TOUR A
INTERNATIONAL TRAINING & STUDY TOUR TO THE THREE GORGES PROJECT *(TGP-2006)*
WASER / IAHR-APD/UNESCO/IRTCES

VENUE:

Site of the Three Gorges Project, Yichang, China

DATE:

8-15 August 2006

DEADLINE FOR REGISTRATION:

May 1, 2006

PARTICIPATION:

The trainings and study tour is open for participants who are interested in the Three Gorges Project

OUTLINE OF THE STUDY TOUR:

This is a one-week trainings and study tour to study sediment transport and interaction between fluvial systems with large dams. The study tour will include lectures, a seminar, demonstration of physical and mathematical models on sediment transport, a visit to the Three Gorges Project, Zigui County- a new immigration county,

Chinese Sturgeon Research Institute and some social events including a cultural recreation evening party and other interesting activities.

LECTURES:

- Introduction to the Three Gorges Project
- Interactions between fluvial systems and large scale hydro-projects
- Sediment research for the Three Gorges Project on the Yangtze River since 1993
- Sediment management in hydroelectric projects
- Ecological Impacts of the Three Gorges Project

DEMONSTRATION:

- Visit to physical models of the Three Gorges Project
- Demonstration of mathematical modeling of sediment transport

GENERAL INFORMATION:

Yichang ---The Host City:

Yichang City is located in the western part of Hubei Province, at the exit of the Three Gorges of the Yangtze River. It has been confirmed by archeologists that there existed human traces at least 100,000 years ago. More than 7,000 years ago, the ancestors of Yichang lived and worked here, and created brilliant culture. During the Warring States Period (770-221 BC), the Chu State established its capital here. From then on, Yichang has long been the capitals of different states or prefectures for over 2,000 years. Yichang is a tourist city with a variety of attractions rich in historical sites and cultural relics. Yichang has also become a modern city with convenient transportation and communication facilities in recent years.

Three Gorges Project (TGP):

The Three Gorges Project (TGP) is a coreproject in the development and harnessing of the Yangtze River (Changjiang). The dam site is situated at Sanddouping above Yichang City. The construction of magnificent Three Gorges Project started in 1993. TGP is as a multi-purpose project producing comprehensive benefits mainly in flood control, power generation, and navigation improvement. Its installed capacity will be 18,200 MW. With the normal pool level (NPL) at 175 m the total storage capacity of the reservoir is 39.3 billion m^3. The reservoir has impounded at 135 m since June 2003 and the first group of power units (11 x 700 MW) has been put into operation. The current shiplock has four-steps for maintaining normal navigation. The construction of TGP will protect the areas in the middle and lower reaches of the Yangtze River from floods and improve the upstream waterway (660 km long) from Yichang City to Chongqing Municipality.

Dam Construction:

This dam is a concrete gravity dam. The total length of the dam is 2, 309. 47 m, with the crest elevation at 185 m and a maximum height of 175 m. The 483 m spillway is located in the middle of the river channel. There are 23 7×9 m bottom outlets and 22

90-m surface sluice gates. In the thalweg section, flip bucket energy dissipators are provided. On both sides of the spillway section, there will be intake and non-overflow dam sections.

Power Stations:

There are 26 sets of 700 MW turbine generator units with a total capacity of 18,200. The annual electricity output is 84.68 TW·h. There are 15 transmission lines, with 500 KV AC lines to Central China and east Sichuan Province and one I 500 kV DC lines to Eastern China

Navigation Facilities:

The permanent navigation structures consist of a shiplock and a shiplift. The shiplock will be a two-way five--step flight locks, each lock chamber has a dimension of 280×34 x5 m capable of passing 10, 000 tons of barge fleet.

Construction Work Quantity:

The quantity of work to be done in the construction of major structures and diversion works are:

--Earth-and--rock excavation	102.59 million m^3
--Earth-and--rock embankment	29. 33 million m^3
--Concrete placing	27.15 million m^3
--Re--bar	354. 30×103 tons
--Metal works	280. 8×103 tons
-- Installation of turbine generator	26 sets (18, 200 MW)

Sengnongjia Natural Reserve in Mt. Shennongjia:

Covering 70464 hectares on the borders of Fang, Xingshan, and Badong counties, Hubei Province. Sengnongjia Natural Reserve,a gold mine of plant reserves, is located at a transitional belt between subtropical and temperate zone. There are 2062 recorded species of pterid & phytes and seed plants. In this area, specific examples are the Chinese yew, dove tree, katsuratree, ginkgo and Chinese autocephalous. 32 of them are under key state protection. The Henry buckthorn and zahlbruckner mountainash are peculiar to Shennongjia. Medicinal plants are another treasure of Shengnongjia. Eucommia, magnolia, gagtrodia and manyleaf paris are common here but not common in other parts of China. With its special natural environment and ecosystems, Shennongjia Nature Reserve is an important base for scientific research for excavation and cultivation of further plant resources.

Over 334 species of vertebrates are residents in the Reserve, and over 54 of them are under key state protection. They include but are not limited to the South China tiger, leopard, golden monkey, golden eagle, white—crested pheasant and

salamander. Here is the east boundary of the golden monkey habitat. Besides these animals, some albinos include musk deer, bear and snake.

Shennong Stream:

Shennong Stream is a tributary carrying clear, cooler water into the Yangtze. The stream runs through steep gorges, in which the ancient Bahu people used to live thousands of years ago. The area is now occupied by Tujin, one of the minority peoples of China who retain much of the primitive culture, such as the traditional tracker boats. These boats are powered by rowing, or by heaving long ropes from the shore to cope with shallow or fast flowing water.

Travel to Yichang:

Yichang City is about 300 km from Wuhan. Yichang City connects many important cities of China by flights. 1 daily flight from Yichang to Beijing, 3 flights to Shanghai, 2 flights to Guangzhou and one flight to Kunming. Participants should purchase their air tickets from their entrance city of China to Yichang as their whole travel package. The IRTCES will provide some assistance if needed.

Three Gorges Project Hotel:

The Three Gorges Project Hotel is 60 km from Yichang Airport. Because of the construction of Three Gorges Project, all vehicles come in and out from the Three Gorges Project site must have a special permit. Taxis are not permitted to come to the Hotel. To guarantee a convenient transportation between Yichang airport and the Hotel, a special group arrangement at no cost to participants will be made. Participants arrive at Wuhan airport can have a bus transportation to the Hotel at US$20 for each one.

Weather:

The weather in Yichang is warm and humid in August, with an average temperature of around 27.6°C –32.6°C and an average rainfall of 186 mm.

Local Ground Transportation Service:

Yichang Airport: Free bus service will be provided from the Airport to the hotels for all participants. Participants are required to inform their arrival time and flight number.

Yichang Train Station: Free bus service will be provided from the Train Station to the hotels for all participants. Participants are kindly requested to inform their arrival time and train number.

Three Gorges Hotel (NAYUNLOU Building) Tel: +86-717-6613666

Address: Dam Site of the Three Gorges Project, Yichang, China

Tour A: Preliminary Timetable of *TGP-2006*

August 8-15, 2006		Program	Place
Date	Time		
August 8 （Tuesday）	15：00-22：30	Registration	◗**Lobby of TGP Hotel(★★★★)**
August 9 (Wednesday)	09：00-09：45 09：45-10：00 10：00-12：00 12：00-13：00 13：00-14：30 14：40-18：30 18：30-19：30 20：00-21：30	◆ Opening Ceremony ◆ Group photo and Coffee Break ◆ Classroom Lectures ◆ Lunch break ◆ Classroom Lectures ◆ Technical Exchange（Each 10 Minutes） ◆ Opening Reception ◆ Cultural Recreational Evening Party	◗**TGP Hotel(★★★★)**
August 10 (Thursday)	08：00-12：00 12：00-14：00 14：00-18：25 18：25-18：35 18：35-19：30	◆ Technical Visit ◆ Lunch Break ◆ Classroom Lectures ◆ Wrap-up and Discussion ◆ Dinner	◗**Gezhouba Hydro-project,** ◗**TGP Culture Museum** ◗**TGP Hotel(★★★★)**
August 11 (Friday)	Full day	◆ Technical Visit to Tanzi Ridge, TGP Dam Top, New Immigration County (Zigui County Seat) and Chinese Sturgeon Research Institute and Yichang Hydrological Station ◆ Get on Boat and Cruise Upstream	◗**TGP, New Zigui County** ◗**Overnight at ship**
August 12 (Saturday)	Morning Afternoon	◆ Cruising stream through the Three Gorges and sight-seeing (Baidicheng city, Wuxia, Qutang Gorge, etc.); ◆ Visit Shennong Stream by Small Boat	◗**Overnight at ship**
August 13 (Sunday)	Full day	◆ Visit Shennongjia Natural Reserve in Mt. Shengnongjia	◗**Overnight at TGP Hotel(★★★★)**
August 14 （Monday）	08：00-15：30 15：30-17：30 17：30-18：30	◆ Arrival at Wuhan and Sightseeing at Yellow Crane Tower; ◆ Demonstration of TGP Physical and Mathematical Model, Seminar with Experts of CRSRI* ◆ Closing Ceremony (Farewell Banquet)	◗**Overnight at Wuhan (★★★★)**
August 15 (Tuesday)	**08：00**	**Tour Ends after Breakfast**	**See the Participants off at Airport**

Note: ◆ **CRSRI**-Changjiang River Scientific Research Institute

◆ Lecturer- will be international renowned professors selected by WASER, IAHR-APD, UNESCO and IRTCES