



# Sino-Swiss Management Training Programme

## **Action Learning in Sichuan (2005–2007)**

### **2010 Outcome Report**

Kuno Schedler  
Josef Mondl  
Nana Liu



## GOALS OF THE SINO-SWISS PARTNERSHIP

In the context of the reform and transition towards a socialist market economy, the People's Republic of China is engaging in efforts to modernise its public administration system. One of the primary goals of this change process is the reform of the personnel management system. Another key goal is improving the management and development of human resources to encourage the development of talent.

The Sino-Swiss Management Training Programme (SSMTP) was initiated in 1993 to support China in the reform of its vast public administration enterprise. To accomplish this partnership programme was established between Switzerland (Swiss Agency for Development and Cooperation, SDC) and China (China Training Centre for Senior Personnel Management Officials CTCSPMO, below referred to as "Chinese Partner"). The Institute for Systemic Management and Public Governance (IMP-HSG) (formerly the institute for Public Services and Tourism) at the University of St. Gallen (IDT-HSG)) is the implementing partner of the programme on the Swiss Side.

The SSMTP is divided into two interrelated pillars: the "Public Services Training" focusing on the modernisation of the public Sector of China; and the "Western China Action Learning Programme" aimed at supporting sustainable development in economically and socially backward regions in western China.

In the Public Services Training initiative we are applying an Action Learning methodology for provincial programmes that is intended to provide a strong practice-oriented design for the training content, which will enable participants from provinces to progress towards direct person to person implementation of the knowledge acquired from the training. The provincial programmes deal with current issues such as sustainable tourism development, social security, regional development, management of small and medium sized enterprises, improving the use of financing instruments, and ecological management.

Several western provinces in China submitted very specific projects and competed for participation in the SSMTP. The best projects were chosen by the Chinese Partner CTCSPMO to receive further development aid through the SSMTP. Action Learning Sichuan is one of the three regions that were supported for 3 years (2005-2007) by a provincial programme within Phase III of the SSMTP.

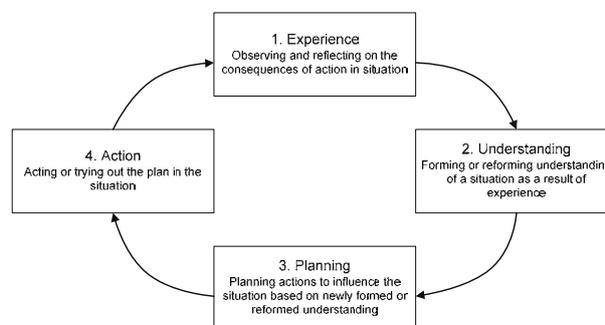
Outcome monitoring of Action Learning Sichuan was performed in August 2010, three years after the Sichuan programme was completed. The section below indicates some of the results achieved by SSMTP participants in this programme.

## ABOUT ACTION LEARNING

Action Learning is an educational process whereby the participants study their own actions and experiences in order to improve performance. This is done in conjunction with other participants, working, in small groups called "Action Learning Sets". The Action Learning method is particularly suitable for adults

because it enables each participant to review and reflect on the actions taken and what they have learned from this assessment. The knowledge gained from this review should be applied to guide future actions so as to improve decision making and performance.

The Action Learning process may be viewed as a cycle consisting of the following components Experience, Understanding, Planning, and Action.



*The Action Learning Process<sup>1</sup>*

The Action Learning approach was chosen as the methodical basis for the provincial training programmes for three primary reasons:

1. This approach differs significantly from China's traditional top-down teaching approach in that as a result of working in the Action Learning sets each person is required to participate actively in the project.
2. Provincial programme participants gain new knowledge and at the same time are able to reflect and analyse their own actions so as to become able to transform their acquired knowledge directly into future actions.
3. Within the action learning approach an integrated problem solving capability is required to analyse and define solutions to a number of different types of challenges. Defining and applying solutions to resolve current and future problems requires strong team learning capabilities from the variety of different members of the sub-groups in the Action Learning set.

The Action Learning method was chosen because the primary purpose of the provincial programmes is not to simply convey expert knowledge one-way from Switzerland to China, but to catalyse a transformation process in which the participants on the Chinese side are the main actors and the Swiss experts are the moderators of change.

<sup>1</sup> McGill / Beaty: Action Learning (revised 2nd edition 2001)

## THE ACTION LEARNING PROGRAMME IN SICHUAN PROVINCE (ALSC)



*Sichuan is considered the most prosperous among the western provinces of China*

Sichuan is a large province in south western China. With a population of 88 million and a geographic size of 485'000 km<sup>2</sup>, it is ranked third among provinces in China in terms of population and fifth in size. With respect to population composition, in addition to the Han majority the province is inhabited by 55 minorities including Tibetans, Yi, Qiang and others. That account for approximately 5 per cent of the total population. Sichuan is richly endowed with natural resources, significant biodiversity, and a fantastic variety of scenic beauty. Many well-known tourist attractions including the Leshan Giant Buddha, E'memountain, Jiuzhai valley and Huanglong make Sichuan one of the primary tourist destination provinces in China.

Sichuan has the largest economy of the western provinces of China, accounting for one-fourth of the total economic output of the 12 provinces, regions and municipalities in western China. Important industries in the province include electronics and IT, hydro-electricity, machinery and metallurgy, pharmaceutical and chemical, beverages and foodstuffs and, of increasing significance, tourism. Sichuan's capital city, Chengdu, is the hub of commerce, trade, finance, science and technology, transportation, and is the telecommunications centre for southwestern China.

Despite the overall robustness of its economy, as a landlocked western province Sichuan faces serious challenges to its continued development including some degree of isolation from both domestic and international markets, slow-growth of its economy, inadequate development of natural and other resources and very low income of farmers. Other formidable challenges are continued job creation and increased social security, providing earning opportunity for a large population of low-income urban residents, and coping with the tradeoffs between further industrial development and preservation of natural resources and the quality of the environment. Among these challenges, sustainable development of tourism, reduction of water pollution, and protection of World Heritage Sites are considered the most urgent.

### ALSC PROJECTS

The Sichuan Extended Programme is the first province-level initiative in the third phase of SSMTP. As a result of

careful study and analysis of six competing projects, three were chosen for phased development.

### 2005

Sichuan is one of the largest and most important provinces in China in terms of potential for ecological tourism due to its abundance of rich natural resources. The province has enormous eco-tourism potential given its world natural heritage sites such as Jiuzhaigou and Huanglong which are famous and highly popular among tourists within China and from abroad. However, these and other sites within the province that offer increased opportunity for eco-tourism must be carefully protected to preserve their value.

Effective protection can be provided to sustain the quality of the natural resource base of the province, under conditions of reasonable utilization. The concepts and methods to take advantage of the developing trend of international eco-tourism are provided in "Research on Sustainable Development of Eco-tourism" which is aimed to provide professionals with the knowledge needed to conduct research and the skills to stimulate and manage the challenges post by increased eco-tourism. In addition it is designed to enhance the abilities of professionals to find solutions to existing and emerging issues related to the eco-tourism development process, to explore and develop technical criteria and benchmarks for development of eco-tourism, and to establish an eco-tourism authentication system that will promote consistent, healthy and rapid development of ecological tourism in Sichuan.



*Sichuan has a rich tourism resource*

### 2006

Sichuan Province is located in the upper reaches of the Yangtze River, the Yellow River and the world-famous Three Gorges Reservoir. There are 1'049 rivers with a drainage area of more than 100 km<sup>2</sup> in the province. For this reason Sichuan is also named "The Thousand River Province". The Min and Tuo valleys are located in the heartland of Sichuan Province. They are lifelines for economic development and crucial points in terms of water environmental safety in the Yangtze River drainage area.

"Studies on Water Environmental Management in the Minjiang and Tuojiang River Drainage Areas" is targeted to solve problems including pollution levels that severely exceed water quality safety limits. This dilemma reveals

the sharp conflicts that are present as a result of exclusive pursuit of GDP growth at the expense of environmental protection. Inadequate and poorly targeted water pollution control regulations along with weak managerial controls are challenges addressed by this programme. The intention of this initiative is to train civil servants engaged in environmental protection in methods to improve environmental supervision and management and to develop better environmental regulation so as to restore the water quality of the Minjiang and Tuojiang Rivers.



Water pollution was and still is an issue in Sichuan

## 2007

Due to the long-term impact of natural factors including soil erosion and the results of increased human activity, the forest resources in the upper reaches of the Yangtze River have been damaged, which has caused increasing ecological deterioration. As noted, soil erosion, reduction and quantity of river water flow continued desertification, and frequent droughts and flooding continue to present serious environmental challenges to the province. Such problems have seriously restricted development of the regional economy, have had significant social consequences, and had endangered the ecological security of the Yangtze River Valley, especially the reservoir area of the Three Gorges. Therefore, reforestation, protection and restoration of forest resources have become fundamental measures for improving water and soil conservation, maintaining a high quality ecological environment and contributing to sustainable development.

“Research on Construction of Ecological Shelterbelt in the Upper Reaches of the Yangtze River” is aimed to improve professional capability and management skills of leaders and technicians in the forestry sector at all levels. The intent is to strengthen the design of methods for protection of ecological resources, ensure the ecological security of the entire drainage area of the Yangtze River, and contribute to sustainable economic development leading to positive social outcomes.

	Main Topics	Sub-topics
2005	Research on the Sustainable Development of Ecological Tourism	- Research on eco-friendly tourism development of Sichuan World Heritage sites - Protection and tourism development of Sichuan Giant Panda Habitat - Development of Shangri-La Mountain Tour Demonstration Base in Yading, Daocheng county - Training in Ecological Tourism Talents of Sichuan
2006	Water Environmental Pollution Control of Min and Tuo River Drainage Areas	- The prevention and management of pollution sources from industries, urban, and rural areas - Management and coordination mechanism for pollution control administration in the Min and Tuo River drainage areas - Policy for pollution control in the Min and Tuo River drainage areas - The relationships between GDP growth, enterprise production costs and environmental quality.
2007	Construction of Ecological Defence in the Upper Reaches of the Yangtze River.	- Biodiversity Conservation in Sichuan Province - Restoration and Reconstruction of the Forest Ecosystems in Sichuan Province - Sustainable Development of the Ecological Forestry Industry in Sichuan Province

## IMPLEMENTATION OF ALS

Participants in SSMTMP were selected through competition among high-level officials in the regional public sector including senior officials and staffs, service providers and experts in the areas of tourism and environmental protection. SSMTMP organised three seminar sessions annually (one week at a time) to address the specific needs of various stakeholder groups in Sichuan. Seminars were led by experts from Switzerland and other European countries under the guidance of CTCSPMO. The Sichuan provincial training centre coordinated various on-site visits to important ecological locations in the region and to organisations involved in environmental protection. Based on the training needs of the groups, SSMTMP arranged their study visits to Switzerland and other European nations. During their stay in Switzerland and two other European countries the training groups gained insight in various topic areas related to environmental protection and preservation through visits to a number of different types of organisations including universities, government institutions, private enterprises and NGOs. Through involvement in practice-oriented seminars, attending lectures delivered by experts in the field and on-site learning, participants were able to share their views and experiences with European colleagues. A follow-up seminar delivered one year after the initial training experience in Europe completed the programme.

The primary objective of the Sichuan extended programme is to improve the capacity of leaders and managers with responsibility for environmental protection and development in reforming public sector practice and public administration, leading to enhancement of human resource knowledge, skills and abilities in three primary areas:

- Analysis of and solving practical problems
- Training of cadres
- Learning innovative training methods

## SEMINARS IN SICHUAN PROVINCE

The Action Learning approach has served as the fundamental base for the design and delivery of seminars in Sichuan and also for the study-visit component of the programme in Switzerland and Europe: On the Chinese side Action Learning groups were formed into sub-groups and each of these worked on clearly defined problems or projects. The style of the seminars emphasised interactive participation, with lecturers serving as experts in their specific fields and as moderators among and within the Action Learning groups. In total 11 lecturers went to Sichuan Province from 2005 to 2007. The composition of the lecturer group represented a good mixture of academic (4) and practical (7) experts.



*The 2006 study-group visiting an aluminium factory in Meishan city*

## STUDY-VISITS IN SWITZERLAND/EUROPE

During the study-visits in Switzerland and two other European countries the Action Learning groups attended lectures and participated in discussions at various governmental institutions, universities, and private enterprises. The participants learned about innovative methods and tools in their working fields and as a result of their trip to Europe, many of them for the first time, they were exposed to western culture and solution-orientated approaches analysis and problem solving.



*A Senior Study Group on a visit to Luzern*

## OUTCOME MONITORING OF ALSG

After the study-visits were completed, SSMTF and CTCSPMO maintained close contact with former trainees. Outcomes resulting from participation in the programme have been presented to SSMTF/CTCSPMO

on several occasions over the past few years. In the summer of 2010, under the support of CTCSPMO and the Sichuan provincial leader training organisation, the Swiss project team conducted a systematic outcome monitoring of the Action Learning programme in the Sichuan province (2005-2008) employing the following methods:

- Research
- Structured interview questionnaires administered to former programme participants
- Observation of the performance former participants
- On-site visits to environmental protection and development organisations in Sichuan
- Results reporting seminars
- Summary reporting of results

On the Chinese side 78 participants were trained in the Sichuan provincial programme from 2005 to 2007. Among these participants several Action Learning sub-groups were formed to discuss specific issues in a more effective (using expert knowledge) and efficient (in smaller groups) manner. A system of predefined goals was introduced for the group members and the leader of each group was responsible for the achievement of these goals. Members of the sub-groups were required to file periodic reports specifying the extent of achievement of the goals.

The knowledge gained by the sub-groups was spread to other groups in written reports and in electronic form on compact discs. According to the Action Learning workgroups, after the study some 475 reports were published, more than 450 suggestions for improvement were delivered to the local government and 1/3 of the SSMTF participants were promoted, presumably to some considerable degree as a result of their participation in the programme.

Further results of outcome monitoring are presented in this outcome monitoring report.



*Outcome Monitoring in Jiuzhai valley, Sichuan*

## JIUZHAI VALLEY

Jiuzhai valley is located in the northwest part of Sichuan province. The valley consists of three large Y-shaped canyons. The national park is named after the nine local Tibetan villages that inhabit it. The elevation of Jiuzhai ranges from 1980 m to 3100 m above sea level, and it is

38 km long from south to north, 23 km wide from east to west, and covers a 730 km<sup>2</sup> area that includes approximately 60 km<sup>2</sup> of forest land. The valley features 108 lakes, 17 waterfalls and an abundance of water springs. In 1992, UNESCO declared Jiuzhai valley a Natural World Heritage Site. From spring through autumn the valley attracts between 16'000 to 18'000 tourists daily. The valley is one of the most popular tourist destinations in China.



Shuzheng Waterfall in Jiuzhai Valley

In 2005 the Director of the Administrative Bureau of Jiuzhaigou, Mr. Zhang Xiaoping, participated in the ALSC training programme. His study-visit in Switzerland, France, Germany and Austria as part of the SSMTF had a great impact on Mr Zhang's management career. He was inspired by the efficiency of public transportation, the mixture of cultural heritage and modern technology, the harmonious cohabitation of different ethnic groups and especially the concept and practice of eco-tourism in a way that caused him to become a champion for environmental development reform in Jiuzhai valley. All of his permanent employees were split into dozens of Action Learning groups to study the concepts and practices of eco-tourism and other innovative ideas brought back from Europe by Mr. Zhang. The goal of Jiuzhai management was redefined to be protecting the environment while at the same time enriching the lives and employment opportunity of local citizens and promoting sustainable tourism.

One of the more important aspects of regional sustainable development introduced was cohabitation and cooperation between Han immigrants and local Tibetans. The total population of Jiuzhai Valley National Park is just over 1'000, comprised of over 110 families. Due to the advancement of tourism, the quality of life of local inhabitants has increased steadily over the past few years. The prefectural government and the tourism bureau provided job opportunities for more than 600 residents. Further education and specific training was offered to native people, so they can work in the valley and contribute to the development of their local community. During school summer holidays Tibetan language courses are organized for students so the younger generation can improve their language skills while retaining their Tibetan culture in a primarily Han based society. Such support measures are intended to encourage the local citizenry to continue to be proud of their ethnic roots and their social and cultural traditions, thereby assisting them in promoting and passing on their Tibetan heritage.



Tibetan citizens rent folk costumes to tourists for photography

In addition, local citizens have benefited from numerous recently introduced preferential policies. Among these policies are tax relief for local businesses and facilitated access to mortgage financing. Although private shareholders hold only 49% of the stock of the Jiuzhai Development Company, under a recent reform they will receive 77% of company earning. Further, residents of Jiuzhai valley receive a yearly 8 million CNY (1.14 million SFR) allowance from the local government. In this way the Jiuzhaigou Administrative Bureau has improved the integration of Tibetan citizens into tourism development in the region.

The Management of Jiuzhai Administrative Bureau also realised after their SSMTF experience that in order to protect the quality of the natural resources of Jiuzhai, ecological policy and awareness must somehow be enforced among employees, local citizens and especially the tourists visiting the region. Through the use of information booklets, an internet homepage, on-site presentations about endangered animals and plants in the area, signs posted along hiking paths and other measures, the Jiuzhai tourism bureau has tried to guide Chinese and international visitors to learn more about the environmental "dos and don'ts" of behaviour at beautiful and valuable tourist venues. Beginning in 2006, the Jiuzhai Administrative Bureau has invested more than 1 billion CNY (142.6 million SFR) in eco-infrastructure development and environmental protection.



Logo of Jiuzhai Valley: a Tibetan character which looks like an eye, meaning that the valley should be protected as you would protect your own eyes

The huge number of tourists visiting the valley in high season remains one of the most pressing challenges faced by environmental managers. In the "golden week" Chinese national holiday period at the beginning of October the national park receives on average 30'000 visitors daily, while during the whole winter only a few hundred tourists visit the valley. A substantial allocation of human capital, financial and other resources are

required to cope with the surge in tourism during this period

## HUANGLONG

The very beautiful area of Huanglong is situated in the northwest part of Sichuan Province. The Huanglong valley features snow-capped peaks and the easternmost glaciers in China. In addition to its magnificent mountain landscapes, diverse forest ecosystems, and spectacular limestone formations, the area has many spectacular waterfalls and hot springs. The area also has a sizable population of endangered animals, including the giant panda and the Sichuan golden snub-nosed monkey. The total area of the Huanglong nature sanctuary is about 2'360 km<sup>2</sup>, but only 100 km<sup>2</sup> is accessible for tourists. Huanglong was declared a World Heritage Site by UNESCO in 1992.



Huanglong valley – Welcome Lake

Mr. Tang Siyuan, the Director of Huanglong Administrative Bureau, participated in the SSMTTP in 2005. Beginning around this time a six year dialogue took place over eco-development and tourism. At the core of the discussion was the issue of whether a cableway to assist tourists by making their visits more pleasing and safer should be built in Huanglong. On one hand environmental experts emphasised the risks of serious ecological destruction and the visual pollution effects of having cable cars operating in the mountains. On the other hand only very few tourists were able to climb to the 3'300 m summit plane without assistance of the type provided by a cableway. Environmental experts pointed out that hiking tours by only very few tourists already had caused tremendous damage to sensitive alpine plants and had resulted in the deposition of a large amount of rubbish over much of this very vulnerable and valuable area. Even worse, had fire broken out as a result of a lightning strike or from an illegal tourist campfire, fireman couldn't reach the scene in time to prevent fire from spreading out of control.

The study-visit by Mr. Tang to the world famous Jungfrauoch mountain area inspired him to have designed and built an "invisible" cable car passageway in Huanglong similar to that of the Jungfraubahnen, which runs through tunnels. The Huanglong cable railway was constructed from a lateral direction in a hidden area. Extreme care was taken to minimize destruction of the virgin forest and ecosystem. The cable railway was built in 2008 and satisfied the requirements of all stakeholders, particularly those who were concerned only about meeting stringent environmental preservation standards.



Huanglong cable car, an inspiration from Jungfrauoch

The cable car equipment installed at Huanglong is made by a leading Austrian company and applies highly advanced technology and the best safety system available in the world. It brings 2'500 visitors per hour to the summit plane. In case of a forest fire, firefighters can come into operation in 3 minutes. 70 employees are responsible for the safe and efficient functioning and maintenance of the cableway, and all of them are factory-trained in Austria.

Presently, three years after the cable car was placed into service, Huanglong receives nearly two million tourists in the peak season, a multiple growth over the visitor number in 2005. This has brought new problems in terms of protecting the scenic beauty of the mountain. The Huanglong management team adjusted the strategic plan continuously to sustain the eco-balance of the Huanglong area while at the same time meeting the preferences of sightseers. 300 Huanglong employees have been trained in solution-orientated Action Learning groups in their off-season, and most of them are Tibetans. In this way, the Action Learning method used by the SSMTTP was multiplied and gained sustainability in the regional administration.

During his SSMTTP-participant study-visit in Switzerland Mr. Tang was most impressed by how Swiss tourism manages its responsibilities down to the most minute detail. Together with his team, Mr. Tang transformed Huanglong administration to a more customer-oriented management approach. Oxygen stations, sanitary rooms and facilities for handicapped people were constructed at the mountain. Visitors are only allowed to walk on wooden paths which stretch throughout the whole of the Huanglong accessible area. To limit the deforestation of the environment the wooden path was made 2 m wide – wide enough to cope with the huge crowds of people who visit the site.



Wooden path in Huanglong

## HYDROPOWER STATION CLOSED

Ganzi Tibetan Autonomous Prefecture in the north-west part of Sichuan is one of many regions rising in popularity in Sichuan in terms of economic development and tourism.

A hydropower station located in the middle of the beauty of the Mugecuo scenic area had provided energy to the area for years. However, at the same time the station was considered to be a visual pollution problem which detracted from the eco-tourism development initiatives of Mugecuo national park. A SSMTTP-participant from Ganzi presented the issue to the local government and suggested that sustainable development was the most appropriate eco-management approach for the region. At the beginning of 2006 Ganzi county government adopted the proposal to close the hydroelectric power plant and to invest further in development of sustainable eco-tourism. For the first time in Sichuan and in China, a water power plant was closed to the benefit of tourism development.



Entrance ticket to Mugecuo national park

After the power station was demolished the Mugecuo scenic area reopened to tourism in 2009. Mr. Hu Bin, the Vice-Director of the Sichuan provincial tourism bureau and, another former SSMTTP participant pointed out that many concepts applied in Mugecuo were adopted from the Swiss tourism development model including purification of drinking water and advanced treatment for, mountain sickness to name but a few.

## PRESERVATION OF TIBETAN STYLE ARCHITECTURE

Yading nature sanctuary is located in the beautiful Tibetan area of Daocheng (Rice Town). It is a popular destination for Chinese tourists, although the journey from Chengdu to Yading takes two days by bus. To provide better access an airport was built near Daocheng in 2008.

Modern architectural design has become increasingly popular in Daocheng as the living standards of the Tibetan people have risen over the past decade or so. This trend has resulted in removal and replacement of the traditional vintage cottage style of buildings, particularly as large apartment housing development projects have been constructed in the city. To maintain or restore the traditional Tibetan scenic beauty and authenticity in the Yading area, Daocheng County has encouraged Tibetans to preserve their unique culture and traditions and has supported them financially for building environmentally-friendly, comfortable yet still

traditional style housing. This Tibetan cultural preservation approach has received very favourable response from the local Tibetan citizens.



Tibetan tenements in Yading, Daocheng County

Cooperation between Titlis-Mountain and Engelberg town is an inspiring example of good practice for SSMTTP participants as a result of the mutual support that has taken place between the scenic mountain area and local citizens. As a consequence of the Sino-Swiss partnership programme, participants from Daocheng County have gained a better understanding of the advantages of basing regional development planning and action on trust and respect for Tibetan citizens and their cultural traditions. Taking native Tibetan interests into account and involving them in the decision making process was the first step toward creation of harmonious sustainable development in the area. The success of this is likely one of the reasons why these two densely populated Tibetan Counties (Ganzi and Daocheng) did not become involved in the social unrest that occurred in other Tibetan ethnic areas in March 2008.

## ECO-TOURISM EDUCATION AND MARKETING

Before 2005 Sichuan provincial and regional government focused mostly on management of business operations in scenic areas, e.g., hotels, restaurants and travel agencies. During their study of eco-tourism and sustainable development SSMTTP participants were most impressed by the great extent to which Swiss managers and decision makers are environmentally conscientious in their approach to tourism development. This led participants to the realisation that protecting the environment starts with consideration of the preferences of tourists as customers and consumers of environmental benefits. This approach takes into account how tourists actually use environmental resources so that protection strategies and methods can be introduced to be most effective. The Swiss approach also taught Chinese participants that tourists need to be educated in sound environmental practices. As a result of their experience provincial tourism regulations were changed and improved based on the concepts of tourists as customers and "tourism education".



*During Golden Week in October 2010 (the 7-day national holiday begins on October 1) Sichuan Province received more than 21 million tourists. This was an increase of 24.4% visitors compared to the previous year*

Their study-visit helped leaders of the Sichuan tourism administration bureau become better acquainted with European ways of travelling and sight-seeing. As a result a number of Sichuan eco-tourism projects were introduced, trekking and camping for example, were designed to meet the needs of western tourists. Representatives from international travel agencies were invited to visit Sichuan as a means of marketing and advertising the eco-tourism assets of the province. This marketing strategy paid off as measured by the fact that from 2006 to 2010 average annual tourism growth was 17.8% despite the earthquake disaster in 2008. In 2010 the growth in tourism was 28.1%, contributing 11.2% to Sichuan's GDP.

After the disastrous earthquake in 2008 Action Learning groups were organised by provincial and local governments for reconstruction. More than 1000 employees and volunteers were trained for this purpose. Regions and scenic areas where former SSMT participants were involved in the reconstruction recovered faster from the disaster than other regions. For example, Ermei, Jiuzhai and Huanglong resumed operations quickly so that the number of visitors one year after the earthquake exceeded the amount of the previous year



*The Panda discount card was designed and issued to boost tourism in Sichuan with great success*

## THE GREENING OF ZIYANG CITY

Ziyang City, located in the south-east part of Sichuan Province, has an estimated population of 4.8 million with residents distributed over a land area of 37.5 km<sup>2</sup>. As a rapidly developing industrial city it experienced

substantial economic growth as revealed in double-digit growth rates for several decades. However, as a consequence of rapid growth the city's air and water resources became increasingly more polluted.

Under the support of the Sino-Swiss partnership, a team from the Ziyang city authority designed and implemented a programme for environmental management of the city's water resources. Initially, regional officials from all city divisions, not just environmental officials, were educated in the principles of sound water management. Everyone needed to understand the tradeoffs between economic growth and increases in pollution. Then they had to realize that some economic growth needed to be sacrificed in order to achieve sustainable development in the long-run. These concepts were taught in a variety of contexts including schools, farms and the agricultural industry, public and private enterprises and especially in the heavy manufacturing industry. Emission regulations and standards were tightened and numerous sanctions to punish misbehaviour were instituted in short order.



*On-site visit to Chengdu Wetland Park*

As environmental awareness grew among leaders and citizens pollution control methods, processes and practises were set in motion. A water quality monitoring system was installed at over 20 locations along the Min, Tuo and Jiangling rivers. As soon as critical pollution levels in the water were exceeded, an alarm was set off automatically in the Environmental Bureau. In addition, a citizen complaint telephone hotline was established to improve on-site reporting of pollution. Citizens with access to computers also could send their observations anonymously to the city using an online form. Due to this increase in transparency and rapid information exchange pollution sources could be reported quickly and offenders identified and punished. For instance, in October 2007 1580 anonymous complaint calls were made using the hotline and 114 email messages were sent to the city and disclosed cases were sent directly to the mayor of Ziyang for action.



*Study of water environmental management in the Three Gorges water conservancy project*

Under the pressure of increased competition between regions in attracting capital and investment, regional leaders were challenged to balance the costs and benefits of economic expansion versus environment protection. To achieve sustainable development short-term profit had to be sacrificed. To reduce water pollution the city government of Ziyang shutdown 100 million fish farming projects and 15 other high profit but high polluting investment projects. As a result Ziyang was awarded the “Green City” designation by the Sichuan provincial government in 2010. Many of the changes in policy and practise came as a direct result of participation in the SSMPT Action Learning programme.

### **RECONSTRUCTION OF SEWAGE SYSTEMS IN CHENGDU AND SURROUNDING AREAS**

Chengdu is the capital city of Sichuan Province and is the main source of pollution of the Ming River Basin. As such, it is the key area in which pollution abatement programmes are needed to improve water quality in Ming River so as to meet required contamination level standards. To identify the best water pollution solution, the Chengdu Water Resources Bureau took part in the SSMTP actively and applied what they learned in Switzerland and Europe in their own working areas.

For instance, soon after their return to Chengdu they introduced random water control monitoring in industrial and in agriculture areas...In addition, the “polluter pays principle” learned from Swiss law was established in the city and province. Furthermore, industrial waste water processing facilities were constructed that use rainwater as a purification agent, which became a tremendous success. Since 2008 186 wastewater treatment facilities have been built in Chengdu and surrounding areas. Annually more than 2 billion RMB (nearly 300 million SFR) has been invested for wastewater and stream water treatment. Approximately 42 streams and small rivers have been purified. Despite this evident progress there is much more work to be done to improve water quality in Chengdu and surrounding areas.

A 2006 environmental report shows that in November of that year 67 industries in Chengdu City installed automatic supervisory alarm systems and 474 restaurants were punished or closed due to waste water discharge violations. This demonstrates that water effluent monitoring and control efforts are working.



*The Meishan wastewater treatment plant collected waste water from 12 industrial parks. Water quality is to be controlled and analysed continuously.*

Historically, pollution fines in China have been low, making it financially advantageous to pollute and then simply pay applicable penalties rather than to spend money on prevention, to the extent that some companies have systematically incorporated such expenditures into their budgets. To stop such practises recent amendments to the Water Pollution Prevention Control Law have raised financial penalties for pollution incidents with no maximum limit specified for serious incidents. Moreover, emission reduction rates have established important measurement parameters for regional official performance appraisal. Increases in compensation payments for officials, managers and staffs tied to achievement of reduction rates and other acts approved recently reflect the effort and determination of the provincial government to use the legal system to reduce water pollution.

### **PHOENIX RIVER WETLAND PARK**

Everglade is referred to as the “kidney of the earth”. To overcome waste water treatment problems construction of wetland areas has become an effective and important method for water purification.

In 2006 the Chengdu Environmental Protection Bureau invested more than 20 Million CNY (nearly 3 Million SFR) in water purification for the Phoenix Second River. Only six months after construction the largest man-made wetland in Chengdu was put into operation. The wetland covers an area of approximately 1.3 km<sup>2</sup> and is able to process 20'000 tons of waste water into “class A” quality water per day.



*On-site visit of the Sino-Swiss project team in Chengdu Phoenix Second River Wetland Park*

The Phoenix River Wetland project was divided in two parts, a "pre-processing project" and a "constructed wetland treatment" project. Sewage runs through a sedimentation basin, an aeration basin and a filtering basin, eventually reaching the core system, the –wetland area where a variety of aquatic plants and wetland microbes absorb and purify the water,, breaking down the organic matter in the sewage. The wetland filter facility contains a total of eight processing systems. Each system uses plants which have different absorption qualities and perform different filtration functions. Waste water passes through these purification agents and filters and comes out clean and clear.



*Phoenix River sewage after final filtration*

The Phoenix River Wetland in Chengdu evidences excellent results. Further wetland projects have been either planned or already carried out all over Sichuan Province.

## **CHUANHUA CHEMICAL GROUP**

The Chuanhua Chemical Group Co. based in Chengdu was founded in 1956 and was one of the 18 largest chemical industries in China. In February 2004 as a result of sewage facility damage industrial sewage that exceeded permissible ammonia concentration level limits by a factor of 400 to 500 percent, drained into the nearby Tuo River. During the following month 500'000 kg of fish died in the river and millions of citizens residing along the lower reaches of the Tuo were cut off from tap water. The direct economic loss of this event has been estimated at 219 Million CNY (30 Million SFR). Several members of the firm's management group and other responsible persons were penalized and the company was punished with a fine of 1 Million CNY (nearly 150'000 SFR), which was at the time the highest fine for an environmental pollution violation ever levied in China.

The Chuanhua Chemical Group apologized and demonstrated great regret for this disaster, and became determined to improve their environmental protection methods and processes and to integrate pollution control throughout all of their production processes. Among a group of approximately two dozen officials chosen to address and deal with the outcomes resulting from this disaster, only one participant from private sector came from the Chuanhua Chemical Group. Subsequently, this senior manager brought a number of environmentally-friendly and innovative ideas back to his firm. Supported by provincial and local governments, this former heavy polluter was transformed into a role model for pollution abatement and control.

In the period beginning in 2004 after the disaster the Chuanhua Chemical Group has invested 110 million CNY (16 million SFR) in technical pollution reduction facilities. Dysfunctional pollution producing and unsafe machinery has been disposed. Meanwhile 19 emergency lagoons have been built so that in case of another accident 4'040 m<sup>3</sup> of sewage can be captured without threatening the surrounding environment. In addition, 76 ecological specialists and engineers have examined workflows continuously to make sure that every work process in the industrial supply chain meets the environmental standards established in law. In 2006 the Chuanhua Group received the environmental management system ISO 14001 Certification, an important award earned as a consequence of continuous industrial process and environmental performance improvement. The chemical manufacturer has reduced emissions by 6 million tons compared to 2006 levels.

After the accident the top management of Chuanhua Chemical Group drew lessons from this experience and immediately began to take social and environmental responsibility seriously. A number of seminars and meetings were instituted to meet regularly to promote a philosophy of environmentally conscious manufacturing among all employees. The company continues to work with several top universities and industrial technology research institutes to develop more environmentally-friendly production processes.



*Gaining experience from the Sichuan Qimingxing aluminium factory and its industrial wastewater treatment facility*

## **RECOVERY AND BIOLOGICAL DIVERSITY PROTECTION IN RUO'ERGAI WETLAND**

In terms of biodiversity Sichuan Province ranks second in China. One hundred forty four wild animal species in Sichuan are under national priority protection, 39.6% of the total amount of wildlife under special protection countrywide. Moreover, 21.6% of China's endangered plants, 84 species, can be found in Sichuan. The province's 106 nature reserves cover a total area of 65'600 km<sup>2</sup>. In the past ten years, more than 20 new regulations intended for protection of the natural environment have been established or improved to provide a legal foundation supporting investigation and cracking down on illegal activities of all kinds that threaten the biological diversity in the province.

In addition to the environmental protection improvements instituted in Chengdu City, the wetland project represents an important initiative implemented to preserve and protect water quality and improve water circulation in the upper reaches of the Yangtse River. However, serious environmental problems remain

unresolved in the Ruo'ergai wetland area in the north of Sichuan. In 1985 this area had 17 lakes and a total area of 2'156 hectares. Fifteen years later 6 of these lakes had become completely desiccated and another 11 lakes had dried up to various degrees. Wetland coverage decreased 38.9% and only 1'323 hectares remain presently. The causes of this serious environmental depletion, among others, include degradation of natural grasslands, reduced water flows and circulation, drought and desertification, increased water use for domestic and industrial economic development infestation by a huge plague of rats.



*A group of local government officials looking for counter-measures to reduce desertification of the wetland*

In 2007 a group of senior officials from different departments of the provincial authority participating in the SSMTTP focused their attention intensively on the recovery of the Ruo'ergai Wetland. In the past local government had been afraid of doing anything that would reduce the rate of economic development and growth and the result was the deteriorating condition of the Ruo'ergai wetland. After participating in the SSMTTP series actions were taken to renew the condition of the wetland. As a consequence of cross-departmental participation by the trainees, provincial officials with little wetland knowledge began to recognize that environmental protection and economic development, if maintained in balance, can interact to promote each other in harmony. And, in fact, environmental protection also could deliver substantial social and economic benefits. With full support from the local government, high priority was placed on recovery of the wetland. This initiative was highly productive to the extent that by 2008 the Ruo'ergai Wetland was successfully included in the List of Wetlands of International Importance.

### **COOPERATION WITH RESEARCH INSTITUTE AND SCIENTIFIC INSTITUTION**

During the study-visit in Switzerland, SSMTTP participants have become aware of the fact that Swiss local governments involve scientific research institutions in problem analysis and decision making, in addition to management processes. Participants realised, "We can only protect nature when we understand it". Successful environmental protection and sustainable development require professional and specialised knowledge. This was how the collaboration between Ruo'ergai local government and national scientific research institutions began. Currently several recently built sampling stations are operating for the purpose of studying biodiversity, ecology, carrying capacity of grasslands, desertification

control and many other related topics. Due to this successful cooperation, certain endangered plants and animal species have been protected and in some cases saved from extinction.



*Sichuan is home of 144 endangered animal species*

### **CHALLENGES AND FURTHER COOPERATION**

In spite of the progress China has achieved in the past decade there is still a great deal of knowledge and experience in the area of environmental protection and preservation that China can learn from Switzerland and other European countries. China is currently facing the challenge of recruiting, developing, and retaining scientific and managerial talent. There is a rapidly growing demand for specialists and leaders as the Chinese government has launched a number of initiatives to improve the country's innovation capacity. Multinational corporations from developed nations recruit high-potential graduates from Chinese universities and research institutes which intensifies the problem of retaining the pool of highly educated and skilled labour. The "war for talent" is most acute for high-skilled professionals in the chemical, industrial and service sectors. Central and local governments are exerting great effort in attempts to increase their competitiveness so as to build and sustain the attractiveness of Chinese national and local labour markets. As a consequence of this circumstance, future cooperation in education between China and Switzerland will benefit both countries.



*SSMTTP participants from Jiangsu discussing regional innovation strategy in a workshop*

To intensify the communication between former participants in SSMTTP and the Swiss project team, an intranet platform was launched in 2010. The website

allows users to download learning materials from the SSMTTP, to follow the programme process and related projects, and to exchange ideas and experiences with Swiss and European experts and professionals. Trainees can receive relevant information online before their study-visit in Europe to become more familiar with Swiss culture and institutions they will visit. Newsletters directed to the different former training groups are providing information about current developments, new issues and trends in their respective fields of training. The intranet platform provides the opportunity for valuable and useful communication and information exchange between future and former SSMTTP participants to ensure a continuous process of learning between Chinese and Swiss professionals.



Intranet homepage of SSMTTP: [www.sino-swiss.org](http://www.sino-swiss.org)

## QUOTATIONS OF SSMTTP PARTICIPANTS



**Mr Liu Yi, Executive Vice President of Party College of CPC Provincial Committee**

SSMTTP is a groundbreaking training programme, with focus on solutions and implementations of practical problems. The learning method not only improved problem solving abilities of the participants but also opened our mind to new, innovative concepts.



**Mr WU Mian, Deputy Director-General of Provincial Department of Tourism**

In the past 6 years, I often discussed with my colleges in a manner of Action Learning unconsciously. The results were efficient and effective. I still show PPT, case-study and photographs by the time we visited Switzerland to my colleges as good example of eco-tourism.



**Mr HU Bin, Deputy Head of Ganzi Autonomous Prefecture**

What we have learned in SSMTTP fits the tourist industry development of Ganzi totally. Our tourism strategies are based on the results of Action Learning Ganzi research.



**Ms YU Gui, Deputy Director-General of Provincial Department of Construction**

European countries are role model of protecting culture heritage. We now know: Planning is the precondition; protection is the core and management is the key.



**Mr QIN Furong, Vice Secretary-General of CPC Emeishan City Committee, Party Secretary of Emeishan Mountain and Leshan Giant Buddha Management Committee**

We benefited a great deal from one year Action Learning. In the past five years we had many noteworthy achievements. We would like to invite friends from all over the world to come to Ermei Mountain and Leshan Mountain and see the changes.

**Mr YOU Yong, Director of Planning and Finances Division Provincial Department of Tourism**

Eco-tourism in Sichuan is still at an early stage. We continuously meet new challenges. There is still a great deal knowhow we could learn from Switzerland.

**Mr ZHANG Liming, Deputy Division Chief of International Cooperation Division, Provincial Department of Forestry**

Our model of thinking transformed after the training. Our vision widened. Our implementations put more emphasis on sustainability.



**Mr YANG Qinglong, Vice Mayor of Ziyang City**

Due to the training, we brought environmental consciousness, know-how and Action Learning method with us to Ziyang, and implemented these in our responsible areas, to our employees.

**Mr ZHANG Xue'ai, Director of Chengdu City Water Conservancy Bureau**

Swiss learn about recycling in kindergarten and primary school already. Now we put more emphasis on communication and education too. It helps to raise ecological awareness of our people.



**Mr YE Hong, Director of Sichuan Provincial Environmental Protection scientific Research Institute**

We are still facing the same dilemma: Farmers in agriculture want to have a better quality of living; experts already have relatively comfortable life and want to protect environment. How can we reach both goals in a balanced way? That's the key to sustainable development.



**Ms LONG Shirong, Division Chief of Personnel Division, Provincial Department of Environmental Protection**

We realised the importance of continuous training. In 2009, some 4'000 employees related to environment protection had further training. That is more than half of all employees in this field.

**Mr XIAO Yun, Deputy Director of Environmental Protection Department, Sichuan Chemical Company Ltd., Co.**

We were astonished how corporate social responsibility policy of a company could affect its economic development. European customers show very high environmental awareness. We have to enforce pollution control for our own good.



**Mr LUO Zengbin, Deputy Director-General of Provincial Department of Forestry**

In the process of ecosystem restoration shortly after the heavy earthquake in 2008, we made the best of what we've learned in the SSMTTP. The approaches are conspicuously effective and successful. Even after the training, the team members gathered together several times to discuss eco-movement and exchanged experiences.



**Mr FANG Weijia, Vice Mayor of Leshan City**

We have heard of the high standard of environment protection in Switzerland for a very long time, but one eyewitness is better than ten hearsays. The personal experiences gave us food for thought and encouragement for improvement.



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Dufourstrasse 40a, CH-9000 St. Gallen, Switzerland,

Copies of this report can be ordered at [sino-swiss@unisg.ch](mailto:sino-swiss@unisg.ch),  
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