

REPORT

of a visit to

**Guangdong and Fujian Provinces
People's Republic of China**

By

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The Continuing Committee

of the

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Foreword

The People's Republic of China was nominated by the participants of the Second International Conference on Vetiver (ICV-2) held in Phetchaburi, Thailand, 18-22 January 2000, to be the host of ICV-3. During the past one-and-a-half years, Prof. Liyu Xu, the Coordinator of the China Vetiver Network, who has been charged with the responsibility of organizing ICV-3, has approached Guangzhou City together with Guangdong Province, and Fuzhou City together with Fujian Province, to be the possible venue and host of ICV-3.

Prof. Xu has requested the Chaipattana Foundation to help in seeking fund to organize ICV-3. HRH Princess Maha Chakri Sirindhorn, Chairperson of the Chaipattana Foundation, and the Patron of The Vetiver Network, has graciously approved the funding of US\$ 15,000, as the first seed money to the Organizer. In order to make final decision on the venue and the host of ICV-3, Prof. Xu requested Dr. Sumet Tantivejkul, Secretary-General of Chaipattana Foundation and Chairman of the Continuing Committee (CC) the International Conference on Vetiver (ICV), and Dr. Narong Chomchalow, Coordinator of the Pacific Rim Vetiver Network, and Secretary of the CC/ICV, to visit the two potential provinces of China, with funding support on traveling from the Chaipattana Foundation. Arrangement has been made with the Royal Thai Consulate-General Office in Guangzhou to liaise with the Chinese authorities on the program of their visit. The visit was made during 6-12 November 2001.

The following report has been prepared by Dr. Sumet Tantivejkul and Dr. Narong Chomchalow for submission to the members of the Continuing Committee of ICV. It includes the background of ICV, the summary of the visit, and the recommendations as to the venue and other organization structure of the ICV-3. Annexes to the Report and Pictorial Report are also attached.

The authors wish to express their sincere thanks to the Consul-General and his staff at the Office of the Royal Thai Consulate-General in Guangzhou, and to Prof. Liyu Xu, the Coordinator of the China Vetiver Network, for their kind arrangement and assistance rendered during the whole period of their visit. Hospitalities provided to them by numerous people in both provinces are gratefully acknowledged.

Background of the International Conference on Vetiver

Within the period of ten years, vetiver has turned from a plant of obscurity to popularity since it has several beneficial characteristics which lends itself to soil and water conservation. The First International Conference on Vetiver (ICV-1) was held in February 1996 in Chiang Rai, Thailand under the theme "Vetiver: A Miracle Grass", with 300 participants, 100 of which were from 40 foreign countries. During the Conference, it was decided to hold ICV every four years, and ICV-2 was once again held in Thailand in January 2000 under the theme "Vetiver and the Environment", with 400 participants, 100 of which were from 30 foreign countries.

At the closing session of ICV-2 the participants endorsed the recommendation of the Business Meeting that ICV-3 be held in China in 2004 with the theme "Vetiver and Water". Dr. Sumet Tantivejkul, Secretary-General of the Chaipattana Foundation in his capacity of Chairman of the Continuing Committee of ICV, and Dr. Narong Chomchalow, Coordinator of the Pacific Rim Vetiver Network, in his capacity of the Secretary of the Continuing Committee of ICV, have been invited by Prof. Liyu Xu, Coordinator, China Vetiver Network, to visit Guangdong and Fujian Provinces to make decision and suggestion on the venue of ICV-3. The Office of the Royal Thai Consulate-General in Guangzhou has liaised with the authorities in both provinces for the program of the visit during 6-12 November 2001.

Summary of Visit **(In chronological sequence)**

(See Program of Visit in Annex 1, List of Persons Met in Annex 2, and Publications Received in Annex 3)

Fourth China International Garden and Flower Exposition (6 Nov.)

This Exposition features landscape and ornamental plant exhibitions displayed by various national and international agencies in a large compound in Guangzhou City, from 1 October to 30 November 2001.

Among the displays is the Vetiver Exhibit arranged by the Guangdong Provincial Grass and Environment Association (GPGIEA) in an area of about 1,000 sq.m., featuring a vetiver-roofed pavilion displaying posters on vetiver, and samples of handicrafts from Thailand. Model of landscape representing three stages of mine quarry rehabilitation was also displayed; the first stage being the eroded scene of the quarry showing erosion of the slope caused by mining operation, the second is when vetiver has been planted, and the third, the final stage of rehabilitation, showing the slope being completely covered with vetiver.

Meeting on the Development of Vetiver Grass Technology in Guangdong (6 Nov.)

This get-together was hosted by the GPGIEA with the idea of explaining the development of vetiver grass technology (VGT) in Guangdong Province. It was started with the introduction by Mr. Hong Hao, Secretary-General of GPGIEA on the main purpose of welcoming the visitors from Thailand as the representatives of the Continuing Committee of the International Conference on Vetiver (ICV), and of reporting development of VGT in Guangdong to the visitors.

There were exchanges of ideas on vetiver and the environment among the Thai and Chinese delegates. Then Dr. Xia Hanping, Vice Secretary of GPGIEA, described the development of VGT in Guangdong Province through poster and slide presentations.

This was really a very well-planned and well-presented meeting, bringing all relevant people in both the public and private sectors in Guangdong Province together. It is of great significance that all the business enterprises on vetiver in Guangdong were present in the meeting.

Garbage Landfill at Ta Tien Mountain and Electricity Generating Plant (7 Nov.)

This is the site where Guangzhou garbage (5,000 tons/day) is dumped in a valley. It is now 70 m high (originally planned for 50 m). The slopes are planted with vetiver to cover and stabilize the garbage. The leachate from the garbage pile is drawn by pipes to the tank which is then treated through activated sludge process before releasing into the public stream. The methane gas released inside the garbage pile, amounts to 620 cu.m/hr, is piped out and used to generate 950 kw/hr of electricity, or about 23,000 kw/day. The plant is presently installed with one generating unit, costing Yuan 20 million. The income earned from selling the electricity is Yuan 4 million per year.

Cong Hua Highway and Huong Long Tai Reservoir (7 Nov.)

The planting of vetiver along the highway and the embankment of the Huong Long Tai Reservoir is done by the Guangdong Water Conservancy Bureau. Along the Cong Hua Highway to the Reservoir, at Lian Kan, Chang Hua, a distance of 3.8 km on both sides of the highway are planted with vetiver to control erosion of the slope. The Reservoir produces 60% of water for Guangzhou City, which is 90 km away along the Liu Chae He River. Attempts have been made to conserve the environment of the Reservoir, which holds 100 million cu.m. It was built in 1973 and

finished in 1975. The dam is 61.3 m high, 183 m long, and produces 8,800 kw/hr, or about 20 kw/year of electricity, valued at 10 million Yuan/year. The cost of planting the vetiver, Yuan 450,000, was covered by the Municipality of Guangzhou.

Soil and Water Conservation Office of Fujian Province (8 Nov.)

A meeting was organized for the visitors to be acquainted with Fujian governmental organizations and their role in vetiver promotion. Several heads of government offices were present. Dr. Yang Xuezheng, Director of Soil and Water Conservation Office of Fujian Province, welcomed the visitors and stressed the importance of vetiver in soil and water conservation. It is noted that in Nanping City, vetiver has been used in terrace and highway stabilization, for erosion control in tea plantation, all of which are satisfactory. However, as vetiver has no economic value, its promotion is difficult.

Dr. Sumet, on his behalf as the Chairman of ICV Continuing Committee and Secretary-General of Chaipattana Foundation, informed the participants of his mission, which is to select the venue for ICV-3. Everyone feels that it is appropriate for ICV-3 to be held in China, be it in Guangzhou or Fuzhou. Thailand will stand ready to provide support to organize ICV-3 in China.

A number of Chinese officials presented their works on vetiver to the visitors. There were a few presentations on various topics such as the history of vetiver introduction into Fujian Province, the application of vetiver in Fujian, the present status and the need for the promotion of vetiver in Fujian. Of special interest to the visitors is the work on highway embankment stabilization by Madame Zhang Jing, a senior officer of the Soil and Water Conservation Office of Fujian Province. It was learned that the Highway Bureau of Fujian Province has provided support in the use of vetiver for highway embankment stabilization.

Foreign Affairs Office of Fuzhou Municipal People's Government (8 Nov.)

This was a brief courtesy visit to the Fuzhou Municipal People's Government. It was hosted by Mr. Li Hong, Deputy Director-General of the Foreign Affairs Office of Fuzhou Municipal Government.

Fuzhou Municipal People's Government (8 Nov.)

This was a brief courtesy visit to Mr. Huang Xuhe, Deputy Mayor of Fuzhou Municipal People's Government, who hosted a luncheon for the visitors. Mr. Huang was of opinion that Fuzhou Province could organize ICV-3.

Foreign Affairs Office of Fujian Province (8 Nov.)

This was a brief courtesy visit to Mr. Li Qingzhou, Director-General of the Foreign Affairs Office of Fujian Province who hosted a dinner for the visitors. Mr. Li expressed his interest for the Province to host ICV-3. He shall bring the matter into the consideration of the Governor of Fujian Province (who was during that time in Beijing).

Rice-Wheat Experiment Station at Shan District, Fujian Province (9 Nov.)

A visit was made to the Rice-Wheat Experiment Station to see a vetiver multiplication plot which was done on a large scale. An area of 1 hectare is being used. The growth of vetiver plant is quite good. The main purpose of this attempt is to provide the users in various projects involving vetiver to be able to obtain plant materials at the time of need.

Vetiver at Embankment of Yongchun Highway (9 Nov.)

A visit was made to see vetiver grown for embankment stabilization of Yongchun Highway, which is quite far from Fuzhou City, where, as was told by Madame Zhang Ling, the officer in charge from the Soil and Water Conservation Office, "largest vetiver demonstration (450,000 sq.m) was established on mountainous area for highway protection". Unfortunately, due to misunderstanding in language, the delegate did not see such demonstration, which is just 3 km away. However, he saw some demonstrations along the highway.

Embankment Stabilization of Fuquan Highway, Fuqing City, Fujian Province (10 Nov.)

A visit was made to see vetiver grown for embankment stabilization of side and back slopes of Fuquan Highway at Fuqing City, about 40 km southeast of Fuzhou. The embankment is quite steep and high. There are a few ditches made of stone and cement to facilitate drainage of water down the steep slope. Vetiver has been planted, at 10 cm spacing between plants, as contour hedgerows along the slope. However, there are some areas where vetiver tillers were not planted as hedgerows but randomly interspersed at very wide spacing. As notified by Madame Zhang, this was done by the Highway Bureau without her involvement.

Fujian Province Agricultural School (10 Nov.)

A visit was made to Fujian Province Agricultural School which is 30 km Southeast of Fuzhou City, to see vetiver being planted as hedgerow along the contour of the slope of Xidu Reservoir, a large body of water with rather steep embankment. It was nicely done with the top of vetiver plants cut at 60 cm (instead of 20 cm) above ground. Spacing between plants is around 10 cm, and seemingly closing the space between plants in the row.

Guangzhou Oversea Chinese Vocational School (10 Nov.)

A short visit was made in the dark to see vetiver grown on a rather steep slope of the mountain behind the dormitory. A contour line was made with sandbags to hold the soil while vetiver was planted in the row with cement drainage ditches.

South China Institute of Botany (10 Nov.)

With the headlights of the car, a view of collection plots of vetiver and a few experiments of Dr. Xia Hanping was obvious. Unfortunately, it was too dark to photograph.

South China Agricultural University (11 Nov.)

A brief visit was made the South China Agricultural University in Longdong area of Guangzhou City, to see an experiment on the use of vetiver as a means of removal of pollutants in wastewater. An amount of 500 tons per day of wastewater was released from the university compound. The COD value of 300 was reduced to 80 within 3 days, while the BOD was reduced from 200 to 50 within 3 days.

Huizhou University (11 Nov.)

A mountain slope in the university compound was cut to obtain the soil and rock for making a football ground, thus leaving a rather steep slope with a height of over a hundred meters, and the

entire length of about 1 km. The entire sloping area was planted with vetiver to stabilize the slope. The then newly-appointed President decided to use vetiver in place of a concrete pavement. As it turned out, he was able to save 80% of the total cost of 5 million Yuan. This is really a magnificent sight and definitely a place for demonstration to the participants if ICV-3 were to be held in Guangzhou.

Vetiver Eco-Engineering Project at Xing Feng Jiang Reservoir (11 Nov.)

The steep slope of the Reservoir was planted with vetiver to stabilize the embankment. At present, some other vegetation, like elephant grass and eucalyptus trees, have naturally invaded. This indicates that vetiver has been beneficial to the site and has done its job.

Along the embankment of the reservoir just above the water line, there is a wet 'yellow belt' of a few meters high. This is not an eye pleasing sight. It represents an area of water fluctuation during the wet and dry season. There is an on-going experiment to use grow vetiver in this area. It is obvious that vetiver can survive in the water for over two months. If the trial is successful, the authority will plant vetiver completely around the reservoir.

Recommendations on the Organization of The Third International Conference on Vetiver (ICV-3)

The mission members from Thailand (consisting of Dr. Sumet Tantivejkul, Secretary-General of the Chaipattana Foundation of Thailand, in his capacity of the Chairman of ICV Continuing Committee, and Dr Narong Chomchalow, Coordinator of the Pacific Rim Vetiver Network, in his capacity of the Secretary of ICV Continuing Committee), who made a visit to Guangdong and Fujian Provinces, China during 6-12 November 2001, in close consultation with the staff of the Office of the Royal Thai Consulate-General in Guangzhou, and Prof. Liyu Xu, Coordinator of China Vetiver Network, would like to make the following recommendations regarding the organization of ICV-3:

1. Venue of ICV-3: Guangzhou has been decided by the mission to be the venue of ICV-3 since it has the following advantages:

- 1.1 The city is conveniently reached from abroad through its own international airport as well as that of Hong Kong which is only one hour away by train. It takes only 15 minutes from the Guangzhou Airport to the City. The City of Guangzhou has numerous modern accommodation and convention facilities of all classes. Moreover, Guangdong is the most prosperous province in southern China, and is one of the three most prosperous provinces of China, with excellent relations with Hong Kong and Macau. Thus, if it holds ICV-3, a number of participants, both the scientists and business men from these cities as well as from around the world, can easily attend.
- 1.2 There are a lot of government institutions in Guangzhou City and Guangdong Province which are active in vetiver R&D. These are, for example:
 - 1.2.1 South China Institute of Botany in Guangzhou City
 - 1.2.2 South China Agricultural University in Guangzhou City
 - 1.2.3 Zhongshan University in Guangzhou City
 - 1.2.4 Huizhou University in Huizhou City

These institutions, many of which have conducted trials on vetiver for over ten years, can easily put on vetiver demonstrations for viewing by the participants of ICV-3, especially with a long period of three years for preparation. Official support from South China Institute of Botany is presented in Annex 4

1.3 There are a number of government offices in Guangzhou City that lend support to the proposed ICV-3. These are, for example:

- 1.3.1 Guangdong Academy of Agricultural Sciences
- 1.3.2 Guangdong Department of Science and Technology
- 1.3.3 Guangdong Department of Development

Official support from the Guangdong Academy of Agricultural Sciences is presented in Annex 4.

1.4 There are at least three associations in Guangzhou City that lend support to the proposed ICV-3. These are:

- 1.4.1 Guangdong Provincial Grass Industry and Environment Association
- 1.4.2 Guangdong Association for Science and Technology
- 1.4.3 Guangzhou Municipal Science and Technology Association

These associations composed of members from various governmental agencies, and they are fully supported by these agencies. Official support from the Guangdong Provincial Grass Industry and Environment Association and of the Guangdong Association for Science and Technology are presented in Annex 4.

1.5. Most outstanding of all is the presence of a number of private vetiver-oriented business firms that promise to provide full support for the organization of ICV-3. These are:

- 1.5.1 Guangzhou Hong Ri Landscape Architecture Co. Ltd. (a subsidiary company of the Hong Ri Group)
- 1.5.2 Guangdong Huihua (Sunrise) Environment Science and Technology Co. Ltd.
- 1.5.3 Rivers Enterprise Corporation Co. Ltd.
- 1.5.4 Guangzhou City Vetiver Grass Industry Science Co. Ltd.

Official support from these business enterprises is presented in Annex 4.

2. **ICV-3 Organizer:** With respects to the institutions/officers organizing ICV-3, the mission would like to suggest that the following committees, subject to their agreement, be constituted:

2.1 International Advisory Committee, composed of the following persons:

- 2.1.1 Dr. Sumet Tantivejkul, Chairman of the ICV Continuing Committee (Chairman)
- 2.1.2 Mr. Richard Grimshaw, Chairman of TVN Board of Trustee
- 2.1.3 Mr. James Smyle, President, The Vetiver Network (TVN)
- 2.1.4 Ms. Joan Miller, Coordinator, TVN
- 2.1.5 Dr. Paul Truong, Queensland Dept. of Natural Resources, TVN Board of Trustee
- 2.1.6 Mr. Criss Juliard, DynaEnterprise, Senegal
- 2.1.7 Mr. John Greenfield, Former World Bank Consultant, New Zealand
- 2.1.8 Mr. Michael Pease, Coordinator, Europe and Mediterranean Vetiver Network
- 2.1.9 Mr. Mark Dafforn, US National Academy of Science, TVN Board of Trustee
- 2.1.10 Dr. Narong Chomchalow, Secretary of the ICV Continuing Committee (Secretary)

More members may be appointed as deemed necessary at a later date.

2.2 Institutions responsible for the organization of ICV-3: Guangdong Provincial Academy of Agricultural Sciences, in cooperation with South China Institute of Botany in Guangzhou City, South China Agricultural University in Guangzhou City, Guangdong Provincial Grass Industry and Environment Association, Guangdong Provincial Association for Science and Technology, and Guangzhou Municipal Science and Technology Association.

2.3 Local Organizing Committee: This suggestion, based on various prior discussions with the Chinese authorities, is subject to the acceptance of, and approval by, the persons concerned.

- 2.3.1 Prof. Luo Fuhe, President of Guangdong Academy of Agricultural Sciences, as President of ICV-3

- 2.3.2 Prof. Xu Liyu, Coordinator of the China Vetiver Network, as Honorary President of ICV-3
- 2.3.3 Mr. Hong Hao, Secretary-General of Guangdong Provincial Grass Industry and Environment Association, as Chairman of the Organizing Committee
- 2.3.4 Other officers will be appointed by the President of ICV-3 to hold chairmanship of various subcommittees such as Scientific, Poster Papers, Publications, Demonstration and Study Tour, Exhibits, Pre- and Post-Conference Tours, Reception, Travel, etc. Some of these may be combined.

3. ICV-3 Organizational Structure: Following the pattern set by ICV-1 and ICV-2, it is recommended that ICV-3 should be structured to have the following components:

- 3.3 Opening function
- 3.4 Key Note Address(es)
- 3.5 Plenary lectures (about 10 papers)
- 3.6 Panel Discussions (about 4 panels with about 4-5 papers each)
- 3.7 Concurrent Sessions (about 4 sessions with about 10-15 papers each, depending on the number submitted)
- 3.8 Poster Papers (depending on the number submitted, including from foreign countries)
- 3.9 Study Tour (one full day)
- 3.10 Exhibits (mainly by the local institutes and private firms)
- 3.11 Pre- and Post-Conference Tours

4. Propose Date of ICV-3: Since Guangzhou City holds the Guangzhou Trade Fair during the whole month of October, the proposed date for ICV-3 of 18-22 October 2004 will have to be adjusted not to be within the period of the Fair in order to avoid difficulty in booking the hotels and air travel. Thus it is suggested that the date be Tuesday 3 to Friday 6 November 2004. The first two days are for opening function, keynote address(es), plenary session, panel discussions, concurrent paper presentations, poster paper presentation, business meeting, and exhibition. The third day, Thursday 5 November 2004, is set aside for a full-day study tour. The last day, Friday 6 November 2004, is for the remaining concurrent paper presentations, conclusion, and closing function (half a day should be enough). A reception dinner on 2 November and a farewell dinner on 5 November are recommended.

5. Expected Number of Participants:

- 5.3 International Participants: Around 50, ten of which are resource persons and ten from the least developing countries, both of which are to be sponsored. About 20 participants are expected from Thailand. The remaining 10 are from various countries; they can cover their own expenses. It is likely that the number of international participants will be higher than 50, especially if pre- and post conference tour can be arranged and a number of accompanying persons would also join. Partial support (e.g. providing domestic expenditures) to a few international participants who can seek only their own international travel would help some to attend the ICV-3. At the end, the total number of international participants may reach 75.
- 5.4 Chinese participants: Around 150-200. About ten resource persons will be sponsored and the rest have to attend at their own expenses. The members of the local organizing committee are also registered as the Chinese participants.