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THE 7th WORLD WATER SOURCE SUMMIT

2021

UNRULY WATER: ENVISIONING FUTURE
RISKS IN LIQUID/SOLID/GASEOUS FORMS

WORLD WATER SOURCE SUMMIT
RESEARCH BROCHURE

世界水源地峰会理论手册



Unruly Water:
Envisioning Future Risks in Liquid/Solid/Gaseous Forms
The 7th World Water Source Summit

载舟覆舟：水的未来三态风险
——第七届世界水源地峰会生态现场

世界水源地峰会理论手册
World Water Source Summit
Research Brochure

Proposed by Oriental Danology Institute
China's independent think tank on eco-solutions
Supported by Konrad Adenauer Stiftung Shanghai Representative Office

自然力研究院、德国阿登纳总统基金会上海办公室
横断山研究会联合召开

世界水源地峰会理论手册

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排 版：王嘉义

创 作 方：自然力研究院、上海阅读派文化交流中心

出 品：自然力研究院 ODI Documenta

出 品 人：李晶晶

开 本：889mm×1194mm 1/36 印 张：3.75

版 次：2021 年 3 月第 1 版

印 次：2021 年 3 月第 1 次印刷

转载注明出处

ODI DOCUMENTA

第七届世界水源地峰会公众寄语

Ecological conservation is not only an audacious exploration
to the unknown, but also a domestication of your routine
unruly self.

生态保护不只是对未知的探险，也是对已知习惯的驯服。

Theater is the microscope of thought, from which
everything seeks to fly but nothing escapes: gazing at the
nature as it unravels.

戏剧是思维的抽象和具象，其显微之功，使万物无处逃逸。
我们因此选择在上海大剧院召开一个生态会议，看到自然
的无常和戏剧性。

——第七届世界水源地峰会学术委员会

Aquatecture: A Manifesto of Source-architecture

Zhou Lei
President of Academic Committee, World Water
Source Summit

The sources of Asia's three great rivers, which are Yangtze, Yellow River and Lancang-Mekong respectively, all originated in Yushu, Qinghai Tibetan Autonomous Prefecture, before they merge into the Seas.

Although bonded by rivers, the upstream and downstream areas have been widely polarized, economically and socially. Taking Yangtze River as an example, the Yangtze Delta and especially Shanghai is the economic engine of China – the epicenter of “modernization juggernaut and development prototypes powerhouse”; in contrast, the Qing-Tibetan Plateau is treated as sublime and otherworldly polar, where its perennially snowcapped mountains, disquieting and majestic rivers often being used to define an esoteric historic-cultural continuum. To use jargons of “modernized lowland people”, they are “faraway, isolated, backward, pre-modern, ethnic and savage”.

If one imagine himself being uplifted by a Google-earth ideational hand and gazing at the Three Great Rivers watersheds: the mountainous west constitutes itself as untamed wilderness, and the comparatively flat eastern part

merging endlessly in concrete jungles and neon-light sky-rises, shining its unerring charisma all the way to the coastal sea.

For centuries, between China's river-source and downstream city-conglomerates, there is always lacking a mechanism of environmental justice and socio-economical reciprocity, which enable the water system functioned as a umbilical cord to sustain the waterborne economy as a whole.

In this sense, we call our project Water Umbilical Cord Project, treating the quantum of Asia Great Rivers as Umbilical Cord bond which has moral values, making all the future modernization and development possible.

We'd like to create new structures, platforms and mechanisms to resuscitate the Rivers and Mountains as a holistic entity, not only as water source, power house, mining zone or tourist resorts; at the same time, through our summit, we'd like to challenge the constructors in upstream parts to contemplate what kinds of technologies and materials they should use to define the future of Asia's Great Rivers: should it be constructed as another populous and ecologically precarious Shanghai or water source commonwealth on the basis of de-technology, de-growth, low carbon and low-water footprint mentalities?

We call this structure "Aquatecture": a waterborne structure, it's concrete, physical, at the same time, ideational and

dialogical.

In the first place, we presented our Aquatecture conceptual design upon the first World Water Source Summit, which was held in Yushu Tibetan Prefecture in 2015 and this momentum has been constantly maintained for the past seven years.

In our design, we encourage people to explore the richness of cultural, ecological, spiritual and botanical textures of high-plateau region, rather than objectify this region through utilitarianism perspectives.

Our design attempts to ask some basic questions as followed: How shall we treat our past? Shall we nurture a new “environment piety” as we marching into the future? How shall we design architectures for our future cities? How can we possible power it and sustain it for future scenarios? In the highly digitalized and technologized future, what will be the uses/positions/roles of “arcane” and traditional knowledge and wisdom?

Our design is an ideational “nutshell or eggshell” shape – to “put ecology in a nut shell” and to nurture one structure by modeling after photosynthesis mechanism. One can also treat our design as a three-dimensional brochure and photosynthesis platform for future abodes, even though our current design and solutions are partially function-oriented and environmentally adaptive.

To call it Aquatecture, we put emphasis on the water-efficiency, energy efficiency and low-water possibilities, therefore, we are trying to differentiate power from energy and original life-giving force that finally sustain human beings.

In terms of materials, our Aquatecture can be defined by Three-S: (water) Source-conscious, Solar powered, and Silicon based technology embedded. In this eggshell shape ecosystem, as we proposed in 2015, the development team of Oriental Danology Institute has synergized the following technological combinations, such as geo-thermal, water circulation for heating and cooling, membrane technology, carbon neutralization, convertible and sustainable materials, semi-levitation structure, architectural soundscape and aquascape, etc.

All these are applied to create a mini-cosmos inside a house and a three-tiered spiritual building in Qing-Tibetan Plateau and Yangtze Delta Region. Through these concepts and technologies we intend to minimize and harness human being's uncanny and insatiate desires for technological grandiosity, which tends to consume more and conserve less. In this sense, this is a knowledge augmentation building, rather than artificial intelligence augmentation gadget.

In the future, we will create more structures for urbane contexts, such as toilet 4.0 and urban green houses to create a mirage effect: to facilitate communication between the

herders and urban dwellers, nature wilderness and urban ecological innovation.

Back to the source: respect the Ursprung and Eingedenken (remembrance), to explore the unruly water both as Gegenwart (presence), Übergang (betwixt and between) and Stillstand (stillness), to create a convergence of trans-watershed dialogue.

2021: Opportunities for green transformation in China and beyond

Edited and written by the WWSS Academic Committee
And Oriental Danology Institute

Feb.

- Global Adaptation Summit
- China's first non-migratory Spring Festival (bendiguo 本地过年), a great discontinuum in Chinese history when huge number of population stay in their working cities for Chinese Lunar New Year, through the mediation of massive scale digital connectivity
- Kickoff year of China's 14th Five year plan (十四五规划开局之年) : as China's power and influence continue to build up in Asia and beyond, in the post COVID 19 epoch, many analysts look to Chinese history to understand how a strong China will position himself in the present and envisioning China's future prowess through socio-political-economical lens as represented by its future five-year plan. How will its five-year plan influence environment both at home and abroad? How it might behave in the future, as China power and influence grow in these upcoming five years? For the West, China attempts to offer not only a domestic tool for its advancements in power and prosperity, but a cure and political/social models for the world.

KEY MISSIONS OF 14 FIVE-YEAR PLAN

- ◆ Replacing high-speed growth with high-quality growth;
 - ◆ Rebalancing its economy with supply-side structural reform;
 - ◆ Expanding domestic demand, while continuing to support international export markets;
 - ◆ Driving modernization through innovation and technological advancements; and
 - ◆ Promoting high-end, intelligent, and green production.
- G7 Leaders' Meeting
 - The Fifth Session of the UN Environment Assembly

Mar

- China's National People's Congress

Known as the “two sessions”, or lianghui, the annual gatherings of the Chinese People's Political Consultative Conference (CPPCC) and the National People's Congress (NPC) are a window on the central government's priorities and plans for the coming year.

The 2021 gatherings of the top advisory and legislative

bodies are particularly important because they will mark the start of the next five-year plan and fall in the Communist Party's centenary year.

While the CPPCC and NPC meetings take place almost simultaneously and at the same place, they are separate events. The CPPCC has about 2,200 members from political parties, social groups, professions, various sectors and other organisations. The NPC has never vetoed a party-endorsed plan or work report, although the vote is not always unanimous. The number of opposing votes, however small, is often seen as a sign of the level of disagreement with a government leader or agency.

Tech, economic growth and climate change are top of the agenda

One of the NPC's tasks this year will be to pass the final version of China's 14th five-year plan, which gives the leadership a chance to outline longer-term priorities that could define President Xi Jinping's legacy and the party's future.

Notably, the latest five-year plan will be the first to dedicate a specific chapter to technology, framing self-sufficiency in technology as a major pillar of China's economic development and marking a shift in priorities towards industrial and national security as well as reduced tech imports.

Technology is one of the most contentious areas in Beijing's relationship with Washington and a field that China sees as critical to its drive for modernisation and self-reliance over the next decade and a half. The outlines of the five-year plan published in November indicate that China intends to boost domestic consumer demand and encourage self-reliance in the hi-tech sector, as part of its so-called dual circulation strategy.

This year's political set piece will take on extra political weight for the president as the Communist Party gears up to celebrate its centenary in July. Xi has signalled his confidence that the party and country are on the right track by telling senior officials in January that "time and momentum are on our side".

However, he warned that the country faced "unprecedented challenges and opportunities", telling the Politburo they must "create favourable social conditions" for the anniversary.

China is looking to reset relations with the United States after four years of rapid deterioration under former US president Donald Trump. But Joe Biden has made it clear that he expects "extreme competition" between the two countries, and his team is expected to continue a hard approach to China, albeit in greater consultation with US allies. [Source: South China Morning Post]

- Global Agriculture Innovation Forum

The Global Agriculture Innovation Forum is a joint undertaking between USDA's Foreign Agricultural Service and Purdue University's Office of International Programs in Agriculture. The Forum will be valuable to entrepreneurs, producers, value-chain operators, service providers, and researchers, as well as donor agencies and implementing partners and will consist of a series of virtual events held throughout 2021. The first event titled Farms and Farmers of the Future is scheduled for 2 March 2021 from 15:00 - 16:30 CET.

April

- Spring Meetings of the International Monetary Fund and World Bank Group

The Spring Meetings will center around the broad theme of From Crisis to Resilience: helping countries build a green and resilient recovery. At the heart of the Spring Meetings are meetings of the joint World Bank Group/IMF Development Committee and the IMF International Monetary and Financial Committee, which discuss progress on the work of the institutions. Other featured events include regional briefings, press conferences, and fora focused on international development, issues of debt, economic recovery, vaccines, and climate. The public program of events are streamed on World Bank Live and may be viewed without registering.

May

- Leaders' Climate Summit

The summit will be held on 22 April 2021, which is the fifth anniversary of the opening of the Paris Agreement on climate change for signature. The US' Biden Administration has also indicated its intention to reconvene the Major Economies Forum. The first preparatory meeting of the Major Economies Forum took place in April 2009. Meetings of the MEF took place periodically through September 2016. Between 2017 and 2020, after the US' Trump Administration announced that it would withdraw from the Paris Agreement, Canada, China and the EU co-hosted four Ministerials on Climate Action.

- COP 15, Kunming

Despite on-going efforts, biodiversity is deteriorating worldwide and this decline is projected to worsen with business-as-usual scenarios. The UN Biodiversity Conference will convene governments from around the world to agree a new set of goals for nature over the next decade through the Convention on Biological Diversity post 2020 framework process. The framework sets out an ambitious plan to implement broad-based action to bring about a transformation in society's relationship with biodiversity and to ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled. The Conference will also look at the implementation of the protocols of the

Convention on Biological Diversity that deal with the fair and equitable sharing of benefits from the use of nature, and the safe transport, handling and labelling of Living Modified Organisms.

- 12th Petersberg Climate Dialogue

The Petersberg Climate Dialogue series was launched in 2010, after the Copenhagen Climate Change Conference, and has been held annually. The Dialogue facilitates open discussions in small groups on key issues in international climate policy.

Jun

- G7 Leaders' Summit
- G20 Foreign Affairs Ministerial; joint session between G20 Foreign Affairs and Development Ministers

The Ministers and Governors acknowledged that health and economic conditions remain difficult despite the launch of vaccination campaigns and signs of strengthening economic activity. They are committed to scaling up international coordination to tackle current global challenges by adopting a stronger multilateral approach and focusing on a set of core priorities. Granting equitable access to safe vaccines, diagnostics and therapeutics for all countries is a top priority for all the Ministers and Governors. Efforts to

promote preparedness against future pandemics are equally important – a G20 High Level Independent Panel has been established to this end. The FMCBG meeting discussed the benefits stemming from joint action and strong policy cooperation and concurred that a premature withdrawal of the support measures should be avoided. In April, the update to the G20 Action Plan will offer the opportunity to address new and pre-existing challenges, such as low productivity growth, rising inequality, climate and environment-related risks, and the infrastructure financing gap.

Another point discussed by the Ministers and Governors was their recovery strategies as a unique opportunity to support the transition towards more sustainable, inclusive and equitable societies. Landmark steps will be considered more in-depth in future meetings and particularly during two events – a High Level Tax Symposium and a Conference on Climate, both to be held in Venice in July. These events will bring together policy makers, international financial institutions and eminent representatives from the private financial sector.

The Ministers and Governors also discussed the challenges that the COVID-19 crisis poses for financial stability and financial inclusion. They concurred that preserving financial stability and the capacity of the financial sector to support the recovery is a key priority, and maintaining close cooperation is essential to those goals. While the emergency is not yet behind us, the Ministers and Governors are taking

stock of the lessons already learned from a financial stability perspective. Ongoing work is focusing on strengthening the resilience of the nonbank financial intermediation sector, which played a part in the amplification of the March 2020 market turmoil.

July

- High-level Political Forum on Sustainable Development

The United Nations High Level Political Forum on Sustainable Development (HLPF) was established in June 2013 through a Resolution by the UN General Assembly as the main forum for sustainable development issues within the UN framework. Its establishment is one of the main outcomes of the Rio+20 conference on sustainable development (see para 84 of the Rio+20 Outcome Document “The Future We Want”). The HLPF replaces the Commission for Sustainable Development, which was a functional Commission under the UN Economic and Social Council, established at the 1992 in the World Summit on Sustainable Development.

The HLPF meets every four years at the level of Heads of State and Government under the auspices of the UN General Assembly (next in 2019, then 2023 etc.) and every year under the auspices of the UN Economic and Social Council (ECOSOC). The HLPF adopts a Ministerial Declaration and provides a Chair’s summary of the

discussions.

The HLPF is mandated to provide political leadership and guidance; to address new and emerging sustainable development challenges; and to enhance the integration of economic, social and environmental dimensions of sustainable development. In that regard, the HLPF is an important forum to bring together the input and expertise from a wide range of stakeholders from civil society organisations to enterprises and academia. It also incorporates the expertise of the UN agencies and programmes from the economic, social and environmental field, all working on sustainable development.

The HLPF plays a key role in monitoring and reviewing the implementation of the 2030 Agenda for Sustainable Development, including the Sustainable Development Goals, agreed at the UN summit in September 2015. HLPF receives reports from various international organisations, processes, platforms and other sources. The main annual report is the SDG Progress Report prepared by the UN Secretariat on the basis of global SDG indicators. Every four years there will be a more comprehensive Global Sustainable Development Report which will provide more profound analysis for decision-makers and support the HLPF mandate for strengthening the science-policy interface for sustainable development policies.

- G20 Economy and Finance Ministerial Meeting

- G20 Environment and Energy Ministerial Meeting

Environment ministers meeting on July 22

Climate and energy ministers meeting on July 23

Sep

- International Union for the conservation of nature, World Conservation Congress

The world is increasingly recognising the inextricable link between biodiversity conservation and human and economic wellbeing, a connection made all the more visible by the COVID-19 pandemic. The IUCN Congress will be a key milestone for nature conservation and the development of a new global framework for biodiversity. The French government and IUCN remain steadfast in their commitment to these goals.

- UN Food Systems Summit, New York
- 15th Conference of the Parties to the UN Convention to Combat Desertification
- New York Climate Week

Climate Week NYC will bring together CEOs from the world's leading companies, heads of some of the world's largest sub-national governments and civil society leaders to provide a shared vision for a low-carbon economy and

the action and leadership it will require. In addition to highlighting corporate and government leadership, it will also focus on key climate themes including: finance, security and innovation.

- Youth4Climate Summit

The “Youth4Climate: Driving Ambition” special event is being held ahead of the 26th session of the Conference of the Parties (COP 26) to the UNFCCC, which is taking place from 1-12 November 2021, in Glasgow, UK.

In the run-up to this special event, the Italian Ministry of Environment, in collaboration with Connect4Climate – World Bank Group and the Office of Secretary-General’s Envoy on Youth, has also launched a programme of virtual and interactive meetings addressed to young people around the world. The webinars programme titled, “Youth4Climate Live Series: Driving Momentum Towards Pre-COP 26”, includes one meeting per month, from June to February 2020.

Oct

- Preparatory meeting ahead of the 26th Session of the Conference of the Parties to the UN Framework Convention on Climate Change
- Annual Meetings of the International Monetary Fund and

World Bank Group

- G20 Leaders' Summit

Dec

- Nutrition for Growth Summit

Research Digest

Soybeans and Soil Beings: The Trilemma of Amazonian Agriculture, modernity of China and Global Precarious Society

Zhou Lei
Co-founder of Oriental Danology Institute

PREFACE

In 2013, while I struggled to be a qualified writer for anthropology circle in China, as a post-doc fellow at Nanjing University, I began to understand the difficulties for me to completely merging with the academic writing, primarily due to the facts that I focused too much on applied and contingent researches, and more importantly, always trying to share my researches to a wider public through consistent and creative advocacy works, rather than SSCI indicating journals.

Starting from my journalistic writing topic – which lasted for more than four years as a full time writer for Xinhua News Agency – I finally selected water crisis as my PhD dissertation by focusing on Dianchi Lake Pollution in SW China. Among many other things, lakeside agriculture and concentrated settlement have been treated by local governmental organizations as main reasons of lake environmental degradation. In order to divert enough fresh

water to cleanse the lake, the local Yunnan province has finally decided to channel Niulan Jiang River, one important tributary of Yangtze River, to flush the lake; at the same time, demolish all the villages nearby the lake, turning them into new economic zones and touristic wetland resorts.

As an ethnographic account of Brazilian research on water and soybean plantation, the reason for me to explore one geographically farfetched example and compare it with Chinese cases is threefold: first, the water diversion project has become the main reason for the improvement of Dianchi Lake, although as a researcher, I have participated into myriads of campaign work trying to revive traditional environmental practices, through integrating rural regions well with urban sprawl of Kunming, especially by combining endemic knowledge, permaculture, green urban design, ecological education with the policy making and urban planning. Witnessing the negative effects of massive scale soybeans plantation in Brazil, I think my current writing could do very little to reverse the catastrophic industrial monoculture practices in Brazil, the consensus and effective cooperation between governmental officials and entrepreneurs are arguably rare to be seen among academia and media in all these concerning regions.

Following my two-week trip in Brazil almost five years ago, the current research trip at the very beginning days of 2018, together with my long-term research partner Petras Shelton Zumpano has witnessed the gargantuan investments

accomplished by global businessmen, with the support of politicians in Brazil and beyond. Comparing with the effectiveness and ubiquitous influence of business activities, the researches done by academia, media, public sectors or non-governmental organization are tragically disconnected, misinformed and badly circulated.

By arguing this, basically what I am trying to say is: given the contingent issues of soybeans plantation and precarity-embedded agricultural globalization, the current soybeans syndrome is doomed to flourish and prevail as a modern consequence, negating all the arguments delivered by the virtually and hermeneutically holistic knowledge market, which treat industrial monoculture of any sorts, global mercantilism and disintegration of indigenous groups (both ecologically and tribally) as a bane to humanity.

Secondly, the eccentric convolution between cultural renaissance, political sovereignty and economic permanent growth assumption have constituted itself as a Trilemma, confronting both China and Brazil, and many other developing countries. In order to understand the “water cancer” of China Dianchi Lake and agricultural “green cancer” (GMO soybeans) in Brazil, one has to analyze all the elements substantiated and connected by the Trilemma scenarios. With the acceleration of China outbound investment and regional markets created both in Latin America and Asia, the future ethnographic accounts for any risks or crisis have to be multi-sited, multi-stranded

and multi-disciplinary, and most importantly, summon up the already rather weak/sporadic collaborations from grassroots.

This explains the importance of another Xavante researcher Rafael, who is a party member of PDT and a campaigner for sustainable indigenous culture; throughout our journey, we keep close contact with Rafael, by heeding his own life concern, family problems, cultural anxieties, and planed the whole journey together. All the information generated through this triangulation fieldwork is of independent in the sense of funding, co-dependent in the form and mutually constitutive in hermeneutics. By following Rafael to his hometown, through a tiring 20 hours drive, we were fortunate to witness how he bonding and networking with his family members, village mates and potential colleagues. In some occasions, we functioned as assistants for his PDT party new members recruitments and Xavante villagers group meetings. In 2020, the COVID-19 ravaged the Xavante society, as the isolation, separation and impoverishment aggravates the disaster.

Thirdly, after long journey, sporadic sleep, chronic fatigue from the fieldtrip, we were sitting by the roadside of Mato Grosso, witnessing legions of trucks zipping off with GMO cargos inside. In this sense, the current writing is a testimony and a chronicle for precarious society we all living in.

In Chinese, “bean” is pronounced same to the character

“disease”; and as the authors of this paper coming both from remote Xavante village in Amazonian zone and urban settings such as Australia and Shanghai, which enable us to engage the Trilemma issues more holistically. We understand the importance of living as “soil beings” – security derived from unthreatened and poisonous nature. In this sense, we are all victims of Achilles’ heel: our livelihood and prowess all rest upon the fact that we are down to the earth and secure food from healthy soil, once we are lifted up by global mercantile power, we are powerless and doom to fail.

In this research, the security mechanism has been treated as a holistic anthropogenic dilemma and addressed as such: it’s important to know the true enemy of the holistic national security is not individual and physical entities which tend to break into as devastating forces, but mediated menace which tend to debunk the translocal engagements and intimacies. The dangers or risks, in this perspective arise not from outside, but from within. All these have further given rise to the subjectivity of technology and vulnerability-abound precarious society, which become increasingly conditional, biological, hyper-technological as all the uncertain and unpredictable variants have all been treated as lack of control, disobedience and counter-productive. Hence, an infertile and pasteurized society has been created as a consequence for the sake of establishing holistic security system. Through examining overseas outbound

investment and collective engagement of ecological degradation in Anthropocene, as tragically represented in Brazil and beyond, this paper argues a moral and non-human-centric strategy based on ontological navigation which is prerequisite for the righteous pursuit of national security endeavor, which focused more on safeguarding the ontological self of life.

On Secretocracy, AI (Artificial Intelligence) and Future Incarceration

Zhou Lei



The Olaroz salt flat sits nearly 4,000 metres (13,000 feet) above sea level at the end of a road that snakes through the Andes mountains. The loudest sound in the featureless expanse is a mechanical one, made by untended pumps. They extract lithium-bearing brine from wells sunk deep below the salt crust and deposit it in evaporation pools. The concentrate will be taken to a nearby plant for processing into lithium carbonate. The operation in Argentina's Jujuy state, an Argentine-Australian-Japanese joint venture, is one of the country's two working lithium mines. Last year it produced 11,845 tonnes of lithium carbonate, about 6% of the world's output. This year Sales de Jujuy plans to make 17,500 tonnes. [The White Gold Rush, Source: Economist.com]



Jujuy, photo took in a fieldtrip, 2018, credited to ZHOU Lei.

In this article, beginning with these four pictures as lead, the author intends to argue, physically, culturally, psychologically, ontologically, hermeneutically, human beings are no longer who they were. The wombs, kinship system and interactive mechanism and reproductive system of humanity have undergone a drastic transformation.

What's shimmering yonder in the darkness, as the world glistened by incandescent light? In contrast with Socrates' definition of man, who is a being who thinks and wills, we are confronting the fact that human beings is defined less by its capacity to think, but more by its propensity to follow – to follow the concurrent torrents of identification in the midst of data constellations. The so-called Artificial Intelligence, therefore, constituted itself as the “natus” – Latin root of Nature – for newly formed living organisms

as we bid farewell to the prototypical old human beings paradigm who acquire wisdom, morality, agency through post-natal reflexive and Cartesian process. Unlike the chains, manacles and shackles – those physical coils that we can use to incarcerate a free man in olden time, nowadays, with the advent of Artificial Intelligence and Anthropocene, all the new human that have been manufactured are embedded with chains, manacles and shackles, all we need to do is to have the innate incarceration mechanism commissioned and de-commissioned. In this sense, the Artificial Intelligence is actually Artificial Intelli-pocene.

In Chinese, opportunity and crisis is often written as one phrase (危机), accordingly, it's important to leave the crisis aside or in external sphere, and save the opportunities in the internal arena. However, in the World Risk Society, all the opportunities have been “genetically modified”. The most hazardous side effect of global society or World Risk Society is shortage of foresight and malaise of justice.

Brazil-China economic relations provide an interesting viewpoint from which to consider the concept of World Risk Society put forward by Beck (1992). Due to bad practices in the Brazilian agribusiness sector, with regards to sustainability and regulatory noncompliance, a global connection has been created between the massive population of China and environmental and social degradation in central Brazil. Chinese businessmen are usually not directly responsible for these bad practices.

However, the negative impacts of rapid Brazil-China trade growth have not been mitigated adequately by the Brazilian government and society. These impacts represent substantial risks to food security in China due to the interconnected nature of the World Risk Society.

On a regular basis, China's public is panicking amid dire food security situations, worrying almost every mass consumption products such as drinking-water, fruits, egg, fish, poultry, beef, dairy products, rice, genetically modified food etc.; at the same time, embracing the news that China is now a huge buyers or investors in the international market. The international investment news have always assumed by Chinese with some nationalistic connotations: the exploited become the exploiters .

Beck (1992) proposes that advanced modernity is characterized by a fundamental change in societies concerning the production of wealth and risks. In his view there are two main "paradigms of inequality". One is related to conflicts over wealth and has gradually become less important. The other relates to conflicts over risks and has quickly become an ascending paradigm. Technological productivity has reduced the constraining force of scarcity and material need, particularly in advanced economies, but has also drastically increased the hazards and potential threats generated as by-products of increasing wealth.

This Beck perspective of inequality paradigms, once

corroborated with Trilemma paradigm, as proposed hereby in this paper, shall generate more meaningful discussions on how the wealth and risks have been manufactured and distributed and how this developmental sense and sensibility being orchestrated in the World Risk Society.

For example, a portion of the risks associated with rising standards of nutrition in China, such as heavy consumption of water for agricultural production and pollution due to agrochemicals have been shifted to Brazil, altering the global distribution of risks. Conversely Brazilian imports of Chinese industrial goods also cause pollution in China. Also, interestingly, although Brazil is famed for its academic achievements in the “western” system, Chinese counterparts tend to neglect its importance and Chinese media inclines to highlight the hedonistic and underdeveloped images of Brazil, by focusing narrowly on Carnival, football and Brazilian beauties. Rarely, if not never, China will treat Brazil as a “western” country or civilization and the reasons why China initiated its ambitious South America Strategies, through trans-continental canals and massive damming and mining projects, are mainly targeted to U.S., concerning US’s containment conspiracies. In this sense, Brazil is just a means to China’s global “peaceful emergence” (heping jueqi) end.

This point of view focused on risks emphasizes the internationally shared responsibilities to protect social and environmental sustainability and sheds light on

how to mitigate some of the negative facets of global interdependence. The financial crisis of 2008/9 boosted public awareness of the interconnectedness of the global economy and of the potential impacts of economic and political risks. It also increased the relevance attached by policy makers and corporate decision makers to risk management. Therefore an examination of the perceptions and interpretations of the distribution of risks between Brazil and China can contribute to the more general analysis of bilateral economic relations.

China's relations with Brazil have intensified in the past decade and have begun to resemble the ideal type "complex interdependence" theorized by Keohane and Nye (1997). Bilateral relations are socially and politically multifaceted, and force matters comparatively less than many other countries' affairs with China. Brazilian agricultural exports play an essential role in the politics of China's food security, while oil and iron ore have some impact on energy security and the GDP-expanding construction industry. Conversely, China has become a major source of Foreign Direct Investments in Brazil, generating jobs, government revenues and technology transfers, especially from 2010 onwards. The China-Brazil Business Council (Frischtak et al., 2013) estimated that Chinese investments in Brazil between 2007 and 2012 amounted to US\$ 24.4 billion, or US\$ 68.5 billion if announced investments still in negotiation are included.

China has been Brazil's main nation-state trade partner since

2009 when it displaced the US. In the first three quarters of 2013 it even surpassed the entire European Union as the main destination for Brazilian exports. From 2002 to 2012, Brazil ran a trade surplus with China of over US\$30 billion. China is therefore a major source of hard currency. However, Brazil primarily exports raw materials, and this trend has been intensifying over the course of the last few years. In 2013 primary products, essentially iron ore, soybean products and crude oil, accounted for 87% of exports to China. By contrast, Chinese goods that arrive in Brazil are mainly manufactured and technological products, such as textiles, electronics and machinery, with much higher added value than Brazil's commodities.

According to Brazilian federal government statistics, in the first seven months of 2017, soybean exports from Brazil to China amounted to \$14.9 billion, an increase of more than 20% compared to the same period the year before.

	2012	2013	2014	2015	2016
US\$ FOB	11,880,053,553	17,145,722,080	16,615,105,360	15,787,785,730	14,386,114,444
KG	22,558,961,381	32,247,279,317	32,664,301,940	40,925,506,994	38,563,909,133

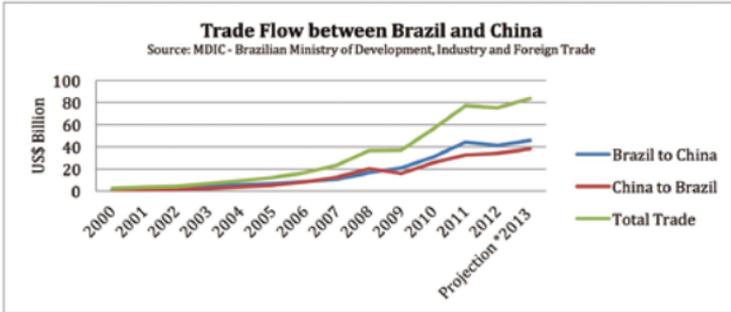
Table 1: Soybean exports from Brazil to China(2012-2016)
 Source: MDIC - Brazilian Ministry of Industry, Foreign Trade and Services

In dollar terms Brazilian soybean exports to China peaked in 2013, when they reached \$17.1 billion, and have since declined. However, this is primarily due to lower international prices. In terms of weight, those exports continued to grow, from 32.2 million tonnes to almost 41 million tonnes in 2015. In the first seven months of 2017, soybean exports to China amounted to 39.4 million tonnes, compared to 33.6 million tonnes during the same period the year before. China imports several other agricultural products from Brazil, including, in 2016, \$859 million of poultry, \$818 million of sugar and \$703 million of beef. However, these statistics indicate that soybeans are by far the most important export to China.

China imports primarily low added-value products from Latin America and Africa. By contrast it exports higher added value products to those regions and to Brazil. However, this is achieved with significant environmental and socio-cultural impacts both domestically and abroad. A significant portion of trade with developed countries relies on the use of water extracted from China's draught prone region¹. The "crisis dimension" of China Century Opportunity is that in the future, the development trilemma tends to create more global eco-system degradation. China has seen a monumental surge in soybean imports. By 2030, China is expected to consume 72 million tonnes of soybeans from overseas – more than one-quarter of the world's total soybean production today"².

1 <https://www.chinadialogue.net/blog/7924-UK-relies-on-virtual-water-from-drought-prone-areas-of-China-says-report/en>

2 <https://www.chinadialogue.net/article/show/single/en/5154-What-are-the-ecological-costs-of-China-s-future-food-imports->



In 2012, half of Brazilian iron ore exports, half of soybean exports and a quarter of crude oil exports went to China. In the first three quarters of 2013, exports of soybean products to China increased around 40% compared to the year before. Soybeans are likely to replace iron ore as the main export to China by the end of 2013. According to the USDA Foreign Agricultural Service statistics on oilseeds products, Chinese soybean production in the market year 2013/14 is forecasted to fall to 12 million tonnes from 12,5 million the year before. In 2011/12 soybean imports reached 59.2 million tonnes, 97% of which came from Brazil, the United States and Argentina. That market year Brazil accounted for 45% of total imports, up from 35% the year before, replacing the United States as the main source of imported soybeans. Soybeans are by far the most important agricultural imports of China in terms of quantity and value. In addition to the Brazilian government export statistics mentioned above, the increase in China of soybean productivity and yields in the last few years has not compensated the reduction of harvested areas, indicating that heavy reliance on Brazilian

imports will expand in the near term.

Unfortunately the soybean economy in Brazil has several negative externalities. A report by KPMG (2013) argues that end-users, including food, animal feed and biofuels companies face several reputational and commercial risks. A large proportion of soybean producers in Brazil and Argentina do not comply with national regulations on forest management, labour, health and safety. Land used for soybean production in Brazil increased 73% from 2000 to 2010, an addition of ten million hectares. The KPMG report estimates that half of this area was newly deforested. Cattle ranchers often clear land with the expectation of selling it to soybean farmers some years later. For instance, in Mato Grosso state on the southern frontier of the Amazon, merely cutting down forest for pasture can increase land value by a factor of five. If land is additionally cleared for soybean plantations the original value can increase by a factor of ten. Half of the state's exports are soybean products, primarily unprocessed beans. In the first three quarters of 2013 Mato Grosso exports to China amounted to almost US\$5 billion, 19% more than the year before. Chinese demand, concentrated on soybeans, accounts for almost 36% of the state's total exports. In Argentina many of the impacts of soybean expansion are quite similar.

Statistics compiled by the Food and Agriculture Organization of the United Nations indicate that China is self-sufficient or relies very little on imports to reach its

domestic demand for most agricultural products, with the notable exception of oil crops, such as soybeans. Therefore the importance of economic relations with Brazil for food security must not be exaggerated. Nonetheless, the majority of soybeans in China are processed into animal feed, and the increase in purchasing power of the average Chinese consumer is leading to much more demand for meat and food in general. Therefore there is an indirect connection between increasing Chinese demand for meat and deforestation in the Amazon and Brazilian savannah.

Currently less than 3% of soybean production in the world is certified, and the quality of many certification processes is highly contested. However, KPMG estimates that within a year investments in certification by large producers can be recouped. Smaller producers can achieve that in three to five years. Neves (2010) emphasises that China and Brazil could cooperate on devising international standards and incentive schemes for sustainability. He also draws attention to the fact that there is plenty of potential to increase agricultural production in Brazil by expanding horizontally into land that does not entail major environmental and social impacts and by expanding vertically, increasing productivity by investing in research and technology. Rada & Valdes (2012) reported that Total Factor Productivity growth, an important indicator of agricultural efficiency, increased 138% among efficient producers in Brazil from 1985 to 2006, whereas it increased only 62% for the average farm, over the

course of those two decades. Preventing deforestation and land speculation on the Amazonian frontiers and avoiding socially irresponsible business practices does not restrain the expansion of agricultural output so much because of potential productivity growth in Brazil.

The growing Chinese presence in the Brazilian agricultural sector has had political consequences with significant impacts on the country's business risk profile. In 2010 the attorney general issued a reinterpretation of a land ownership law from 1971, effectively increasing restrictions on foreign ownership (Collins & Erickson, 2012). Various national and international media groups, including the Financial Times and the New York Times, quoted political and economic leaders and claimed that this was to a large extent a reaction to Chinese corporate plans to buy up large tracts of land for food security back home. Argentina passed a law restricting foreign ownership of land in 2011. The following year Brazilian members of congress also approved further restrictions, including a prohibition of land ownership by sovereign wealth funds.

The political backlash faced by Chinese agribusiness investors could become stronger if the negative externalities of agricultural growth are increasingly attributed to China. One could argue that China is not objectively responsible for its supply chains and the malpractices of Brazilian agribusiness, but this argument is irrelevant from the point of view of risk. An analysis of the position within

the World Risk Society occupied by Brazil-China trade should emphasise that risks only exist in terms of the socially constructed definitions and knowledge about them. Therefore the professions in charge of defining risks assume important political roles in the World Risk Society. Brazilian opinion formers are following the global trend of perceiving China as a major economic power and linking to it domestic economic and environmental issues. Socially constructed knowledge about risks may or may not be objectively accurate, but its effects are felt regardless of its accuracy.

Keohane and Nye (1997) point out that in the information age, more than before, credibility and reputation have become a major source of power, and the lack thereof a major risk. Attitudes towards China are mixed globally. In Brazil, perceptions of China are slightly more positive than the global average, but political and economic relations are open to reputational risks. Pew Research Center (2013) interviewed 960 Brazilians from several regions and discovered that 50% regard China as a partner, whereas only 10% perceive it is an enemy. Their views are generally more positive than those in Europe and North America. However, 51% of Brazilians dislike Chinese business practices, compared to 40% who like them. The continuity of stable growth in political and economic relations depends to a large extent on the management of public opinion, and in particular of opinion setting groups, not the least because democratic politics and parliamentary lobbying have an

important role in Brazilian society.

Most arguments against China in Brazilian academic and media circles concerned with political economy focus on deindustrialisation and its relation to trade with China. On 23 October 2013, a protest against Chinese imports gathering hundreds of people sponsored by textiles industries and the trade union Força Sindical was held at a trade fair in São Paulo. Most major news agencies covered the protest and broadcasted strong images. Niu (2013) points out that deindustrialisation in Brazil is closely related to domestic conditions, such as fragile infrastructure and comparatively weak economic fundamentals. In addition, García-Herrero, Ferchen & Nigrinis (2013) argue that South American economies are less dependent on Chinese demand for commodities, in terms of GDP growth, than most analysts believe. They emphasise that an “expectations effect” emerged upon China’s arrival in the region related to memories of boom and bust cycles driven by commodities. In their opinion, this effect generates more anxiety than economic data would warrant.

There is a possibility that this “expectations effect” could combine with environmental concerns to increase subjective aversion to China in Brazil. Yu and Pugliese (2012) conducted research for Gallup in which BRIC respondents were asked whether “protection of the environment should be given priority, even at the risk of curbing economic growth”. Whereas 57% of Chinese

interviewees answered yes, 83% of Brazilians gave a positive answer. Social movements and indigenous groups have blocked highways used by lorries to carry soybeans to China and Europe to protest against the impact of agribusiness on environmental sustainability and traditional livelihoods (Graham, 2008). So far these protests have not targeted China directly or even the soybean industry in itself. Instead their focus has been on illegal plantations, deforestation and the impact of agrochemical pollution on livelihoods. However, if Chinese agribusiness investors do not focus more on the sustainability of their supply chains, and publicising it to Brazilian audiences, they could be blamed for the illegal practices of their Brazilian suppliers, even unjustly, compounding an already growing concern with the “primarization” of the Brazilian economy.

Luckily, China has made significant regulatory progress towards sustainable social and environmental conduct abroad. For example, since 2002 increasingly sophisticated impact assessment laws have been developed, and in 2007 guidelines were issued for state-owned enterprises on corporate social responsibility. Sutherland and Whelan (2009: 6) argue that the guidelines indicate a clear understanding within the Chinese government that corporate social responsibility is important for soft power as well as commercial performance. The Ministry of Environmental Protection and the Ministry of Commerce are also preparing Guidelines on Strengthening

Environmental Governance on China's OFDI and Foreign Aid (Ren & Whitehead, 2013). There seems to be an increase in awareness that corporate social responsibility is an efficient risk management tool (Kytte & Ruggie, 2005), which could also reduce risks to Chinese food security.

DISCUSSIONS

In his thought-provoking book *Liquid Modernity*, Bauman offers a novel way of analyzing modernity, based on Beck's 'second modernity', by pointing out the essence of 'liquid modernity' can all be boiled down to the fact that, "Fluids travel easily. They 'flow', 'spill', 'run out', 'splash', 'pour over', 'leak', 'flood', 'spray', 'drip', 'seep', 'ooze'; unlike solids, they are not easily stopped – they pass around some obstacles, dissolve some others and bore or soak their way through others still."³

As in this case, the environmental crisis of Sino-Brazil exchange is manifested as a 'liquid syndrome', signifying massive-scale degradation in water resources, pollution and primarization of industries; auguring an ominous future for both development and livelihood.

From this perspective, it'll be wrong to examine the opportunities/ crisis of Sino-Brazil interaction, only as a consequence 'liquid modernity'. When we follow Bauman's approach, starting to analyze the "transgressive, boundary-breaking, all-eroding modernity", we need to be cognizant that while the liquidizing powers moving from the 'system'

3 Bauman, Z. (2000) *Liquid Modernity*. Malden, MA: Polity Press. P3.

to 'society', from 'politics' to 'life-politics', more emphasis should be given to the nook and cranny of eco-constraints human being have been confronting all the time, especially the balance/imbalance of 'Trilemma'. To put it in a nutshell, a free flow of modernity or development motivation, material abundance and profligacy, finally continuity of cultural heritage inherited by individual and idiosyncratic communes. That is to say, more emphasis should be paid to examine the ensembles beyond those data and developmental figures.

Governmental and intergovernmental data indicate that the interdependence of the two countries is likely to increase and so is the importance of Brazilian agricultural trade for Chinese food security. So far, few Brazilians pay much attention to the nature of this interdependence and the implications of the new global distribution of risks. However, information flows are increasing. Within the framework of the Brazilian democratic system, it is easy to blame Chinese agribusiness investors, and difficult to hold Brazilians accountable for their illegal and unethical agricultural practices. Given that socially recognised risks can become politically volatile in a global risk system the price of meat dishes in China increasingly depends on the wellbeing of the people occupying the most vulnerable social risk positions in central Brazil.

Ignolege Governance, Trilemma Development and Vivid Death: Why Sino- India Water Crisis Discourses Fail?

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ABSTRACT

Beginning with delineation of one conference focused on water crisis along Sino-India border which was held in New Delhi, this paper discusses in general why discourse of trans-boundary environmental issues fails in hermeneutical/anthropological sense.

As the evidences shown by Southwest China environmental degradation case, to Chinese intelligentsia, what lying beneath the ecological nightmare are stereotypical Chinese spiritual landscapes in purgatory and a subjugating political narrative -- all these proven to be the essential barriers for any constructive transcultural communications and further collaborations between China and India.

In the last part, this paper presents a textual version of audio-visual performance as a concrete example to argue the innate incongruence of problem solving mechanism, and imponderabilia of Sino-India water crisis discourses, which not necessarily refer only to academic sphere but also to media and policy making circles.

KEYWORDS:

Ignored governance; Anthropology of ideas; Trilemma development; Water crisis

PROLOGUE: TRILOGY OF AQUA-CONUNDRUMS

To Chinese, Shanshui, mountain and water, or landscape is deeply embedded in their spiritual system, manifesting dialectical, hermeneutical and soteriological values. Ever since 1949, China is witnessing the death and eco-degradation of rivers at a mind-boggling rate, which according to recent governmental survey, the number of rivers dwindled to 22,909 from over 500,000 (figures in 1950s). This paper intends to pontificate the consequences of water crisis from hermeneutical, ontological and art advocacy perspectives, through presenting a few portfolios of historical values and ethnographic data gleaned from SW China, all occasioned hereby in an academic conference held in New Delhi.

We therefore, can consider the dreadful prospectus confronting us, when China and the other related parts of world keep on its disastrous trajectory, whilst at the same time, witnessing a discourse on water disrupted, disconnected and disassociated.

In the first part, the academic conference held in New Delhi can be used to signify how a discourse on water and water politics can be convolutedly arranged and discussed

as such; however, these discussions and explorations can rarely lead us (as researchers) and them (as stakeholders and policy makers) to a common ground, which enable further environmental friendly cooperation and benign political consultation; partly due to the fact that the death/crisis of water has been hermeneutically misconceived.

Both to China and India, with the death of rivers, also died are a systematic waterborne lifestyle, social memories, rhymes, and folklores. By using human voice and scripture writing as mediated methods, a ritual will be conducted to dead rivers, building tombs and epitaphs for the forlorn past. Owing to manqué and dearth of river family (I treat the death of rivers as loss of river kinship and tribes, human's indispensable companions), the famed Book of Rivers {also known as Commentary to Rivers Classics}, ironically, is a metaphysical reference and guidance for the souls of dead rivers. Through writing, chanting, narrating, memorizing the lines of Book of Rivers, the dead rivers can be somehow resuscitated and reclaiming their rippling radiance.

Secondly, through deliberating Southwest China ethnographic cases (focused on environmental constraints, knowledge production, policy making framework and problem solving mechanism), both China and India are all pursuing an impossible of trinity, which can be summarized as followed:

A: development based on infinite growth and material

abundance presupposition – a free flow of “modernity” and a “civilized juggernaut”.

B: prosperity accessible to all (fantasy) and one “fluid” development/modernity paradigm fits all – “development by the people, for the people and of the people”; an ever-lasting exchange process between nature resources and artificial knowledge concoctions.

C: nature conservancy and continuity of cultural heritage – a “stateless” global village where miscellaneous cultures converge and intermingle versus a myriad of “sovereign tribes” where culture “fossilized” and encrusted by incremental development sugar coats.

Thirdly, the innate incongruence of problem solving mechanism and imponderabilia of Sino-India water crisis have been presented through a ritualized soundscape project conducted in China. Notions of transience, impermanence, and reflexivity are fundamental to this performance, which combines aspects of performance, installation, sound sculpture, photography, calligraphy, video and painting – a mediated heteroglossia concerning dead rivers and water crisis.

INDIAN WATER COLLOQUIUM: MOUNTAINS/RIVERS IN PERILS AND DISRUPTED ECO-POLITICAL KNOWLEDGE

In March, 2014, scientists, technical experts, experienced diplomats and senior administrators from India, China,

the Tibetan Plateau and neighboring countries met in Delhi in private roundtable over three days to consider the prospects of consensus on problems affecting the ecology of the Tibetan Plateau, and future policy directions on trans-boundary issues. Such trans-boundary gatherings are unfortunately rare.

The 50 hand picked roundtable participants gathered at the invitation of the Foundation for Nonviolent Alternatives (FNVA), for intensive consideration of the bigger picture, transcending the narrow concerns of separate states.

A common language, and an agreement emerged – it was the Himalayas and Tibet, rather than dividing India and China, united them together. Over a wide range of issues, from rural livelihoods to the sharing of the waters originating in Tibet, and consumed daily by 1.4 billion people; from the dynamics of development to the militarization of the high mountains, commonalities started to emerge.

This FNVA roundtable, from 28 to 30 March, 2014, expresses its deep concern that a realm of traditional land management, indigenous knowledge, light touch nomadic mobility, respect for nature and a last frontier of pristine landscapes, is rapidly becoming, from all sides, the object of national development strategies which oriented toward intensive resource extraction, water impoundment and channeling, exclusion zones nullifying viable customary livelihoods, irreversible biodiversity loss and the redefinition

of the whole Himalayan/Tibetan Plateau region to serve the needs of distant downstream communities, mainly for drinking water, electricity and raw materials of industries.

We discussed the prospects for possibilities of wider official participation, and potential contributions from governments of this region. With the absence of well-established multilateral forums in this region, semi-official forums could also achieve much. Many attendants have concurred on the necessity of building a mechanism to share data and conducting collaborative projects.

Drawing on the professional experience of participants from different spheres, which focused on more on short term gain than long term effects, this FNVA roundtable brought these issues to the public attention and following aspects worth to be addressed in details.

First, all the participants which consist of anthropologists, glacier specialists, natural scientists, environmentalists, governmental officials, strategists and religion practitioners have been arranged to a special venue in New Delhi.

This conference was hosted in India International Center (IIC), where many trans-disciplinary seminars, talks and performances have been hosted on a regular basis.

From the bulletin board of IIC, we can have a glimpse of how topics of national importance could be presented, to name just a few:

Winner of Gourmand World Cookbook; Pancha-Srishti celebrating summer; Shiv Nadar University inaugural lectures series; Learn from Ravi Sharma who has trained a generation of students in India and abroad; 11th Youth Pilgrimage in South India; Re-imagining South Asia: An Intellectual Agenda for the Next Generation of South Asians; Thematic presentation 'sanwale salone shyam'; Design the life you desire: away from the hidden 'road blocks' and towards what you really want; Unique solo exhibition from his own blood; India as a Nation: its triumphs and tragedies; Odissi Dance recital by Dr. Ileana Citaristi; Does Culture unite? or Does it Divide?

The gist of this conference, as its manifesto evoked, is mainly focused on the dire future confronting all the people connected by international mountain ridges and watersheds, and contemplating possible ways to break the current barriers which make cooperation, co-exploration, communication and collaboration hard to achieve.

Tibetan refugees delegates have also been invited to this conference, sharing their understanding of sacred mountains and deities reside in the mountain ridges and along these international watersheds, which all victimized by rampant economic and politic exploitation.

Like many other international conferences with an aim to influence or inform the potential policy makers, this conference has gradually been morphed into different

knowledge clusters and opinion groups. Once clusters, groups and modules have been formed, each participants, discussants and presenters had to follow an invisible structure, while ping-ponging information into the dark box of knowledge clusters and academic blocs.

Within this occasion and also represented in my own presentation, a Mundellian “development trilemma” is appeared as a globalization conundrum and an impossible trinity, in order to describe the deeply entrenched water crisis in Asia settings and three elements of “development” running afoul with each other erstwhile deteriorated into a vicious circle (a triangle of impossible trinity).

The three elements of impossible trinity can be summarized as following:

A: development based on infinite growth and material abundance presupposition – a free flow of “modernity” and a “civilized juggernaut”.

B: prosperity accessible to all (fantasy) and one “fluid” development/modernity paradigm fits all – “development by the people, for the people and of the people”; an ever-lasting exchange process between nature resources and artificial knowledge concoctions.

C: nature conservancy and continuity of cultural heritage – a “stateless” global village where miscellaneous cultures converge and intermingle versus a myriad of “sovereign

tribes” where culture “fossilized” and encrusted by incremental development sugar coats.

In order to use network analysis, anthropological method and holistic approaches to unravel the imponderabilia of global interconnectedness and liquid modernity, my research intends to analyze the development failure in SW China through a few concepts stemmed from Chinese contexts.

In macroeconomic management, policy makers must face a trade-off of simultaneously choosing two, not all, out of the three policy choices: monetary independence, exchange rate stability, and financial openness. This famous hypothesis in international finance is a fundamental contribution of the Mundell-Fleming framework, which is better known as ‘impossible trinity’, or the ‘Trilemma’.

As it could be problematic when we move around concepts from one sphere to another, disassociating/disembedding them from the intertwined and jargons-specific contexts; my analysis intends to be more vigilant on the concepts’ expansion of ‘trilemma’, (rather than) in a strict economic sense, focuses more on using this Mundellian triangulation method to re-examine some ethnographic phenomenon collected from Southwest China.

We are witnessing in Asian contexts – including many other geographical locales – people start to use an unorthodox approach to address the their problems which I entitle it

as “ignoknowledge”. Take China as an example, ignoknowledge is one kind of power that cannot be dissociated from decision-making and control over the political agenda, and can be used to address contestations between different countries or interest groups within countries. Moreover, it is oriented towards an effort to revive a past prosperity, to erase a historical stigma and to usher in a socialist renaissance in a comprehensive way, and all current and potential issues, and overt and latent conflicts, may be addressed through this packaged ‘knowledge’. In the end, the use of ignoknowledge realizes many goals, these being:

- (i) the domination of power and its manipulation over resources,
- (ii) the capability to harness organizational and physical power to its own ends,
- (iii) the compliance of previously discordant voices from the non-governmental sphere, and (iv) the production of power.

According to Foucault, when compared to repression, “production” is positive in the sense that it “traverses and produces things, it induces pleasure, forms knowledge, produces discourse and more specifically, it produces ‘subjects’, forging their character and normalizing them.” The transfer of water from the Three Parallel Rivers area (Nu River, Jinsha River and Lancang River) might eventually be conducive to the expansion of Kunming and the ‘Dian civilization’, strengthening their influence within

the Greater Kunming region and realizing the seafaring dreams of Zheng He and his journeys across the Kunyang Ocean (Dianchi Lake) and beyond, a mentality which lives within local people and local political ambitions. In 'The Anthropology of Power', Angela Cheater summarizes the inconsistency of Foucault's descriptions of power, by drawing-upon another definition of power given by Foucault; "Power in the substantive sense, le pouvoir, doesn't exist...power means...a more-or-less organized, hierarchical, co-ordinated cluster of relations."

By creating the new phrases and concept of political other shore, I can describe the large amount of scientific and endemic knowledge being incorporated into a final theoretical structure, that which constitutes the essential fiber of ignoledge. In addition, the construction of political other shore allows for, at least superficially, community participation, peer review, empowerment, and a "people-focused approach...listening to the voices of the poor", as described in *Empowering Ambiguities* by Wendy James⁴; who points out that "on the evidence of the Oxford English Dictionary (1971), 'empower' as a verb is, in itself, not new, but well established, having, since the seventeenth century, meant 'to invest legally or formally with power or authority; to authorize, license', or 'to impart or bestow power to an end or for a purpose; to enable, permit'."⁵ The political other shore, in this circumstance, is also used to empower the public, to justify the ignoledge and to facilitate the textual

4 Ibid. Lukes, Steven. 2005. *Power: A Radical View*; p. 13, Second expanded edition published by Palgrave Macmillan, New York, USA

5 Ibid. p. 14

governance; it imparts or bestows power to ignoledge and enables textual governance. Those suspicious of ignoledge are particularly alarmed by the “hazards versus providentiality” situation, as defined by Ulrich Beck in *Risk Society and the Provident State*, hazards resulting from the decisions made (in a residual risk society).⁶

The most problematic part of ignoledge is the fact that it is not self-critical, but self-worshiping and self-reverential. Political other shore strengthens ignoledge as a power through moral and aesthetical justification, and the “scientific” aspects of textual governance merely reinforce ignoledge through technocratic and theoretical calculation.

Out of these liquid ‘trilemma’, the ignoledge should be treated as darkening light and concealed *alētheia* when memory persists and time melts, turning lithe, supple and fluid-like: as powerfully captured by Salvador Dali in his *La persistencia de la memoria*.

After the conference, I had several long conversations with one Tibetan scholar who now based in Norwegian university, concerning his understanding of Tibetan knowledge of nature and Tibetan religions’ unique perspectives on human cognitive capability and human caused disasters.

I mentioned to him, when I took the plane bound for Delhi, one Indian passenger sat besides me was listening something religious, the moment he boarded on plane.

Out of curiosity and also because he listened with his eyes closed, I took the liberty to jot down his ipad-broadcasting list:

A Zen Story

A thousand and one bifurcations

The halo of Yakushi-Buddha

Be a light unto yourself

The ultimate secrets of swordsman

Three mysteries

The proper state of mind

You have my marrow

Madman and devotees

Based on these materials, I told my Tibetan colleague, when we discuss something polemic and contestant in nature, it'll be comparatively easy to reconcile and interfacing if we adopt "non-scientific" style rhetoric and wisdom cum religion genre narratives.

In another occasion, one Indian lawyer who sat besides me during conference talked to me after my presentation, saying that in his opinion, China and India used to share many common languages, in the sense of religion, aesthetics, daily lifestyle, political institutions, but gradually departed due to

“western intervention and interruption”. “Both China and India all have a rather profound knowledge about ourselves, our nature and human future, but slowly and pitifully slide into oblivion.”

One conference panelist who refer himself as retired India Major General put it into a more vivid expression: “To ancient Chinese, India is west heaven, that’s literally the word Chinese were using to describe us; China and India really should sit down together to rethink what actually unite us, rather than bickering on something that divide us. Forget America and all the other western countries, we should pursue something I call third millennium equipoise.”

For the entire conference, including unsystematic discussions during interlude, one can sense a tacit ring of refusals and rebuttals has been developing amongst the attenders. To Indian scientists and social scientists, also true to some Tibetan attenders, they have difficulties to understand why China (including government and academia) keep denying a catastrophic water crisis has been brewing mainly due to China’s problematic policies and irresponsible knowledge circle.

To Chinese attenders, especially for those representing China’s official academia institutions, they have expressed vehemently, sometimes, their opinions on western stigmatization concerning Sino-Indian water issues and deeply entrenched misunderstandings among Indian

intelligentsia.

At the same time, both China and India have all aware that the existence of oriental specificities in the contexts of development and environmental degradation. However, the “history” and “past” has been used and reconstructed quite differently by Indian/Chinese scientists and social scientists – both in their conversation and everyday practice of research/studies.

At the end of conference, the organizing committee of conference intended to draft a manifesto on Sino-India water issues and had it signed by all attenders, however, many Chinese delegates have complained that the manifesto has been too critical on Chinese government and too pro-Tibetan Independence Power.

1.Of all regions on Earth The Himalaya/Tibetan Plateau is a regions which has the least international co-operation, the greatest deficit of trust, the least state-to-state meaningful dialogue, and a discourse dominated by the mutually exclusive sovereignty concerns of competing states whose boundaries bear little relation to nature, rivers, climate, population distribution or biodiversity.

2.This dominant discourse tends to disempowers local populations who had formerly been able to trade extensively across the region, now widely reducing them to a marginal status everywhere, their loyalty to distant lowland capital cities questioned, their needs ignored, or at least not taken enough into consideration their agency downplayed and their traditional livelihoods often

disrupted.

3. Physically, biologically and culturally, India and China, and other regional states are divided by the Himalayas, when in the past they were united by a common heritage as mountain peoples for whom the peaks were no barrier to the flows of cultures, religions, languages, saints, pilgrims, mighty rivers, commodities such as salt, wool, tea and cotton. Although poverty alleviation is now much needed, it is still imperative to support customary livelihoods rather than only promoting urban outmigration as the policy priority.

(4th draft of statements and conference manifesto, “consensus part”)

Hence, in order to facilitate discussion and cooperation on any issues of common concern, especially on natural resources of public good that has transcend national boundaries, all the discussants should be equipped with knowledge of how liquid modernity has shaped Asia and details of liquid syndrome and mal-governance in Chinese context.

Finally, as evoked by the soundscape project of water crisis in the third part of this paper, the death of rivers and upcoming water crisis could/should be conceived as something more fundamentally disturbing and tragic in phenomenological sense.

‘LIQUID’ SYNDROME AND ‘SOLID’ GOVERNANCE
MEGALOMANIA: AN INTRODUCTION

In his thought-provoking book *Liquid Modernity*, Bauman offers a novel way of analyzing modernity, based on Beck's 'second modernity', by pointing out the essence of 'liquid modernity' can all be boiled down to the fact that, "Fluids travel easily. They 'flow', 'spill', 'run out', 'splash', 'pour over', 'leak', 'flood', 'spray', 'drip', 'seep', 'ooze'; unlike solids, they are not easily stopped – they pass around some obstacles, dissolve some others and bore or soak their way through others still."⁷

As in this case, the environmental crisis of Kunming is manifested as a 'liquid syndrome', signifying massive-scale degradation in water resources, auguring an ominous future for both development and livelihood. Along side with this liquid crisis, what also happening in Kunming is the consolidation of 'solid' governance dominion, inflicted upon the society as a concrete and immediate menaces.

Kunming city is built around the Dianchi Lake and its urban area lies to the north, which has proven to be one of the major reasons for Dianchi's ecological degradation, for all the waste, either from households or industrial plants, flows southward into the lake - 60% of it being unprocessed. In 2000, Kunming had a 2,920 square kilometer water-receiving area and a population of 3,099,000, including 2,594,000 urban residents; this figure increases to 6,432,212 in 2011 due to drastic urbanization process.

7 Bauman, Z. (2000) *Liquid Modernity*. Malden, MA: Polity Press. P3.

However, it will be problematic to contemplate, once upon a time, there was an 'eco-lifestyle', when contaminated water have been well managed, preventing them from polluting a sacrosanct lake. Ethnographic evidences have shown that even until now, many dragon temples still dotted along the coastline of lake, with myriads of them destroyed or dilapidated due to heretic urbanization movement from 1980s onwards. On the one hand, the lake has nourished a waterborne group who are highly 'superstitious', treating the lake as sacrosanct void habited by deities and dragons; on the other hand, the lakeside villagers have never stopping explore and use the lake environment as a major means to earn a livelihood, such as fishing, irrigating, land reclamation for agriculture and mining. During this process, the lake has been objectified and profaned as mundane resources, used and contaminated as such (villagers told me, even prior to 1930s, when they possessed no arable land but a small boat –abode afloat for a whole family – they drink from the water, at the same time, piss and dumping rubbish into the lake; more evidences have shown, over a very long period of time, people living nearby the lake have been polluting the lake on a regular basis). Having said that, we cannot deny prior to 'modernity time', people nearby Dianchi has produced a variegated spectrum of ecological knowledge, mores, commune regulations, myths, folklores, admonitions and social rules on lake environment conservation. (Nearby North Village – a pseudonym for protection of privacy – where I conducted fieldwork, I found one stone tablet with

characters carved in 1880 and embedded on the wall of a dragon temple, which specified all villagers should respect the lakeside environment, any activities such as slashing lakeside wetland plants or pollution of lake water should be restricted and punished by commune governance entity.)

From this perspective, it'll be wrong to examine the water crisis of Kunming, only as a consequence 'liquid modernity'. When we follow Bauman's approach, starting to analyze the "transgressive, boundary-breaking, all-eroding modernity", we need to cognizant that while the liquidizing powers moving from the 'system' to 'society', from 'politics' to 'life-politics', more emphasis should be given to the nook and cranny of eco-constraints human being have been confronting all the time, especially the balance/imbalance of 'Trilemma'. To put it in a nutshell, a free flow of modernity or development motivation, material abundance and profligacy, finally continuity of cultural heritage inherited by individual and idiosyncratic communes.

In its master plan, the local government intends to turn Kunming into a super-modern city (with four districts: southern, western, eastern and northern Kunming), as I will explain in more detail later, but here I will merely sketch-out the basic concepts behind the urban constructions taking place in the city. According to authoritative knowledge, Kunming is to be an 'Oriental Geneva' within the environs of the lake; its special functions being as a regional manufacturing center, an industrial base, a center for

tourism- and culture-related industries and an Asian flower producing center. All the counties belonging to Kunming are to be redeveloped into an urban area, replacing the rural areas with landmark, high-rise and modern buildings.

Like many other provincial capital cities in China, which have been rebuilt based on model metropolises in China such as Shanghai and Beijing, the most audacious piece of architecture in Kunming city, in my personal view, is a hotel located in the center, which mimics a spiral, not unlike the Babel Tower as visualized in the Bible. Since the founding of the People's Republic of China, urban areas have changed significantly; few old streets and houses have survived unscathed and many more have simply disappeared completely. In 2007, the city was still pushing forward with its redevelopment plan to transform a decades-old flower market surrounded by phoenix trees into a brand new international flower-trading center.

Meanwhile, public parlance and authoritative knowledge, as represented in voluminous government files and political statements, brag about the long history that Dianchi Lake and the city has enjoyed. When you wander around the city, people familiar with the history of Kunming will point out that some street names can be traced back hundreds and even thousands of years; but that they are just a name, nothing else.

Jin Ning county, which is a part of Kunming located on the

west bank of Dianchi Lake, was once the home town of the ‘Great Navigator’ Zheng He, or Cheng Ho, who lived during the Ming Dynasty (1368-1644), and who is alleged to have conquered the ocean and circled the globe before Columbus. According to Gavin Menzies in his book, ‘1421: The Year China Discovered the World’, “On the 8th of March, 1421, the largest fleet the world had ever seen sailed from its base in China. The ships; huge junks nearly five hundred feet long and built from the finest teak, were under the command of Emperor Zhu Di’s loyal eunuch admirals. Their mission was to proceed all the way to the end of the earth in order to collect tribute from the barbarians beyond the sea, and then unite the whole world in Confucian harmony.”⁸ This narration has inspired time and again the residents of Dianchi Lake to pursue new seafaring dreams. In Jin Ning, the local residents are still used to addressing Dianchi Lake as Kunyang Ocean (Kunyang Hai; Kunyang being the ancient name of Jin Ning), and they truly believe that it is the vastness of Kunyang Ocean that inspired Zheng’s dream of circumnavigation. To hear a proud and pompous narration of Yunnan’s past is not uncommon, and especially of Dianchi Lake, and in such narrations Dianchi is not simply a lake, but a civilization. Late in 2012, and sponsored by the Yunnan provincial government, Jin Ning marshaled a new ambitious reconstruction project in an effort to resurrect the Ancient Dian Kingdom, investing 22 billion RMB in a tourism-oriented, ancient Dian town.

8 Source: www.1421.tv/the_book.asp. Website of Gavin Menzies’ book, 1421: The Year China Discovered the World.

However, due to the unscrupulous activities that have been taking place over a two-decade period - since the beginning of the 1990s - Dianchi Lake, the Kunyang Ocean and the Dian Civilization, have instead been turned into a green, polluted nightmare.

Among other observations, after I had finished pouring over the large number of pages produced by the mass media regarding the pollution of Dianchi Lake, the most salient features and important analyses to be drawn from the rhetoric-laden media narratives concerned the concept of textual governance, which in this context is a term I have coined to describe how severe social problems and environmental worst-case scenarios are being addressed textually by Chinese government figures at various levels. My analysis and exploration of textual governance is based on an analysis of twenty-years worth of media data, as produced by the Chinese government's key mouthpiece and propaganda apparatus: the 'X'⁹ news organization (by gaining access to X's news database, I was able to track all the journalistic pieces related to Dianchi Lake published between 1987 and 2007, meaning I had to sift through texts often exceeding 200 pages and covering various critical stages of the pollution control and treatment process. Prior to my research, I had been preoccupied with the hypothesis that the mass media in China must have undergone an evolutionary process in its narratives. First, there had been an awakening in terms of environmental awareness,

with an ensuing barrage of reporting that depicted China as enmeshed in an eco-disaster. Second, there had been responses from the meritocracy and grass roots level, as well as the delineation of a collective brain-storming process at the government and community levels and in the public sphere, and third, a litany of measures and milestones had been put in place by the government on various levels. However, my in-depth reading of X's reports dissuaded me from drawing any conclusions regarding these aforementioned views; because, since the very beginning of 1987 when X first gained access to digital reports regarding Dianchi Lake, the agency's writing has been embedded in a self-explanatory circle, meaning it has kept repeating itself almost every year and shows no signs of slowing down. In the agency's late 1980s narratives, the public was presented with an all-encompassing description of the Dianchi problem: the degradation of the ecology, the problematic urban drainage system, the various counter-measures being put in place, new endeavors aimed at securing clean water, the new, deeply-flawed urban plans, and also the new political expressions and political statements. To put this another way, although the level of seriousness assigned to the pollution might have varied over different political epochs, the public sphere, the governmental apparatus and also Dianchi Lake as a subject, have already been incorporated into a fin-de-siecle narrative. For more than two decades, people have been lamenting the same losses, making the same insightful decisions, phasing in the same

'new-fangled' policies, expressing the same complaints and criticizing the same phenomena.

These observations may lead us to the conclusion that the pollution of Dianchi Lake has been addressed only symbolically by the government rather than as a real social and environmental problem, using environmental 'newspeak' invented as part of the governance process. This textual governance; however, has failed at its core to address the environmental constraints experienced at the praxis level, representing merely a form of 'eco-spin', as embedded within the governmentality process. This explains why Dianchi Lake was drained during the Great Leap Forward period (da'yuejin, in the 1960s), used as farmland for agriculture, pumped as an industrial water source and filled with highly polluted waste water by industries located around the lake in the 1990s, and reconstructed to serve the booming tourism industry since 2000. During all these phases, and up to the present, Dianchi Lake has remained a key source of drinking water - serving as a large 'drainage tank' for the ever-expanding Kunming urban area. As a result, Dianchi Lake can be viewed to some extent as a 'virtual bank', one the government has been able to utilize at any time to serve its textual governance aims.

Rarely in real life I think, do people review news articles written in the past, but if they did so about Dianchi Lake, they would be stunned by the fact that everything written in 2007 was simply a repetition - an authentic representation

(zhenshi zaixian), of stories written in the 1980s and 1990s.

Although covered in slime since the mid 1980s, people have never given-up fashioning new exotic expressions for Dianchi Lake, reincarnating it as something sublime or politically aesthetic. In journalistic narratives, Dianchi Lake has time and again been referred to as the “Shining Pearl of the High Plateau” (gaoyuan mingzhu, a phrase coined by the late premier Zhou Enlai and still used by government figures, the media and historians, even though today the “pearl” is smeared by slime, silt and ‘phlegm’), the birthplace of the ancient Dian Kingdom (Gudian Wenming) and the “hometown of dinosaurs” (konglong zhixiang). On February 13th 1989, according to one X news story, “a new dinosaur fossil was excavated in Kunming, around the Dianchi Lake region, one dated to the Jurassic period around 200 to 145 million years ago, and due to its unique characteristics, the dinosaur was named the ‘Kunming Dinosaur’, making its birthplace - a small village in the environs of Dianchi Lake - the ‘village of dinosaurs’”.

On August 15th 1993, another story from X news stated that “new scenery has appeared around Dianchi Lake”, due to an infamous tourism and ethnicity case that has had widespread repercussions in the anthropological field since. In order to create a new tourism destination and enhance the cultural heritage of the reclaimed land around Dianchi Lake, the local government built an ethnic minority village (minzu cun) by the lakeside; often referred to by

anthropologists as the “human zoo” - the prototype of many ‘zoo’ projects in trans-border areas around the Mekong. In this village, the local tourism developers intended to showcase Yunnan’s diverse minority culture within a tree-clad, artificial village dotted with exotic dwellings; and with all the typical minority architectural styles and geographical icons described in poorly written tourist brochures; replicated and brought to life in the village in miniature, in an attempt to create an ‘exotic’ Dianchi Lake (and in the journalistic narratives, the village has since been addressed on numerous occasions as, the ‘flower of minorities’, or *minzu zhi hua*). Many ‘villagers’ were hired from diverse ethnic groups scattered across Yunnan Province and upon recruitment, became contract workers who now cannot go back to their home villages for family reunions, even during the important festive seasons. The responsibility of the villagers in this miniature ethnic village is to provide ‘authentic’ cultural performances and be prepared to deal with a volley of questions from the tourists. Many pictures representing the cultural and festive celebrations performed by these “ethnic flowers” have been taken by news organizations over the years in the village. At first, when major government policies were phased in, local news organizations were taxed to the village in order to interview ethnic villagers from varied backgrounds - to show their consensus on the immediate necessity of these policies. On February 3rd 1988, one news story ran regarding the building of tombs for people still alive, stating that since 1987,

68 tombs had been built by workers from the Southwestern Apparatus Factory on a mountain facing Dianchi Lake, saying that “due to the beautiful lake’s view and good geomantic position, a ‘stone city mountain’ (shi cheng shan) has been strewn with tombs built for people who are still alive; people pay one or two thousand Yuan for a sixteen square meter graveyard, which is believed to hold propitious fengshui(geomancy).”

Bauman mentioned that “In modernity, time has history, it has history because of the perpetually expanding ‘carry capacity’ of time – the lengthening of the stretches of space which unites of time allow to ‘pass’, ‘cross’, ‘cover’ – or conquer.”¹⁰ However, in this case, we can see how people manage past and present, tangible and intangible, time and space, through rather complicated strategies. In a strict Panopticon power sense, both the supervisor and supervised, governing figures and downtrodden, all relish chances of embracing a prosperous and rich present or future, at the same time, trying to preserve some idiosyncratic individual or endemic signatures (such as unique fauna and flora, ethnic origin, lifestyle, Dianchi landscape, worship system,etc.).

As a journalist, I worked for the X news organization between 2004 and 2008, during which time I found that much of the exoticism and many of the fantasies concerning Dianchi Lake had not been pushed to the periphery, but had actually been strengthened and brought to the center.

10 Bauman, Z. (2000) *Liquid Modernity*. Malden, MA: Polity Press. P. 9.

In 2005, I myself wrote many news stories pertaining to the new “exotica” of Dianchi Lake, including the new relics excavated providing archaeological evidence of a prosperous and sophisticated Dian Civilization, and because one of the most important propaganda topics in 2005 was the 60-year anniversary of the Anti-Fascist War (during which Japan invaded China), I personally accompanied four groups of veterans from the US, paying homage to the Dianchi Lake into which several fighter jets had plunged. In 2007, I attended another anniversary ceremony, this time for the National Level Dianchi Tourism Resort Region, during which one of the most important events was a gala party held in the ‘Human Zoo’ or ‘Minority Village’, to which were invited famed divas and an orchestra from Beijing – the event broadcast live on China Central Television (CCTV). In 2005, another great Chinese historical figure, one who has a close connection with Dianchi Lake, dominated the Chinese media for almost an entire year - Zheng He (Cheng Ho) - the legendary navigator from the Ming Dynasty. To many researchers and those sharing his birth place, the vastness of Dianchi Lake re-kindles his seafaring dream, and the phrase, ‘600 Year Anniversary of Zheng He’s Journey to the West Ocean’ (zheng he xia xi yang), was a recurring one among the Chinese media at that time. My responsibility as a journalist was to visit the great navigator’s hometown in Jin Ning, on the west bank of Dianchi Lake. However, before I went to Zheng He’s home town, I interviewed many experts, historians and government figures, all of whom

were obsessed by Zheng He's charisma and his mystic maritime achievements, and especially the powerful Ming Dynasty he was a part of, believed by many local people to have been on a par with the USA in its apogee, though less belligerent. As one of my interviewees stated, "The Ming empire was ten-times as prosperous and rich as the USA is now, but it was still peace loving". Another expert told me, at a symposium to commemorate the spirit of Zheng He: "Zheng He's spirit and heritage will definitely resonate and be passed down from generation to generation. Our Chinese government should make good use of this specific period of history and present an alternative China to the world – a powerful and at the same time peaceful China, and the local Yunnan government should put more effort into publicizing itself as the hometown of this great navigator."¹¹ In Zheng's home town, I visited his tomb, which has been redeveloped as a garden atop a mountain facing Dianchi Lake, and followed the soot-covered narrow streets to his progeny's house, conversing with the eighteenth generation of the Zheng He family for two hours, and writing up a short story as follows:

"It was not until 1995 that the descendants of Zheng He - who lived in the fifteenth century and circled the world 88 years before Christopher Columbus - began to acknowledge his identity. Serving as a eunuch for the Ming Dynasty (AD 1368 - AD 1644), his identity has ensured his achievements have been mentioned little, both in the national history

11 Excerpt from interview conducted in 2005 by the author.

records and the chronicles of related counties. In the official historical records of the Ming Dynasty, only fourteen Chinese characters are used to describe the identity of this great explorer: “Zheng He, born in Yunnan, so called Sanbao eunuch.” His progenies, those passed down from Zheng He’s adopted son, were also hesitant to acknowledge their origins, first as a result of Zheng He’s embarrassing ‘masculinity’ situation and later out of political considerations. “Because Zheng He was a eunuch, most of our progenies feel reluctant to recognize that fact”, said Zheng Enliang, an eighteenth generation descendent of Zheng He who now lives in Jin Ning, a suburb of Kunming. “Until my relatives from Thailand, the fifteenth generation, came to visit us in 1995, I did not acknowledge publicly...my identity”, said Zheng.

Between 1405 and 1433, Zheng He allegedly made seven journeys to Xi Yang, the Chinese name for the South China Sea and beyond, as well as to a wider area stretching as far as Africa, a global tour still grand in our time. However, for Zheng Enliang, it has taken a long time for him to be acknowledged as a relative of the great explorer from 600 years ago.

According to Zheng, the first time he became aware of his ancestry was several decades ago when he was still an eight-year-old schoolboy. “I was attending primary school in the Chang Kai-shek era and there was one chapter in my history book titled ‘Sanbao eunuch’s maritime odyssey’”, said

Zheng. “I was curious about his surname, which is the same as mine and so rushed back home to ask my elders about it.”

His grandfather, Zheng Tiancai, from the sixteenth generation of the Zheng He family, responded flatly, “You are the eighteenth generation descendant of Zheng He.” The answer proved to be a surprise, but not a fact to brag about. During most of his life, he tried very hard to avoid mentioning his ancestral history and even adopted a pseudonym, Ma Guangbi. “After the liberation (the founding of PR China in 1949), for quite a long time people were all covering up their family history, facts that could be related to overseas relatives (then a shame bordering on sin)”, said Zheng. “I never mentioned to anybody about my ancestral origins and denied it to many around me who actually knew.”

The situation has now changed. Zheng prides himself on his ancestry and tells his son and grandson time and again about the glorious achievements of their ancestor. Their family photo, taken in front of the statue of Zheng He in Jin Ning Zheng He Garden, is sometimes used by the local government as propaganda material for the Zheng He Memorial Hall.

Zheng still remembers a poem his grandfather taught him about his ancestry:

New spring of lunar month

Outbound to avoid enemies' hunt

Bid adieu to old home in Kun Yang

Moving to new shelter in Yu Xi small town

Although life is hard and rough

Thou shalt not forget you are Zheng He's son

When I juxtaposed my writing with another news story regarding Zheng He from 1992, I found that the narrative and motivation presented fifteen years before had been better oriented and politically structured. Entitled “By commemorating 587 years since Zheng He’s navigation, Kunming expresses its ambition of opening up to the outside world”, the story contains many facts and political clues that help to decipher the Dianchi Lake fantasizing process. First, in 1992, the State Council approved Kunming as a ‘coastal opening-up city’, and the local government intended to use this hard-won opportunity to build Kunming into a trade and international tourism center in southwestern China - within the Southeast Asia economic sphere. As a result of this, many strategic urban plans were to be enforced, including the creation of a high-tech development zone and three international corridors linking the area to Europe, America and Southeast Asia. Also, there was a plan to merge the ethnic village, the Dianchi Tourism Resort Region and the West Mountain Garden together to form an international Southeast Asian tourism center. This

story was written in 1992. As I combed through the news produced by the X news organization over two decades, it gradually occurred to me that dinosaurs, archaeological evidence, Zheng He, the Flying Tigers, the Southern Silk Road, and many other new elements, were all exotica and fantasies created in order to showcase the government's ambitions, political strategies and post-development conceptualizations. This approach has now been in place for more than twenty years, during which time Dianchi Lake has become polluted, as new waste water processing factories have been built and rebuilt, new water resources have been secured, new urban development plans fashioned, and new public concerns mirrored by the media in its headlines - numerous times.

When looking at the annual National Environmental Protection Proceedings Reports written since 1992, I noticed many phrases used repeatedly, which together form an 'environmental grammar' within the government's official reports and political statements, both reflexive and auto-explanatory. In order to explore this observation, I provide here excerpts from many official news narratives written between 1993 and 2007. However, I would first like to clarify that this verbatim translation of quotes does not represent elaborative obfuscation, but simply an attempt to document the quantitative nuances, political willingness and representations contained within the textual governance framework :¹²

12 All the quotes and figures, whether officials' speeches or government reports, are taken from the X News Agency database, and can all be found on the internet as news stories.

Environmental protection is a concern to all humanity. We should adhere to the policies of economic urban and rural construction, the synchronized environmental construction plan and its enforcement, in order to realize comprehensive environmental treatment both in cities and villages. We should strengthen the environmental justice system, reinforce environmental supervision and administration; actively address industrial pollution to protect and utilize natural resources, including the land, minerals, oceans, forests, grasslands and water; according to the law.

In 1994, the National Environmental Protection Bureau stated:

Based on macro-management of the overall volume of waste, the National Environmental Protection Bureau will enforce a master plan entitled the 'China Cross-century Green Project', investing 180 billion Yuan in 1300 projects focused on the 'Three Rivers' (Huai, Liao and Hai Rivers) and the 'Three Lakes' (Dianchi, Chaohu and Taihu Lakes).

In 1996, Xie Zhenghua¹³, President of the National Environmental Protection Bureau, said:

We should focus on the treatment of pollution in the 'Three Rivers' and 'Three Lakes' areas; on acid rain and sulfur dioxide, whilst at the same time taking into account all pollution treatment projects designated by other regions and industries."

In 1996, in the document, 'Regarding Decisions upon

13 Xie stepped down in a scandalous environmental pollution case regarding Songhuajiang River in 2003 - a major international river in northern China that ends in Russia. The biggest petroleum company in China built a refinery near the Songhuajiang River and in the incident, black industrial waste from the factory poured into it, creating panic among nearby residents and also international concern. At the time, the public vehemently criticized the efficacy of Chinese rhetoric-laden measures and plans. Xie finally resigned under great pressure from both within the government and outside.

Several Problems Concerning Environmental Protection’¹⁴, the State Council said:

We have decided that governments at various levels should strengthen their water pollution prevention and treatment strategies, with an emphasis on the protection of drinking water sources. We should emphasize the treatment of pollution in the ‘Three Rivers’ and ‘Three Lakes’ areas; bolster the prevention and treatment of water pollution in other rivers, lakes, reservoirs and coastal regions.

On March 8th 1997, China’s then President Jiang Zemin, addressing the Central Family Planning and Environmental Protection Symposium, stated:

The ‘Ninth Five-year Plan’ and ‘The Synopsis of Future Development Plan to 2010’, have brought forward the requirements for the next fifteen years; so up to the year 2000, we should control the tendency towards environmental pollution and ecological degradation, with parts of cities and regions improved in terms of their environmental conditions. Then, up to 2010, we should alter the trend towards ecological and environmental aggravation; improving the environment, both in the cities and in the villages...We should focus on reducing pollution in the ‘Three Rivers’ and ‘Three Lakes’ in terms of acid rain and sulfur dioxide...

In 2004, Zeng Peiyan, Vice Premier of the State Council, said:

The Chinese government places a high premium on environmental

14 The colloquial wording of the report title is not a perfunctory translation of the original text; on the contrary, the awkwardness of the wording is famed political grammar and a political willingness statement - a style used in many critical government reports by top Chinese political figures, including the epilogue for the Cultural Revolution and the reports ushering in the ‘Opening-up and Reform’ policy era.

pro-tection endeavors and will strengthen its judicial framework, developing a strong economy and making technological breakthroughs to build an economized society...to strengthen the treatment of pollution in the 'Three Rivers' and 'Three Lakes', reduce acid rain and sulfur dioxide levels, improve Beijing, the Bohai Ocean, the Three Gorges Dam area and the South-North Water Transfer regions.

It is worth mentioning that the media entities (from X news organization in this case) and narratives that I quote here in great detail are of great importance within the Chinese political circle which, more often than not, is symptomatic of the subtle changes and adjustments taking place within the Chinese government policy framework. Many official reports and government gazettes are transmitted and promulgated by X unabridged, and national government newspapers are all required to carry original reports, or only slightly edited articles, to the designated time and even the designated page. Accordingly, in this sense, any analysis of the reports and narratives produced by X helps accurately portray the hidden narratives and implications found within government and official texts, revealing textual governance in action; however, the phraseology used is based on the following two theoretical considerations:

First, the environmental milieu, public opinion, the media and government counter-measures, plus the enforcement of these measures and their effectiveness, are all incorporated within an enclosed narrative which may be reproduced at

any time, and in which facts may be reinvented, lies become the truth and the truth become lies, with the resulting media constructed scenarios representing an external form of the aforementioned textual governance process.

Second, once the texts, newspeak and phrases have been invented, they are not changed or rephrased, but simply regurgitated as official, political statements (known in Chinese as tifa – new points made by officials), even though in reality these approaches may have already failed. As a result, one is constantly witnessing slightly different tifa – as one version is replaced, mentioned less or fades out once its shelf life has expired or as the textual governance (its structure and content) is rearranged. Within the Chinese political arena, much attention is paid to minutiae in terms of any changes in tone or nuance of the wording used, rather than any ‘real’ changes introduced, and in this sense, the textual governance ebbs and flows like water, changing in volume, color and sound, and yet not changing in any meaningful sense; it is simply marked with different temporal notes and demarcations.

As described by James Joyce in his *A Portrait of the Artist*:

And from here and from there through the quiet air the sound of the cricket bats: pick, pack, pock, puck: like drops of water in a fountain, falling softly in the brimming bowl.

In this sense, we can approach the textual governance as new governmentality technique; people who govern as

liquid modernity prevails can use this to negotiate the way out from the 'Impossible Trinity Trilemma'. The textual governance somehow created a new dimension of space and time, which could be used for media exposure, public deliberation, manipulation of future and virtual social capital accumulation. When people visit government funded Urban Planning Museums in Kunming, or read media coverage of socialist construction, all they are really gazing is a theoretical and conjectural development doxa (the unexamined/self referential frame for all further cognition), an ideal metropolis existed in bī'an (the other shore) and an imaginaire. Through textual governance, an imaginary line, people who wield 'solid' powers can evade the theorem of liquid modernity, so the modernity of fluid can sustain a tangential or shearing force when at rest/reality descends.

In order to explore this textual governance process in more detail, I will now discuss the case of the water hyacinth, as grown on Dianchi Lake.

IGNOLEDGE: A CRITICAL VIEW

Drawing on the aforementioned concepts of textual governance and political bī'an, ignoledge can be addressed using a three-dimensional approach, and before I elaborate on the details of this, allow me to delineate the basic structure of this concept. First of all, ignoledge is a power that goes to the core and is convoluted with such concepts as modernity, development, politics, ecology, eco-politics

and environmentality. Second, textual governance involves the manipulation of temporal and spatial dimensions through the juxtaposition of different decisions and strategies by the ruling powers and political entities, and third, political bi'an is a socially synchronized imaginative praxis which amalgamates the local, the meritocracy and authoritative knowledge together, eventually contributing to the realization of textual governance and the genesis of ignoledge.

As Steven Lukes describes in his book *Power: A Radical View*, the “three-dimensional view of power as a critique of behavior focuses on (a) decision-making and control over the political agenda; (b) issues and potential issues; (c) observable (overt and covert) and latent conflict and; (d) subjective and real interests.”¹⁵ To contextualize this analysis, ignoledge is also a power that cannot be dissociated from decision-making and control over the political agenda, and can be used to address contestations between different countries or interest groups within countries. Moreover, it is oriented towards an effort to revive a past prosperity, to erase a historical stigma and to usher in a socialist renaissance in a comprehensive way, and all current and potential issues, and overt and latent conflicts, may be addressed through this packaged ‘knowledge’. In the end, the use of ignoledge realizes many goals, these being:

(i) the domination of power and its manipulation over resources,

15 Lukes, Steven. 2005. *Power: A Radical View*. Second expanded edition published by Palgrave Macmillan, New York, USA.

(ii) the capability to harness organizational and physical power to its own ends,

(iii) the compliance of previously discordant voices from the non-governmental sphere, and (iv) the production of power.

According to Foucault, when compared to repression, “production” is positive in the sense that it “traverses and produces things, it induces pleasure, forms knowledge, produces discourse and more specifically, it produces ‘subjects’, forging their character and normalizing them.” The transfer of water from the Three Parallel Rivers area might eventually be conducive to the expansion of Kunming and the ‘Dian civilization’, strengthening their influence within the Greater Kunming region and realizing the seafaring dreams of Zheng He and his journeys across the Kunyang Ocean (Dianchi Lake) and beyond, a mentality which lives within local people and local political ambitions. In ‘The Anthropology of Power’, Angela Cheater summarizes the inconsistency of Foucault’s descriptions of power, by drawing-upon another definition of power given by Foucault; “Power in the substantive sense, le pouvoir, doesn’t exist...power means...a more-or-less organized, hierarchical, co-ordinated cluster of relations.” Coincidentally, we can see in the structure of ignoledge, a combination of the following, opposing elements:

(a) local knowledge;	authoritative ambition
(b) indigenous narratives;	technological narration
(c) regional contestation;	intra-organizational competition
(d) historical glory;	socialist narration
(e) community-based profit;	collective good and public good
(f) grass-roots rural economic prosperity;	provincial and urban prosperity
(g) governmental knowledge production;	non-governmental knowledge subordination
(h) backwardness;	modernization
(i) pastoral nostalgia;	socialist ecological civilization
(j) <i>ti</i> (agriculture as 'substance');	<i>yong</i> (high technology as 'function')
(k) communal well-being;	socialist harmonious society and great unity

All the listed elements follow Foucauldian principles; that is, the organization, hierarchical structure and co-ordination of different binary relations and oppositions, as demanded by 'the power' and held within the organizational and governmental system, are never alienable or transferable, and this leads us to the textual governance seen here in relation to the environmental problems of Dianchi Lake and the local use of political *bī'an*. Here, all the different strategies used, those which correspond to different and even contradictory goals, may be accomplished simultaneously, based on a collective utopia in which, theoretically, everyone is happy with the results.

By creating the new phrase and concept of political *bī'an*, I can describe the large amount of scientific and endemic knowledge being incorporated into a final theoretical structure, that which constitutes the essential fiber of

ignoledge. In addition, the construction of political bi'an allows for, at least superficially, community participation, peer review, empowerment, and a "people-focused approach...listening to the voices of the poor", as described in *Empowering Ambiguities* by Wendy James¹⁶; who points out that "on the evidence of the Oxford English Dictionary (1971), 'empower' as a verb is, in itself, not new, but well established, having, since the seventeenth century, meant 'to invest legally or formally with power or authority; to authorize, license', or 'to impart or bestow power to an end or for a purpose; to enable, permit'." ¹⁷The political bi'an, in this circumstance, is also used to empower the public, to justify the ignoledge and to facilitate the textual governance; it imparts or bestows power to ignoledge and enables textual governance. Those suspicious of ignoledge are particularly alarmed by the "hazards versus providentiality" situation, as defined by Ulrich Beck in *Risk Society and the Provident State*, hazards resulting from the decisions made (in a residual risk society).¹⁸

"The entry into a risk society occurs at the moment when the hazards which are now decided and consequently produced by society undermine and cancel the established safety systems of the provident state's existing risk calculations."¹⁹As Ulrich Beck has said, with the advent of a risk society, it is critical to adopt reflexive modernization, which contains two elements:

16 Ibid. Lukes, Steven. 2005. *Power: A Radical View*: p. 13. Second expanded edition published by Palgrave Macmillan, New York, USA

17 Ibid. p. 14

18 Edited by Scott Lash, Bronislaw Szerszynski and Brian Wynne. 1996. *Risk, Environment and Modernity: Towards a New Ecology*: p. 32. London: SAGE Publication Ltd.

19 Ibid. p. 31

- (1) the reflex-like threat to industrial society's own foundations, through a successful further modernization which is blind to dangers, and
- (2) the growth of awareness and the reflection on this situation.²⁰

The most problematic part of ignoledge is the fact that it is not self-critical, but self-worshipping and self-reverential. Political bi'an strengthens ignoledge as a power through moral and aesthetical justification, and the "scientific" aspects of textual governance merely reinforce ignoledge through technocratic and theoretical calculation.

Drawing on Charles Perrow, Ulrich Beck demonstrates that "science is no longer an experimental activity without consequences, and technology is no longer the low-risk application of secure knowledge. Science and technology produce risks in carrying out the experiments and thereby burdens society as a whole with managing the risks."²¹

The desire for a secure future, as envisioned by the downtrodden, is held at bay by the irrefutable political bi'an and knowledge of the meritocracy, as manifested in innumerable strategies and as represented in textual governance, and in this sense, the advent of ignoledge is when the "darkest darkness prevails"²².

First motivated and empowered by a prosperous and glorious history that can be dated back over 2000 years,

²⁰ Ibid, p. 34

²¹ Ibid, p. 36

²² Ibid, p. 38

and by a seafaring hero who allegedly circumnavigated the globe in 1421, it seems that the New Urban Kunming Plan, interwoven with a multi-centered, multi-dimensional Yunnan, will definitely embark on a voyage of magnificent grandeur. However, the vessel on which these dreams are carried may be a rocket or simply a 'Ship of Fools' (narrenschiff).

EPILOGUE: SOUND FUNERAL AND SCRIBED AQUA-WORLD



A neat white scroll might uniquely represented hereby as symbols of free running rivers – ebbs, flows, ripples, torrents – while juxtaposed with calligraphy writing an ancient document concerning lakes and rivers in China, evokes an ephemeral water world on the wane due to human activities.

With this in mind, the words scribed pertain soundless epitaphs to the once rippling waters, the desire to register rivers as a concrete and finite aquascape might be underpinned by reminiscences, remembrances and an agenda closer to conscription than to mere inscription.

Thus, calligraphy writing in this setting, as accompanied by the music dubbed Tears to Rivers has been created to reawakening the dead souls of vanished rivers, through actual media of sound, paper, brush, ink and a white and black spaces replete with installations about rivers and mountains.

In so doing, this project not only seeks to address the desiccation and decease of Chinese landscape/aquascape and its consequences but hints at a larger social question: if we bury dead people in rippling rivers and mountains, how shall we entomb deceased rivers and mountains when the flows defunct and peaks decapitated?



(Among other calligraphy and archives installations, a seven-meter tall dinosaur skeleton fossil has been used as a vivid mental note -- amid eleven perpendicular scrolls linking the roof to the floor -- to a “fin de siècle” scene when a macabre justice prevails, due to human being’s incessant pollution of man-made objects and projects in the epoch of anthropocene.)

Prior to the performance, Zhou Lei spent one week mimicking the calligraphy of Yi minority, used by local ritual master as mantras to guide the dead souls back to their ancestral places. Yi minority, claims themselves originally thrived in northwestern mountainous regions where several Asia’s great rivers begin (such as Yellow, Yangtse, Lancang, Mekong, Irrawaddy, Salween, etc.), gradually migrates through inaccessible forests, ravines, mountains dotted

along the river courses, into comparatively humid and sultry southwest China and beyond. In the death ritual, local Yi master marshals a wide variety of techniques to guide the dead souls back to ancestral places, by naming many concrete names of rivers, lakes and mountains.

In his doctoral research, Zhou Lei explores one lake pollution case in southwest China which used to be populated by Yi minority and through collecting local photography, texts, drawings, rituals, sculptures, storytelling – engages in anthropological aspects of their daily life and “longue durée”, these materials shed light on the creative elements inherent to the various methods of knowledge production, power contestation and narrative concoctions.

Originally used as documents to address the reality of Chinese landscape and to establish genealogical order of mountains and rivers as controlled by different clans and tribes of human being, the dust-covered archives inadvertently can be reinterpreted as a Sutra Book for Dead Rivers. Accordingly, the vivid recounts and narratives about rivers and mountains can be served as soteriological clues to guide the dead souls of deceased rivers and mountains. Almost represented in all landscape settings in China, the entire eco-system of mountains, rivers, roads, trees, animals and plants has all been convoluted and sub-categorized into a human centered genealogical system. The rivers and mountains, both as natural entities and mythological phenomenon, all have been transfigured from a certain

human being that have attained martyrdoms or divinities and the deities of rivers and mountains could be rejuvenated, infuriated, satiated and reincarnated as corporeal entities to subdue human's efforts to challenge the divine order.

In Chinese history, the emperors all have chosen themselves to be the supreme governors of mountains and rivers, paying rigid and continuous tributes to the invisible mountains and rivers divine system through rituals and institutions, and readily attentive to the orders and divinations sent by Landscape Deities. Even the deaths of emperors are specifically addressed as “collapse of mountain” for verbatim.

Hence, in this project, the calligraphy writing of Book of Rivers is a scribed format of death ritual for the recently deceased 28,000 rivers, with the advent of People's Republic of China in 1950s.

FROM AMITABHA BUDDHA MANTRA TO TEARS TO RIVERS:
RECURRING SOUND OF TRIBULATION.

In Oct, 2013, Dou Wei unveiled a bizarre music disc dubbed as Amitabha Buddha Mantra, which is fraught with black death metal beats, rhythms, loops, solo riffs and sudden burst of auditory torrents produced by guitar and repetitive, swine-like howling – as if one desperate man yells out mantras out loud while being incarcerated in a sealed dark box buried underneath deep water.

“Because of the title, many people tend to think it must be inspired by reading Buddhist books, actually, what made me to compose this music is one environmental news, when the Huangpu river afloat with dead bodies of pigs in Shanghai,” said Dou Wei in an exclusive interview with Zhou Lei.

In Buddhist concept, after a person dies, before he is reborn, he becomes a Chung-ying-shen, which is an intermediate existence between death and rebirth to the next life. When ordinary people die, they are not immediately reborn. Between death and their next birth, there is a short period of one to 49 days, during which the soul is of a dark gaseous form. It is invisible to the ordinary people at large, and is a mind-consciousness without a physical body.

According to him, coincidentally, many of his music have dealt with eco-degradation issues in China ever since 1998, “Before you invited me for this eco-art event, I am just composing another music pertains China’s dead rivers,

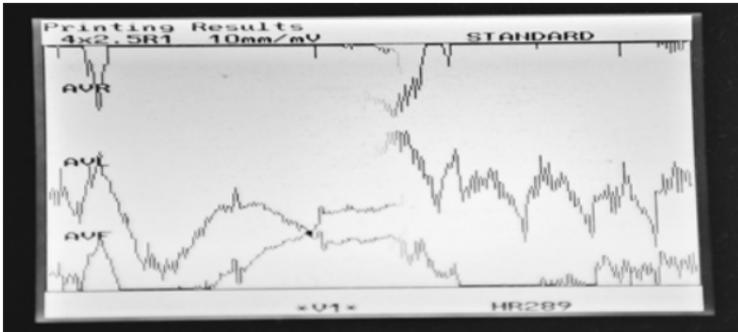
when I read the news that hundreds of thousands rivers in China just died out ever since 1950s.”

In 1998, Dou Wei released one music album named Mountains and Rivers (Shanhe Shui), ambience art style auditory narratives, blending music played by traditional Chinese musical instruments with midi fusions of natural sounds, recitations, noises. In Jan. 2014, he purposefully use a synonym to name his album again as Shanhe Shui – but written in different characters meaning Tears to Rivers – and choose to perform behind a screen, with only his silhouetted shadow visible to a roomful of ardent fans who are obsessed with his charismatic rock & yell style during 1990s and desperate for the need of visually entertained.

“What we are doing is Tele-view and to contemplate the eco-disaster without immediate visual aids but auditory narratives; the music is used as archives and calligraphy writing as mental notes, the whole combinations of installations, music, calligraphy writing will be a death ritual for dead rivers and mountains,” when I explained the curating concept to Dou Wei, he ungrudgingly concurred.

During the 50 minutes ritual performing, we used another installation to visualize how decadence of landscape will wreak psychological havocs on corporeal bodies – by linking electrocardiogram equipment to one audience on four special acupuncture joints, named as Lie Que (near arm wrist, means juncture point of sky where lightening

strikes and it's also a cleavage point of master water course that corresponding to Lung Meridian) and Kun Lun (near ankle, which means the premium Kun Lun Mountain deity – quintessentially important God in the pantheon of all mountain deities).



(After traversing the corporeality of human “geographical body”, the ritual produced over 30 meters electrocardiogram of landscape decadence and visual dialogue on dead rivers.)

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Graduated from London School of Economics, Hopkins University Nanjing Center and Yunnan University, finally with a doctoral degree in anthropology, Zhou Lei focuses on South-South cooperation, environmental politics, media issues and geo-political contestations. As an environmental campaigner, he co-founded (together with Petras Shelton Zumpano and many others) an independent think tank Oriental Danology Institute, focusing on researches pertaining to World Water Source Summit, environmental innovative design and botanical imaginations of global agricultural risk society.

Water Conservation Advocacy: Reflection upon the interstellar ecological regime in BRICS apparatus

Petras Shelton Zumpano

Petras Shelton-Zumpano is currently completing a PhD at the University of Melbourne, where he focuses on risks analysis, GMO soybean plantation, South-South cooperation, development anthropology and Amazonian society.

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The aim of this presentation is to report on the research and advocacy of the Oriental Danology Institute (ODI), an environmental education network based in Shanghai. However, before highlighting the role of the ODI coordinating this annual World Water Source Summit and reporting on other activities, we will outline two global challenges associated with the Water-Food-Energy nexus. The first challenge is to improve the governance of risks generated by commodity chains that depend heavily on water resources. The second challenge is to mitigate mistrust between developing and developed countries in transnational water risk governance and in technical cooperation projects related to water sustainability.

Processed food products made out of irrigated soybeans,

sugarcane and other crops produced for international markets are associated with a large “virtual water” trade (Allan, 1998; Hoekstra & Hung, 2005; Lathuilière et al., 2014; Flach et al., 2016), which refers to a hidden but essential input, the water embedded in commodities traded across borders. The global virtual water trade is associated with many social and environmental risks. A faultline of mistrust across the global North-South divide complicates transnational cooperation to mitigate these risks. Helping to build trust in transnational water risk governance, the World Water Source Summit is an example of an embryonic solution to mitigate risks.

Following an outline of these global water governance challenges, we will conclude the presentation with two proposals or solutions. The first is the creation of a transnational water sustainability centre to promote research, advocacy and cooperation between Chinese, European and Latin American stakeholders. This proposal has already been discussed during previous editions of this conference and a concept note is available for those who are interested. The second proposal is a technical cooperation project, coordinated by that new institution, to prevent water conflicts in rural regions involved in the Brazil-China virtual water trade. Both of these proposals build on the networking of water experts, bureaucrats and technocrats during the various editions of the World Water Source Summit.

Activists and researchers are increasingly drawing attention to the negative impacts of the virtual water trade. Political scientists and international relations scholars, who usually devote their time to investigate the interaction of states and multinational corporations are increasingly highlighting the importance of intellectuals, scientists and activists. Constructivist theorists of global politics emphasise their role shaping culture, identities and intersubjective understandings. Ruggie (1975), a founding father of constructivism in international studies, coined the term epistemic communities to refer to transnational institutions that “delimit, for their members, the proper construction of reality”. They usually emerge from scientific, technocratic or bureaucratic networks and are based on philosophical paradigms or shared scientific beliefs and understandings. These communities shape risk perceptions and the institutionalisation of cooperation or conflict. The policy makers and business executives who self-identify with epistemic communities often have an intellectual or scientific background.

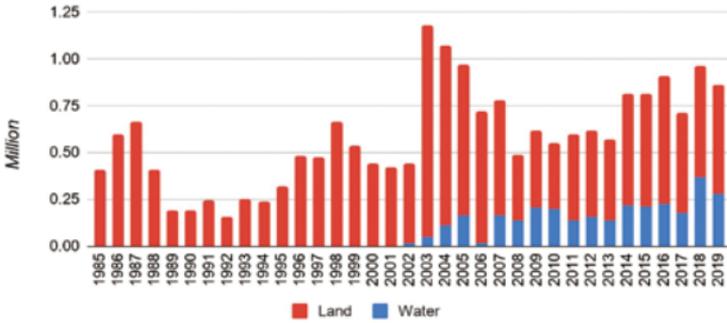
In addition to epistemic communities, constructivist political scientists have also drawn attention to the transnational advocacy networks constituted by activists, unionists and devotees to coordinate, across borders, their social, cultural or labour movements (Keck & Sikkink, 1998). Relations of trust and cooperation between organisations in the global North and South are complicated by history.

Advocacy networks in developing countries are often reluctant to trust activists based in developed countries (Keck & Sikkink, 1999). This reluctance has deep roots in historical conflicts.

The Opium Wars and the “hundred years of national humiliation” are not easily forgotten in China, expat Westerners in the country are still sometimes denounced for their Eurocentrism, ethnocentrism or biased “Orientalism” (Said, 1978). In a similar manner, Latin American descendents of slaves, surviving indigenous populations and their allies are concerned about the contemporary legacy of colonialism and enduring power asymmetries in global politics. This sometimes induces them to display an attitude of mistrust towards the internationalism of networks based in the North, which is often questioned, in both China and Latin America, and sometimes dismissed as foreign intervention. Local activists, researchers and opinion formers are concerned that foreign capital often aggravates enduring conflicts over the control of land, water and other natural resources. Progressive movements within the Catholic Church in Latin America monitor these conflicts. The following graph refers specifically to Brazil and, from 2002 onwards, includes indicators of water conflicts.

Number of Brazilians involved in land and water conflicts from 1985 to 2019 (million per year)

Source: National Conference of Brazilian Bishops - Pastoral Land Commission



Several epistemic communities focus on the nexus of water and environmental sustainability, generally aligning themselves with the global environmental movement. In this regard the climate change epistemic community is one of the most important. It has contributed to the institutionalisation of the global climate change regime drawing attention to the impact of greenhouse gas emissions on water scarcity and food security. However, cultural memories and national identity contribute to mistrust between members of this community in developing and developed countries (Lahsen, 2004). The global North-South axis is a major faultline of mistrust. This faultline also affects the biodiversity conservation epistemic community and the international regime formed by this community (Inoue, 2007). The “big three” conservation organisations, WWF, TNC and CI, have been working in China for

decades but there are people in the country who question the intentions of expat environmentalists, particularly those working in sensitive border areas with ethnic minorities (Hathaway, 2016).

On the one hand, transnational advocacy networks should be applauded for promoting environmental risk governance in China, while also helping local ethnic minority activists to establish relations overseas with indigenous communities and other potential allies. On the other hand, many of these networks have projected their own understandings of environmental stewardship and “indigeneity” onto Chinese ethnic minorities. They have also failed to build enduring relations of trust with local regulators, undermining themselves.

In the last decade or so the co-founders of the Oriental Danology Institute (ODI), Zhou Lei and Jingjing, have on many occasions interacted with expat environmentalists working in China, inviting some to collaborate on environmental education projects, such as the World Water Source Summit. Unfortunately some foreign environmentalists have alienated groups that they associate with pollution, trying to convert them without enough dialogue and without persuading them of the need for strict environmental rules and penalties. This has contributed to their isolation and reduced the efficacy of their advocacy in China. It would be smarter to engage regulators and local communities with diverging views about environmental

governance rather than alienating them.

While carrying out fieldwork in Brazil in 2013 and 2018, Zhou Lei investigated the virtual water trade with China and discovered that many of the problems that he faces in his daily work life due to mistrust between local and foreign activists were also present in Latin America. He learned that the expansion of eco-Indian alliances in Brazil has also been perceived with suspicion, in particular by military and agribusiness groups (Conklin & Graham, 1995). These alliances of indigenous and environmentalist movements have contributed to increase the number and size of environmental conservation units, indigenous territories and other protected areas in the last few decades but they have not been able to substantially reduce the intensity of conflicts over land, water and other natural resources.

In the capital of Brazil, the Oriental Danology Institute (ODI) engaged some centre-left political parties that support these eco-Indian alliances and have direct and official relations with the Communist Party of China (CPC). Within one of those Brazilian political parties there is an indigenous movement. The leader of that movement is tired of foreign organisations and their local allies who allegedly defend indigenous rights and environmental conservation but take away the protagonism of traditional communities, speaking on their behalf without proper consultation. He is hopeful that the tradition of South-South cooperation between developing countries will help to build trust in a

new project designed with Chinese partners, a technical cooperation project coordinated by the ODI in Shanghai to improve the water sustainability of Chinese agricultural imports. The aim is to improve water stewardship practices in soybean and meat producing regions neighbouring indigenous territories, where disputes over land and headwaters are aggravated by pesticide runoff, aerial spraying and unsustainable export crop irrigation (Turner & Fajans-Turner 2006; Brondizio, Ostrom & Young, 2009; Schwartzman et al. 2013; Verdun, 2017).

National governments around the world are increasingly being held responsible in global supply chain politics for their extraterritorial impacts (Macdonald, 2014). The key question is the following, who is to blame for the social and environmental risks generated by the foreign investments of private and state-owned multinational corporations? Activists increasingly blame governments and regulators not only in the country that receives the investment but also in the country where the multinational is headquartered, the home jurisdiction of the foreign investor, even if those risks are extraterritorial. The principle of non-interference and the value of sovereignty in China make this type of reasoning less common but environmental educators and consumer advocacy networks, such as the ODI, are increasingly aware of the potentially negative environmental and social impacts of the virtual water trade embedded in imported food and metal commodities.

Given this awareness and the ethical imperative of non-interference, alternatives to “hard” or traditional regulatory strategies become more appealing, such as self-regulation, voluntary sustainability standards, certification, soft laws and other “gentle” approaches in global environmental governance. The “going out” strategy of policy makers in Beijing has been interpreted by some people in developing countries as a contemporary type of imperialism or tool to impose neo-colonial subordination. It is somewhat understandable given that these people are predisposed by cultural memories of imperialism and colonialism. Most Chinese citizens easily understand the concerns of other developing countries by thinking about historical relations with Europe and the “hundred years of national humiliation”. This historical context affects the transnational institutions that are emerging to improve the governance of water resources.

Petras Shelton-Zumpano was very happy to meet Malika Virah-Sawmy at an annual conference of the Round Table on Responsible Soy (RTRS) because her goals as a scientist based at the Free University of Berlin (FUB) are very similar to those of the Oriental Danology Institute (ODI) in Shanghai. She is investigating how to overcome the “sustainability gridlock” in the soy and meat food system (Virah-Sawmy et al., 2019), which is extremely water-intensive. Building trust between system stakeholders is key. Her scientific partners and the advocacy networks that she

belongs to support the market governance institutions that have emerged in the soy & meat food system, such as the China Meat Declaration, seeking to continuously improve them while also promoting awareness in government and intergovernmental institutions (Kehoe et al., 2019). A key improvement they propose to resolve the sustainability gridlock is a new form of network governance to foster trust-building through knowledge sharing, socialisation and learning about the mental models of governance stakeholders.

Even before the outbreak of Covid-19, Malika Virah-Sawmy already argued that biased attitudes towards China were rampant in the conservation community due to news about wildlife crime and the extinction in the wild of the “Amoy tiger”. She highlighted that Taiqichuan and Qigong are fashionable in the West but their deep historical roots in Daoism and beautiful Chinese traditions of environmental consciousness are usually ignored. These traditions could be harnessed to “untie the knot” of the sustainability gridlock in the virtual water trade between China and Latin America. Her perspective is broadly compatible with the objectives of the Oriental Danology Institute and of the World Water Source Summit, to promote environmental education inspired by Daoism but adapted to cultural patterns of “virtual water” consumption and regulation in China and abroad.

The Oriental Danology Institute (ODI) has for many

years hosted the World Water Source Summit in cooperation with the Shanghai office of the Konrad Adenauer Foundation (KAS), which is based in Berlin. This presentation highlights that the expansion of this ongoing cooperation could help to consolidate a transnational epistemic community focusing on the water-food-energy nexus, connecting Chinese, European and South American researchers and activists already engaged in the soy-meat food system.

The Konrad Adenauer Foundation (KAS) recently supported research on inter-party diplomacy between the Communist Party of China (CPC) and its counterparts in Latin America (Cardenal, 2021). This research report was published as part of the “Political Dialogue” project within the Regional Political parties and Democracy in Latin America Program (KAS Partidos), which aims to reduce political polarisation and “to strengthen the political centre from its Social-Christian, Liberal and Conservative roots”. In many countries polarisation has led to widespread mistrust and the intensification of conflicts between the extremes of the political spectrum. The report emphasises the affinity of the CPC with leftist political movements in Latin America but it draws attention in particular to the broad and open approach to dialogue evident in the official relations of the CPC with the Liberal-Conservative Union of Latin American Parties (UPLA) and with the Christian Democrat Organization of America (ODCA).

Among the Latin American centre-left organisations with close relations to the CPC, highlighted in the report are the progressive Permanent Conference of Political Parties of Latin America and the Caribbean (COPPPAL), the leftist São Paulo Forum and the Socialist International. The CPC invests heavily in study and exchange missions to invite foreign party cadres to participate in learning activities that have a trust and confidence-building character. Similarly the Konrad Adenauer Foundation (KAS) of the Christian Democratic Union seeks to build relations of trust with state and non-state institutions abroad. The aforementioned report focuses to a large extent on inter-party relations but the gradual emergence of transnational advocacy networks connecting allied Chinese and Latin American social movements is also of great importance. Global governance is increasingly characterised by relations of trust and cooperation across sectors, between states, markets and civil society.

Global water governance and the virtual water trade have increasingly been affected by political polarisation and by relations of mistrust between water basin stakeholders who fail to understand each other and to accommodate differences. Building relations of trust and cooperation in water governance institutions requires the ability to mediate polarised worldviews and to overcome conflicting perceptions of risk. Understanding the social and political philosophies of both allied and rival stakeholders in water

governance can make it easier to find a “middle-ground” of cooperation and collective action. Mapping and monitoring worldviews can be labour-intensive but it supports trust-building and risk analysis in governance.

The water innovation and advocacy centre being proposed by the Oriental Danology Institute (ODI) would draw on a decade of organisational learning promoting water sustainability through cooperation between public, private and civil society organisations. This presentation is a call for support so that the ODI can continue to facilitate inter-party and dual track diplomacy, fostering epistemic communities and advocacy networks concerned about water sustainability. In addition to seven editions of the World Water Source Summit, the ODI has also organised field trips to visit water sources and corporate learning programs. Building trust between transnational advocacy networks and Chinese social movements concerned about water is both the goal and the method.

Perhaps again in collaboration with the Shanghai office of KAS, the ODI would also like to help improve water stewardship practices in soybean and meat producing regions neighbouring indigenous territories in Brazil and Latin America, where disputes over land and headwaters are aggravated by pesticide runoff, aerial spraying and unsustainable crop irrigation. This project would aim to build trust between local and foreign stakeholders in water basin governance, helping in particular Chinese and

European investors and commodity traders to reduce their exposure to natural resource risks.



Yang Yong is an independent geologist who studies mountainous areas in western China, venturing to locales other researchers either have not or dare not. Yang is shown here on the Qinghai-Tibet plateau, also known as “the Roof of the World”. As geologist, explorer and environmental activist, Yang Yong leads numerous expeditions to the source of the Asia’s great rivers and glaciers, to monitor the scale of the damage caused by climate change on the Tibetan plateau and the degradation at the headwaters of Asia’s water towers.

He is the leading scientist of World Water Source Summit and co-founder of academic committee, WWSS.

Geology expert Yang Yong on the challenges facing China's most controversial dam projects

BY MULAN ON JANUARY 5, 2012

Dauntless geologist and explorer Yang Yong sits down with Three Gorges Probe to discuss the appeal and risks of dam construction underway in a remote, quake-prone region of Tibet, the suspension of Myanmar's multibillion-dollar Myitsone dam, and the ongoing challenges facing China's massive South-North Water Diversion Project.

By Mu Lan for Three Gorges Probe

Yang Yong is a well-known Chinese geologist and explorer – and, as his business card says, an independent scientist. On November 6, 2011, Mu Lan, the editor of the Chinese-language Three Gorges Probe, interviewed Yang at his home in downtown Chengdu.

Mu Lan: I have been to China several times in recent years, but never had a chance to meet you because you are always traveling here and there – so, in fact, this is the first time we have met. Let's start by discussing an interview with you in China Dialogue: it appears to me, from that interview, that you are in favor of building hydro dams on the Yarlung Zangbo river in Tibet, in the belief that dam-building would have little impact on the countries downstream, especially in

terms of altering the water flow.

Yang Yong: I talked about the issue in a lot of detail in the China Dialogue interview. Construction on the Zangmu, the first hydro dam on the Yarlung Zangbo, has already officially started. This caused concerns about water flow in downstream countries, especially India. But I think there is no need to worry about it because the water flow of the Yarlung Zangbo at the Zangmu dam counts for only 30% of the total discharge of the river. According to the government's plan, nine more dams will be built below the Zangmu dam, taking advantage of a 2000-metre drop in elevation. A 20 km long tunnel will be built so that the water can be channeled to the nine power stations which will be on a tributary of the Yarlung Zangbo. Actually, the plan will not impact the water flow downstream very much, because the water flow of the Yarlung Zangbo at the point where the water will be channeled by the tunnel (at a 400-kilometre-long stretch known as the "Great Bend") counts for only 50% of the total discharge of the river which eventually flows into India. It is common sense that water backed up by a hydro dam will eventually go through the turbines and be returned to the river's flow. So, for this reason, we don't have to worry about a reduction of the water flow. This was why I said that dam building in this area would have little impact on the water flow downstream.

ML: So you believe that building hydro dams on the Yarlung Zangbo is a great plan?

YY: From the point of view of hydroelectric generation, this plan is very attractive indeed. This river section has the largest hydroelectric generation potential of anywhere in the world.

But, to tell you the truth, I am really concerned about two things: one is the geological risks, and the other is biodiversity. On the Yarlung Zangbo in general, and the 400-kilometre-long “great bend” section of the river, in particular, geological conditions are really complicated. My biggest worry is that dam-building is likely to cause geological hazards, especially seismic activity. And with its high mountains and deep gorges, the Yarlung Zangbo valley has rich and unique biodiversity but the environment is extremely fragile. I believe that more scientific and comprehensive studies (of the impact of dam building on biodiversity) are needed. Dams in general, and the construction activity in particular, will surely bring destruction to this biodiversity.

ML: On another river, not far from the Yarlung Zangbo, the Myitsone dam which is being built by a Chinese power company in Myanmar has been suspended. What’s your opinion about that?

YY: This June, Dr. Yu Xiaogang and myself, as representatives of Chinese NGOs, traveled to Myanmar with representatives from the Chinese Ministry of Commerce, intending to do an investigation and study of Chinese

enterprise investments there, including hydropower projects. But, unfortunately, military conflict at the time prevented us from reaching our destination.

Our inspection team travelled to Yangon, Mandalay, Rakhine and other places, meeting with local NGOs, representatives of communities, ethnic minorities, industry associations, the media, as well as Chinese companies' workers. We also examined projects funded by Chinese companies that were under construction. But we cancelled a planned trip to the Myitsone hydropower dam because of armed conflict in the Kachin area.

Our investigation focused mainly on the impact of hydropower and oil and gas investments by Chinese companies in Myanmar, and especially on the impact of those projects on local communities. We listen to all parties who voiced their views on the projects and had intensive exchanges with all the parties there. Our team concluded that given all of the investments in Myanmar, Chinese companies should pay attention to the core interests of local people, attach importance to the environmental and social impact assessment, and conduct conflict risk assessment so as to properly handle the relationship between the government and people in Myanmar. Our team also called for exchanges and cooperation between Chinese and Burmese NGOs, in an effort to promote the sustainable development of both the host country and China's overseas enterprises.

Our inspection team also believed that for Chinese companies to achieve their goals, in addition to careful planning and scientific assessment of their investments, they should fulfill their social responsibilities, establish a good reputation by developing a good understanding of the political and socioeconomic conditions in Myanmar, and deal wisely with a changing international environment.

ML: Let's go back to the South-North Water Diversion project, which you have monitored for so many years. Before we talk about the west route, which you have traveled, investigated and studied for decades, can you give me a bigger picture of the two other routes, the east and central ones?

YY: The biggest challenge facing the east leg is water pollution. According to reports, at least 60 billion yuan (US\$ 10 billion) is needed to deal with water pollution. And hundreds of billions of yuan will be needed to complete the east leg, including restructuring industry to eliminate pollution and manage the Huai River valley environment. As we all know, billions of yuan have been spent trying to solve the water pollution problem in the Huai valley, but with little effect. So I doubt whether the problem of polluted water in the east route can be solved.

The main problem with the central route is that many variables have surfaced in the construction of the project. For example, Hubei Province is planning to build a canal

to transfer water from the Yangtze River to the lower reaches of the Han River to replace the water diverted upstream for Beijing, while Shaanxi Province, upstream of the Danjiangkou Reservoir, is planning to build projects to transfer water from the Han River to the Wei River (a tributary of the Yellow River). Doing so has pushed the central route into a vicious cycle similar to “tearing down the east wall to repair the west wall.”

Meanwhile, local governments along the canal can't afford to match the budget provided by the central government[i]; water pricing has become a thorny issue in the areas that will receive the southern water; and compensation for ecological damage in the Danjiangkou reservoir area, and the region along the canal, is not really going well, and so on and so forth.

ML: We have not heard about the west route for some time, what's going on with that leg?

YY: This is a big topic, so let me put it in a very simple way: based on our intensive study, we have discovered at least seven issues facing the west route. First, geological conditions in this area are unstable, with frequent geological disasters[ii]; second, temperatures drop below freezing for six months of the year making it difficult to keep the water flowing during this period; third, more than 1,000 km of tunnels, traversing as many as five watersheds, will have to be built in order to divert the water, making construction

technically very challenging; fourth, the region from which the water is to be diverted is one of the areas most affected by climate change – where glaciers and river systems are retreating, and other environmental deterioration is occurring – which may lead to the sharp drop in water flow, making it difficult to transfer sufficient amounts of water; five, the water diversion would impede full capacity operation of a number of hydro projects downstream; six, large areas of land and pasture, as well as villages and temples, would be inundated with the construction of high dams and big reservoirs in the Qinghai-Tibet Plateau; and seven, the issue of compensation and environmental rehabilitation for the area from where the water will be diverted remains unresolved.

ML: So what stage is the project at now?

YY: As far as we know, the original plan to start the project in 2010 has been halted while the feasibility of the project is revisited. As you said, we independent researchers have been studying this project for years, and published a number of books, reports and articles on different aspects of the western route and now we are working on an overall report about the western route.

Apart from that, we are also planning to publish a two volume book entitled *Western Rivers Report*, with one volume focusing on rivers in west China that flow to the sea, and another focusing on inland rivers in west China.

At the moment, every power company and every power station in the upper Yangtze is trying to hold as much water as possible to generate as much electricity as possible. If the current situation of gezi weizheng (meaning “each administers its affairs regardless of the overall interest”) and poor coordination among the power stations continues, and severe droughts occur, we are likely to see water supply problems downstream and the drying-up of the Yangtze River.

ML: We recently posted a long report in English by Fan Xiao, who has warned that the Yangtze River is going to dry up because of the construction of so many hydro dams on the upper reaches of the Yangtze. What do you think of his opinion?

YY: The water supply of the Yangtze will be affected, especially in the dry season, once all the giant dams are completed in the upper Yangtze and if they try to fill their reservoirs simultaneously.

At the moment, every power company and every power station in the upper Yangtze is trying to hold as much water as possible to generate as much electricity as possible. If the current situation of gezi weizheng (meaning “each administers its affairs regardless of the overall interest”) and poor coordination among the power stations continues, and severe droughts occur, we are likely to see water supply problems downstream and the drying-up of the Yangtze

River.

ML: One more question: do you have any news about the Nu River? I'm wondering if construction has begun on any dams on the Nu River.

YY: People are focusing too much on the Nu River valley in Yunnan while few are aware that dams are already under construction on the Nu River upstream of Yunnan. For example, on the Nu River in Tibet, one dam project has been completed in Biru County, and another, called the Nujianggou hydro station, is under construction in Basu County.

ML: Before we finish our conversation, can I ask you a personal question? You have traveled a lot, investigated a lot and dedicated yourself to the study of China's rivers; do you have a goal, or something you're trying to accomplish?

YY: For more than 20 years in my life, I have walked and rafted so many rivers. I can tell you that for each of my river journeys I have made discoveries. I believe there is disharmony between people and rivers, so my goal is to find a way to get mankind and the rivers to live in harmony, and to find solutions, no matter how difficult the pursuit.

In China, the natural complexity of river systems, and the many ways they have benefited people, has been overlooked because, for decades, the approach to development was technical and the measures of economic success narrow.

Now we need to understand the interaction of humans and the science of rivers, and not just view the management of rivers as technical exercises.

Source of Mekong, Yellow and Yangtze rivers drying up

Liu Qin
March 14, 2017

In 2015, the Chinese government announced plans to set up a new nature reserve in the Sanjiangyuan (“three river source”) region of the Qinghai-Tibet plateau. This area is a key source of fresh water for Asia and is known for the rich biodiversity of its high-altitude, arid ecosystem. It is also one of the areas in the world most vulnerable to climate change.

The plan is part of a pilot project to test a new national park system. The reserve has been divided into three zones; one for each of the headwaters of the Yellow River, the Yangtze, and the Lancang, which becomes the Mekong once it flows out of China.

Geologist Yang Yong has made a number of trips to the Sanjiangyuan reserve over many years. He has found that dry-outs and desertification are common in the headwaters of the Yellow River and the Yangtze, and that those of the Lancang are also under threat.

This has led to the drying up of crucial wetlands and pastures and is one of the major challenges facing the newly established Sanjiangyuan National Nature Reserve.



A map of Sanjiangyuan (three river source) national nature reserve.

Liu Qin (LQ): After years of research you've found that the headwaters of the Lancang are seeing seasonal dry-outs. Can you describe these changes?

Yang Yong (YY): We've made several trips to the headwaters of the Lancang. Before 2006 this was a very difficult trip, and you had to walk the last 20 kilometres or so.

During our 2016 trip we found the headwaters were experiencing seasonal dry-outs, for example, along tributaries such as the Angua and the Gelong we saw large expanses of exposed sand shoals. We usually drive along the rivers towards the headwaters. In the summer of 2006 there was too much water and we got stuck in the river. We tried to find a way through the marshes, but the marshes were too wet. We never made it to the source of the river. When

we visited in the summer of 2014 we found some of the rivers were lower and we were able to reach the sources of two rivers.

Because of the degradation of the river systems and reduced flows in recent years, more and more survey teams have been able to reach the headwaters, including some adventure tourists and science teams.



Dry-outs are making previously inaccessible areas of Sanjiangyuan more open to tourists. (Photo by Yang Yong)

LQ: What impact will those dry-outs have?

YY: Seasonal dry-outs don't just affect the evenness of river flow, the amount of water flowing from the Lancang reserve, and the ecosystem's ability to store water. They also lead to the drying out of marshes and wetlands and the degradation of pastures. There are many herders in the Sanjiangyuan

reserve and it is already common to see degraded pastures and localised desertification.

During our 2016 trip we looked at problems with pastures and found that grazing has stopped in some locations, with herders forced to expand their range. Desertification is a warning for the Lancang reserve. Livestock herders in these areas need to respond to the changes to avoid over-grazing. Pastures should be rotated to ensure they have time to recover.



Grassland degeneration in Sanjiangyuan. (Photo by Yang Yong)

LQ: What is causing these seasonal dry-outs?

YY: It's mainly due to climate change. Glaciers at the headwaters are receding quickly. Peaks of 5,800 metres are now covered only with a thin layer of ice, in some cases even in gullies there's only a little ice on the shaded side of the mountains. This means less melt water flowing into the

rivers. Some of the headwaters, which rely on groundwater and precipitation, dry out due to a lack of water supply.

LQ: What other challenges is the Lancang region facing?

YY: Recent hydropower and mining development have increased pressure on the environment in the Lancang basin. We've been tracking hydropower development on the Lancang for several years and found that building on the lower and middle reaches is either complete or already underway, which means that development is moving further upstream. Some hydropower plants are in geologically active areas, or areas where the local ecology is extremely vulnerable. Add to this other intensive human activity such as agriculture and mining, and the environment is struggling to cope.

On the middle reaches of the river, mining and hydropower are being developed simultaneously, compounding the damage. On some stretches of the river we saw tailings ponds, waste piles, and the pollution left behind after mining.

LQ: What impact will the creation of the reserve have on the ecology of the river basin?

YY: The idea of the reserve is to restrict industrial development such as hydropower and mining. It also indicates that the region will focus on building tourism and environmentally-friendly sectors, rather than relying on resource extraction and GDP figures.

The creation of the reserve will create more jobs in environmental protection, and encourage the local herders to work in businesses providing tourism or educational services in exchange for a stable income. The development of Yushu prefecture will be closely linked with the reserve, and we hope to see a new balance there between conservation and development.

LQ: You've been exploring the reserve and its scenery, can you talk about what you found?

YY: Ninety percent of the reserve lies in Yushu prefecture. In 2014 we were invited by the Yushu government to carry out a detailed survey of the Sanjiangyuan region, and in the Lancang reserve area we found a number of unique and world-class scenic spots: hills and forests, cliffs and gorges.

LQ: The Lancang is known as the Mekong once it leaves China. Will other countries downstream benefit from the reserve?

YY: The Mekong rises in China but is one of Southeast Asia's most important international rivers. It flows 2,130 kilometres through China, where it is known as the Lancang, and then another 2,750 kilometres through Laos, Myanmar, Thailand, Cambodia and Vietnam before reaching the South China Sea.

By creating a nature reserve at the headwaters of that river, China and the local residents are showing they are willing

to fulfil their responsibilities and set an example. This will aid the protection and development of the entire river and provide a useful model for downstream countries.