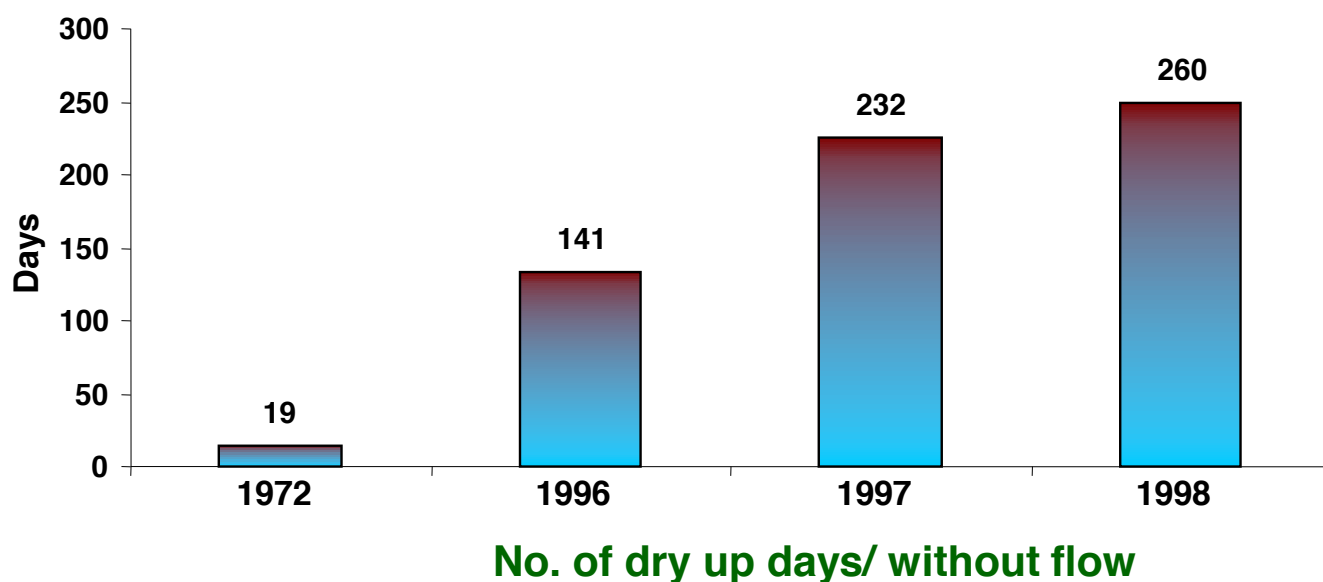
headwaters of three major rivers, the Yellow, Yangtze, and Mekong





# Climate Change: Dry China

## Machu (Yellow river) Drying up



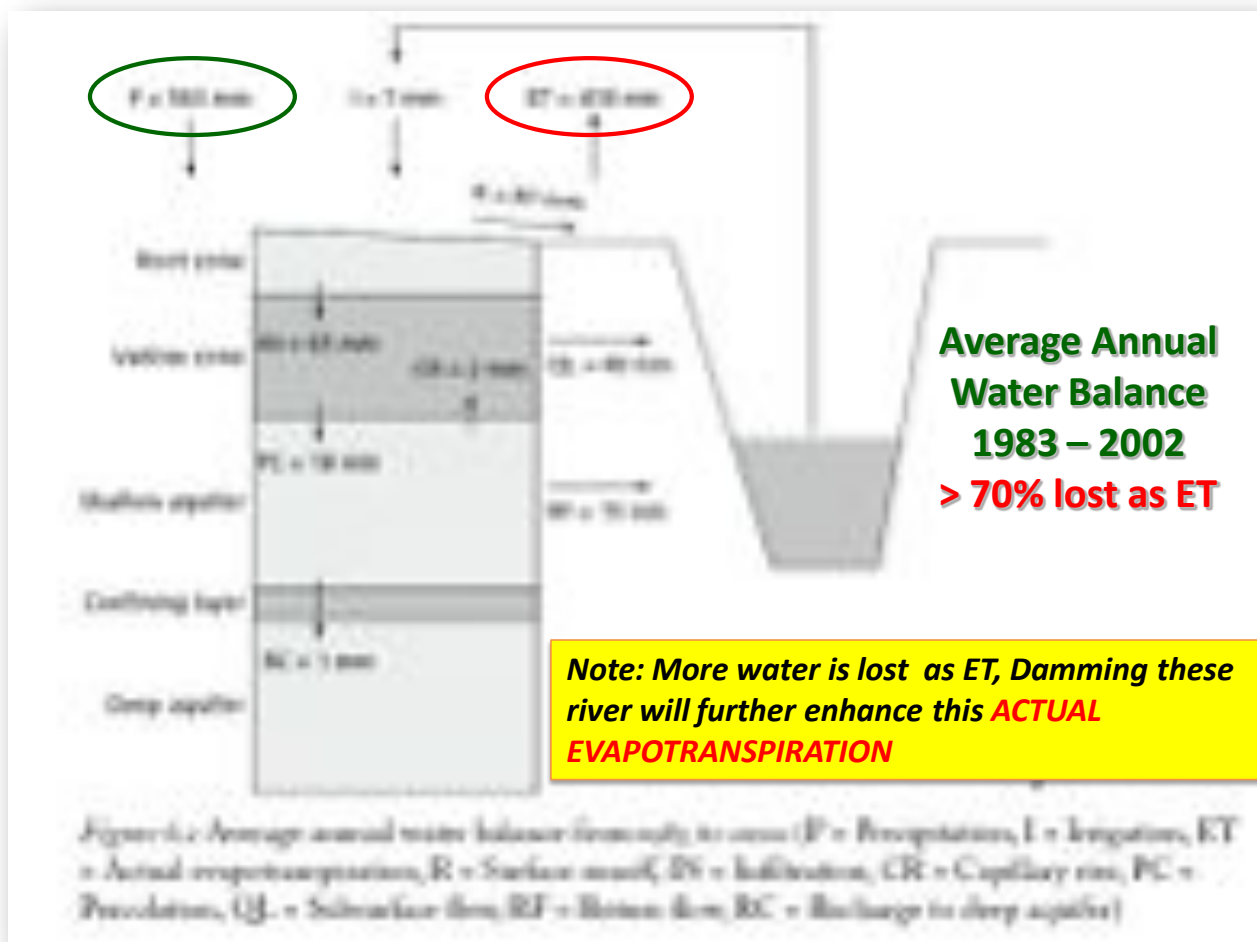
Yellow River: Main source of water for Chinese settlements, Industries.

## Machu (Yellow River): Rich permafrost area



*Picture courtesy: Dr. Tetsuo Sueyoshi, Univ. of Tokyo*





Source: W. Immerzeel et al. "Can Payments for ecosystem services secure the water tower of Tibet?", *Agricultural Systems* 96 (2008) pp. 52 - 63



## Nomads Removal from the Grasslands



## Major Changes for Tibetan Pastoral Nomads

Collectivized



**1960s – late 70s**

Animals returned not lands



**1980s – late 90s**

Land lease certificates (30 – 50)



**1990s – 2000**

Contract cancellations -Nomads  
Removal



**2000 – current**





## Restore Grassland Policy / *'tuimu huanco'*



1.43 Millions have  
been moved  
since 2006

Nomads  
settlement camps



## Darlag, Golog TAP, Amdo



## Gomang township, Mangra County in Amdo (2009)



## Nomads settlement Sershul in Kham (2010)







## *UN Special Rapporteur on the Right to Food*

*15 - 23 December 2010*



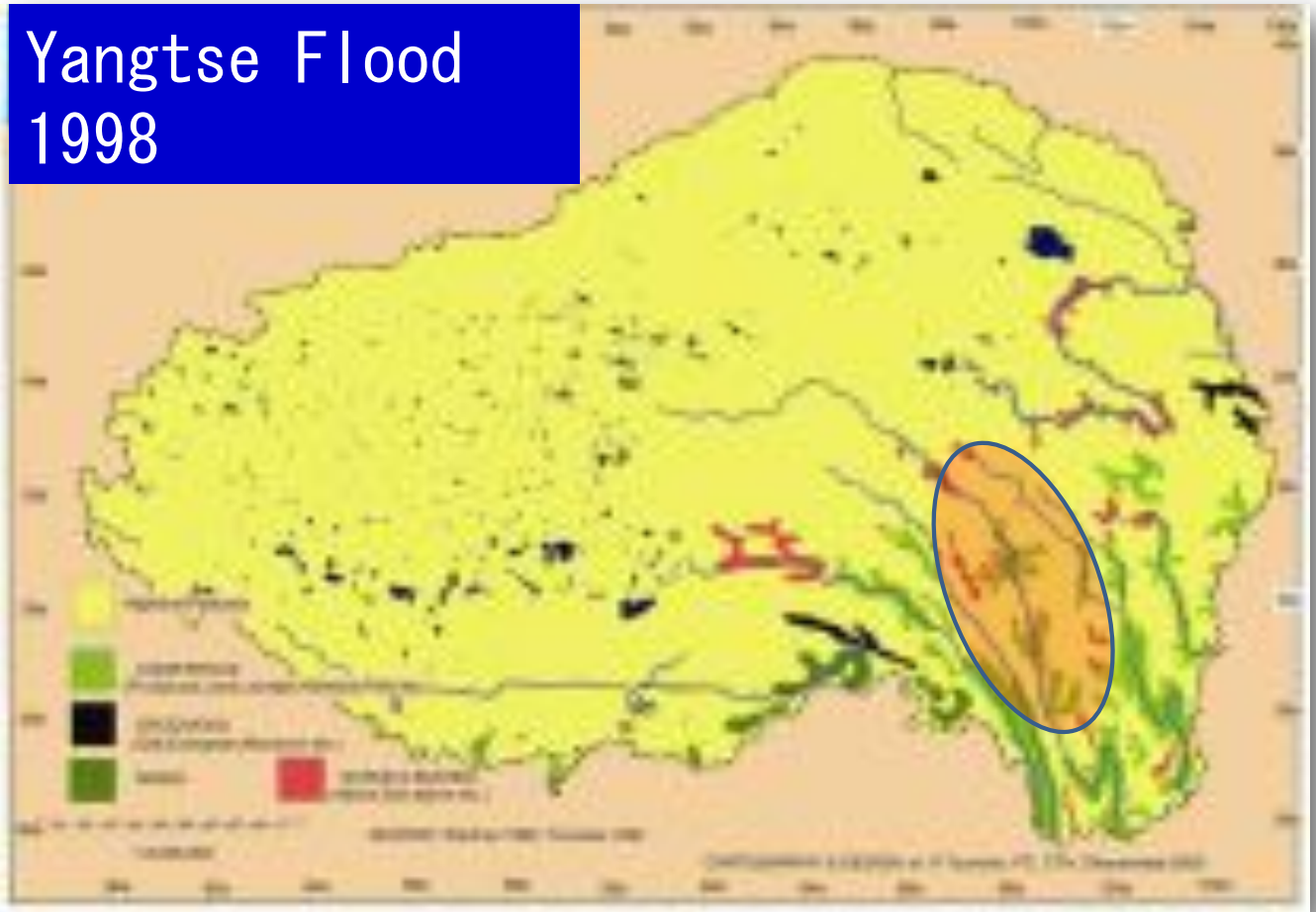
*Mr. Olivier De Schutter*

"herders should not, as a result of the measures adopted under the *tuimu huancao* policy, be put in a situation where they have no other options than to sell their herd and resettle."



# Deforestation

Yangtse Flood  
1998



# Deforestation: 1999



# Deforestation: 2003



# Loss of Biomass Carbon





# Loss of Carbon Sinks



**FOREST COVER:**

25.2 MILLION HECTARES IN 1950,  
13.57 MILLION HECTARES IN 1985

# Resource Exploitation





# SHETONGMON MINING SITE



# SHETONGMON MINING SITE

Heavy metal pollution.....Mika *et al* (2010)

Yarlung Tsangpo (Tr.)

Picture courtesy: TIN







*EDD/ DIIR 2010*



*EDD/ DIIR 2010*



Image courtesy: Woesser



- *June 2010, Wu Yug Sogchen of Namling district in Shigatse (Central Tibet)*
- *August 2010, Payul County, Kham (Eastern Tibet)*
- *November 2010, Lingka Monastery, Tamo , Shetongmon District (Central Tibet)*







Namling (Shigatse)





Namling (Shigatse)





Lhokha Prefecture





Karma Samdrup on false charges in January 2010 are totally defying **Article 9** and **Article 41** under The Constitution of PRC

Karma Samdrup, Rinchen Samdrup & Chime Namgyal



# How to Save the Land of Snows?

- Identify Tibetan Plateau with Arctic & Antarctic - **The Third Pole**
- **Publicize**
  - Ecological negligence and human right violation inside Tibet
  - Threat to the Water tower of Asia
  - Six major river systems of Asia will collapse – billions will suffer in downstream countries
  - Vast amounts of carbon released from melted permafrost will greatly worsen global warming
  - Support your local TSGs and their environmental campaigns



བྱམས་ཐེ་ཆེ།

# Thank You All

For more information:

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