

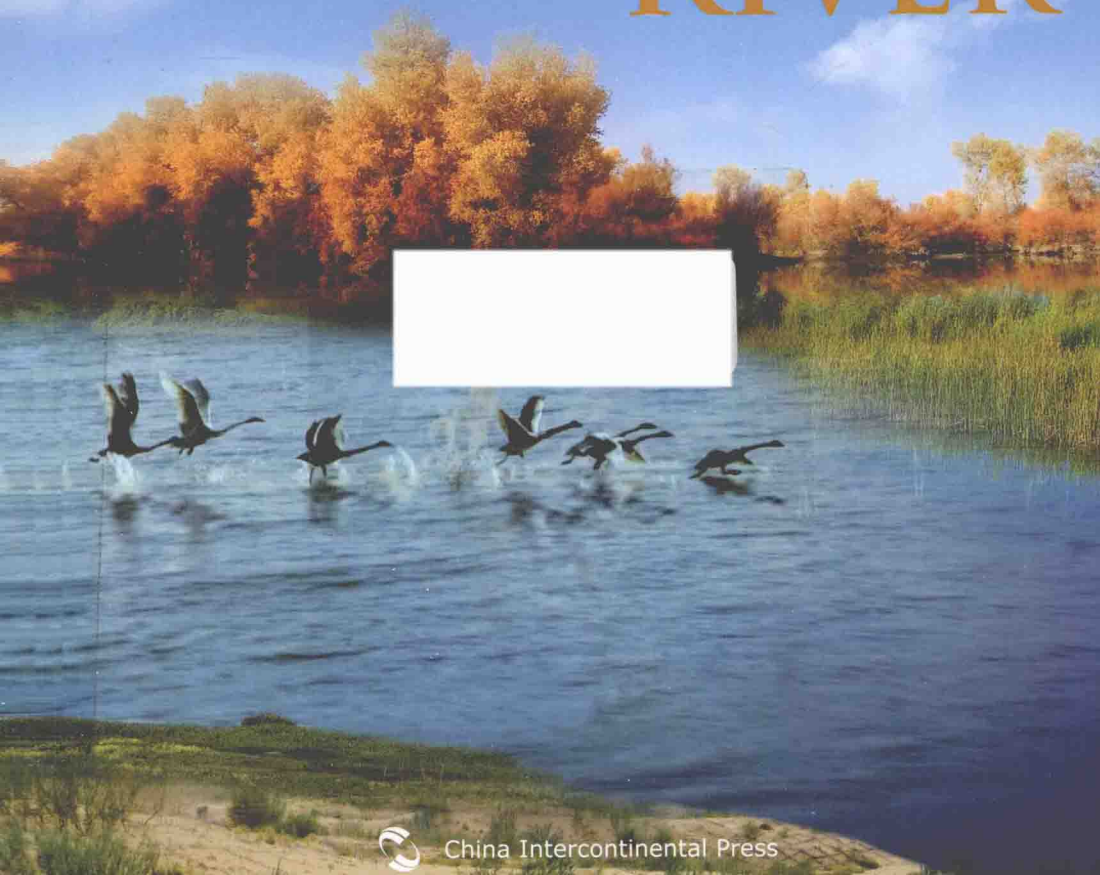
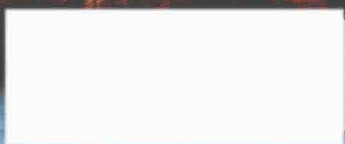


Green
China Dream



SAVING THE TARIM RIVER

Ding Chun



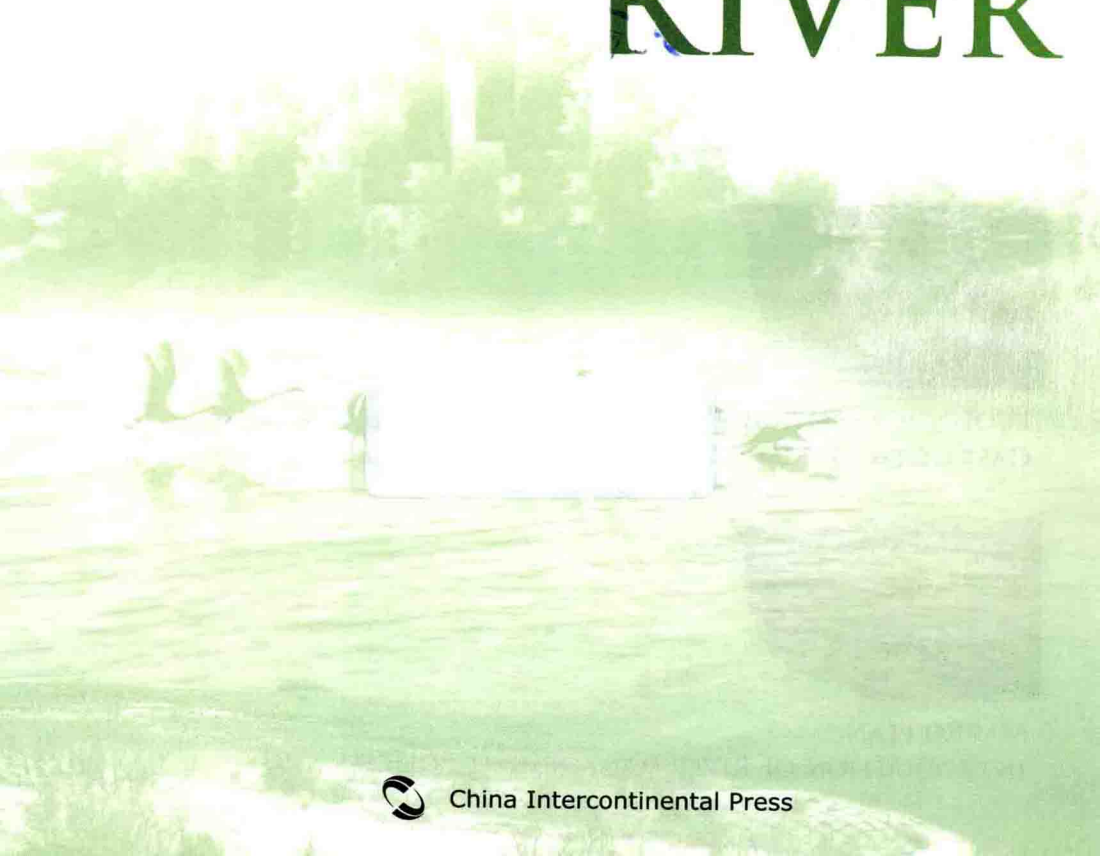
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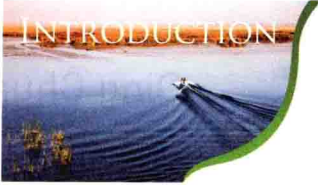
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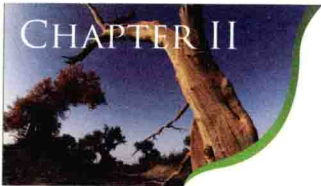
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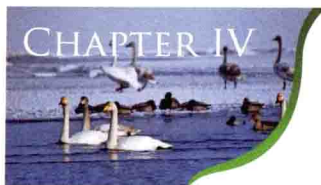
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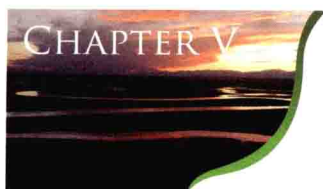
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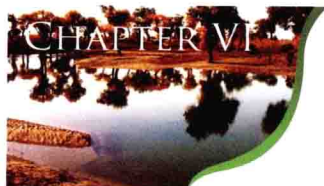
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INTRODUCTION



Water is the source of life, fundamental for the survival of human.

The Tarim River is the longest inland river in China and the mother river for all ethnic groups in the Xinjiang Uygur Autonomous Region. In the Uygur language, Tarim means “land”, “farming” or “arable land”. Some also say it means “a horse without rein”. Regardless of the accuracy of its meaning, the explanations indicate that the river once ran thousands of miles with imposing momentum like a horse released from its rein, irrigating the lands in the desert.

Water is vital for rivers. The ice and snow on the Kunlun Mountains, Tianshan Mountains, the Karakoram Range and Altun Mountains is melted to the crystal and clear water by the energetic sun. Delivered to the Tarim River and its tributaries, the water nourished the oases. In history, the Tarim River was once a centripetal drainage with nine tributaries, Aksu River, Hotan river, Yarkand River, Kashgar River, Weigan River, Dina River, Kongque River, Qiemo River and Keriya River.

In the 4th to 5th century AD and before, all the tributaries converged into the Kongque River first and then flowed into the Lop Nur from the north. The Lop Nur then was described as “a vast lake with a large amount of water without decrease in dry season”. Later the Tarim River was converted once. The Kongque River had a tributary, the Yilieke River which diverted at Tiemenbu. And the Yilieke River converged with the Tarim River and flowed into the Kalaheshun Reservoir first and then flowed to Lop Nur. At that time, the Lop Nur shrank a little. In 1921, the Tarim River’s flow widened the river course which irrigated the grassland and that flow formed the Layi River. The Layi River flowed into the Kongque River at Huipu and along the dried Tieban River, it flowed to Lop Nur. In 1952, the Tarim River returned to its original river course and separated with the



Xinjiang people's mother river — the Tarim River

Kongque River, flowing into the Taitema Lake. After 1962, Lop Nur which was once the terminal lake of the Tarim River gradually dried up.

The ancient Tarim River Basin with fertile soil and vast area of oasis is the cradle of the civilization of China's western regions. Many ancient ethnic groups built their cities and kingdoms here where they lived and multiplied, creating various civilizations including Loulan, Ruoqiang, Qiemo, Khotan, Yuli, Luntai, Kucha, Wensu, Shache and Shule, etc. Even today their relics still attract the worldwide attention. The Tarim River Basin worked as a bridge for the communication of eastern and western culture and it was also the main part of the ancient Silk Road. For over 2,000 years, merchants with their camels carried the silk and china produced in China to the west and brought western products to China, serving as a communicative bridge for the Chinese civilization, Indian civilization, Persia civilization and Greek civilization.

The source rivers of the Tarim River today are only the Aksu River,



Desert Poplars of Tarim Park

the Hotan River, the Yarkand River in the upper reach and Kongque River in the lower reach. The three rivers upstream converge at Xiaojiake in the Aksu City, regarded as the start of the Tarim River. Such a river system is called “four sources and one main stream”. The length of the main stream is 1,321 kilometers. The Yarkand River included, the total length of the Tarim River would be 2,170 kilometers, the longest inland river in China. The drainage area of the Tarim River is 198,000 square kilometers. The term the Tarim River Basin normally refers to the 144 rivers of the nine river systems around the Tarim Basin, covering an area of 1.02 million square kilometers in South Xinjiang with a total amount of water of 42.9 billion

cubic meters. In the Tarim River Basin, there are 5 regions (autonomous prefectures) and 42 counties (county-level cities) as well as the 55 regiments of the 5 divisions of the Xinjiang Production and Construction Corps.

For Xinjiang people, the Tarim River is the hometown river, the mother river and the river of life. The water in the Tarim River nourished the ancient Xinjiang oasis culture. In the Tarim River Basin, the desert poplars, the *Ammania gracilis*, the green vegetation and the land people live on all witnessed the development of this area.

But the hard truth is that the Tarim River Basin suffered from a fragile ecological environment due to the special climate, geological conditions and relatively scarce water resources. For the past several decades, the unregulated exploitation and the inefficient utilization of water resources by the growing population in the area resulted in the worsening water quality and the annual decrease of water amount flowing to the main stream of the Tarim River. The 400 kilometers downstream and the terminal lake of the Tarim River Taitema lake even dried up which led to the death of large areas of desert poplars lakeside. The worsening ecological environment in the Tarim River Basin has become the main constraint of the sustainable economic and ecological development of the area.

For a long time, people commonly believed that natural resources are inexhaustible. In fact, there is no free lunch for development. To nature, human has long been in “ecological deficit”, particularly after the industrialization. Since then the deficit keeps increasing. The crisis of the Tarim River is the evidence of the ecological deficit.

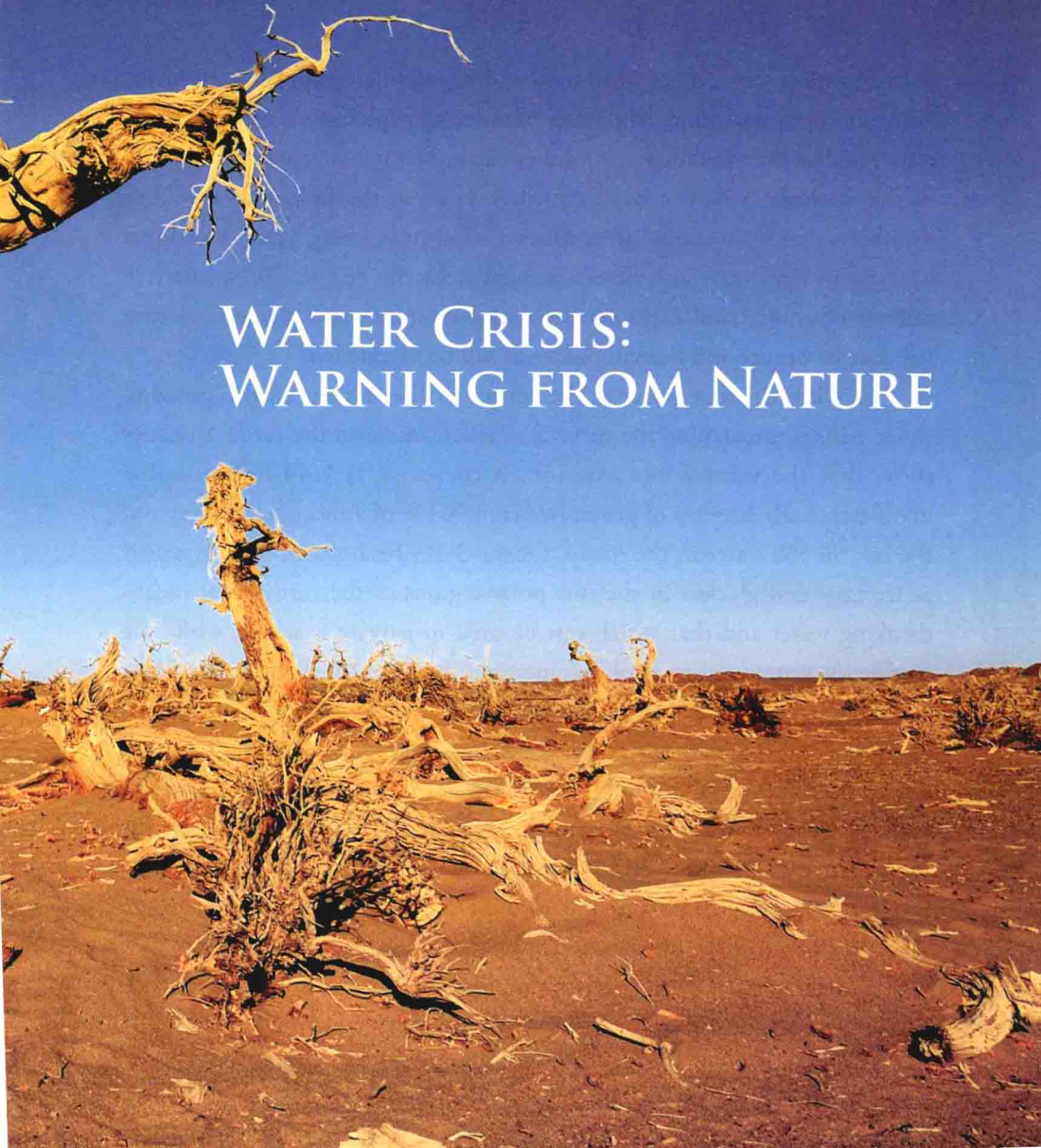
In the second half the 20th century, green and sustainable development has gradually become people’s consensus. The consensus in the context of China refers to the guidance of the state development plan, the innovation and actions of local governments and the responsibility and mission of the whole society. With such background, the actions to save the Tarim River admit no delay. The “ecological deficit” must be turned into the “ecological surplus” which represents the harmony between human and nature.





CHAPTER I

WATER CRISIS: WARNING FROM NATURE



Nature is the mother of human and human has only this very earth. Since the industrialization, human's plundering exploitation of the natural resources has overwhelmed our mother earth. Nature we live on is showing us the warning "yellow card" frequently. Look at the following shocking numbers, 1,339 hectares of rainforest disappear every year; 6 million hectares of land turn into deserts annually; by the end of 20th century, 1 million of animal and plant species may die out. At such a speed, nature will lose its beauty and human's survival will be threatened.

It is known that water is the source of life. However, the growing water crisis is threatening the survival of all creatures on the earth. Statistics show that the total water amount on the earth is 1.44 billion cubic kilometers with 3.499% of groundwater, 0.001% of atmospheric water and the rest 96.5% water in the ocean. Of the 3.5% fresh water, 87% is stored as ice caps and glaciers in the two polar regions of the earth. That means drinking water and that which can be used to irrigate is scarce, while the worldwide water consumption has increased by three times since the 1950s.

Data published by the Worldwide Institute shows that over 40 countries, covering over 60% of the earth are suffering severe water shortage. The over pumping of groundwater brings down the water level to a risky level, especially in the Middle East, China, India, Mexico, Thailand and the North America. Additionally, every year over 500 million people get ill as a result of the unhygienic water and 10 million people are facing severe water shortage or died of the diseases caused by the polluted drinking water.

Similarly, the Tarim River, the mother river of over 8 million people in Xinjiang is facing severe water crisis in the second half of the 20th



The shocking drought

century. The Tarim River once running like “a horse without rein” now is confronted with the problem of years of drying-up downstream, which is threatening the survival of all creatures in the Tarim River Basin.

This is undoubtedly a warning of danger!

I. Water's Gift

Once upon a time, the Tarim River Basin was a piece of magical land, covering a large area with many rivers. With the scattered oases strung together like pearls and the flowing tributaries converged into the Tarim River, the land then was turned livable. For tens of hundreds of years, people in South Xinjiang lived by the river and created their ethnic culture with unique styles in different areas, harmonious with the surrounding poplars and deserts. The Tarim River integrated the spirit of perseverance, openness, and clemency, facilitating the formation of the independent and

connected cultures in the vast desert area. The river's natural, historical, cultural and social connotations far transcended the river itself.

The Tarim River, from the Kunlun Mountains flowing through numerous mounds and valleys, forms its unique characteristics, creating a magical world. The river displays the firmness and faith in its own way.

It is this energetic Tarim River that nourishes the land and the oases by fertilizing the beautiful Tarim Basin.

The affluence and the beauty of the Tarim Basin depend on the water. In the old days, the Tarim Basin once served as the courier station that tied together the tradesmen from the central Asia. The culture in the Tarim Basin was imprinted with the features of "troops reclaiming wastelands". The basin was the green belt for the civilization of the western regions on the ancient Silk Road.

There are three treasures in the Tarim oases, *Ammania gracilis*, desert poplars and wapiti——

There is a saying going "walls with the fence of *Ammania gracilis* never falls, the desert poplar alkali (excreta of the poplars) can cure cold and riding a Tarim wapiti helps young men find their right girls.

There are three delicacies in the Tarim oases, grilled fish, grilled mutton and Tree Climing Chicken (chicken staying in trees at night).

The song written and composed by the famous Uygur singer Krym called *The Tarim River, River of My Hometown*. The lyrics are as follows,

*Tarim River, river of my hometown,
How many times you flow through my dreams;
Wherever I am,
I will tell you my heart;
Tarim River, river of my hometown,
I adore you, my beautiful river;
You pluck at the melodious strings,
Accompany me on happy songs;
Ah, Tarim River, river of my hometown,*

You raise me up with your water, my mother river.

...

This impassioned song expressed the singer's love for the Tarim River and the people there. Meanwhile, it also conveys an important message that the Tarim River is the mother river for the Xinjiang people and it is the source of life, civilization and culture.

Either at the edge of the Taklimakan Desert or in the Tarim River Basin, where there is water, there are oases and people. The Tarim River



Tarim River, river of my hometown

witnesses the social and historical changes, with its natural attribute of the ups and downs, protected and nourished this green belt with its social attribute of stability maintenance and created the amazing oasis civilization with its special cultural attribute. Among the vast desert, it once created the prosperity and glory of the Loulan Civilization and the Silk Road, while it also buried the oasis civilization under the desert. It has been dominating the ecological environment, human survival, economic development and civilization progress of this area.

The history shows us the importance of the Tarim River and the affluence and glory in the Tarim River Basin.

— With the nourishment of the Tarim River, lots of oases lie in the arid Tarim Basin. At present, the total area of oases in Xinjiang reaches 60,000 square kilometers, over half of which form due to the contribution of the Tarim River system. There are many large oases like the Tarim River Valley Oasis, the Yarkand Oasis, the Aksu Oasis, the Kashgar Oasis, the Hotan Oasis and the Yanqi Basin Oasis, etc. These scattered oases are nurturing over 8 million people. The Tarim River downstream goes deep into the interior part of the Taklimakan Desert. The precious water in the Tarim River maintains the good ecological environment for the most important desert poplars and decides the size of the area of desert and oases.

— There are large areas of grassland of various species in the Tarim River Basin. The total area of the grassland in the river basin reaches 23.8984 million hectares, accounting for 41.7% of the total in Xinjiang and 22.48% of the total area of the Tarim River Basin. Of all the grasslands, 19.99514 million hectares are exploitable, taking up 41.56% of the total exploitable grassland in Xinjiang. There are numerous species of grassland here distributed with all the 11 main species of grassland in Xinjiang. The Mountain Grassland is categorized into 10 types with 27 subclasses, distributing in Tianshan Mountains, Kunlun Mountains and the Pamirs. The plain area has relatively less types of grassland. There are only three types with eleven subclasses, the temperate steppe, lowland meadow and wet meadow.