

# How to Initiate the Private Sector to Develop the Vetiver Industry with Special Reference to China

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**Abstract:** China's vetiver technique for environmental purpose was initiated in 1988, almost at the same time as other vetiver promoting nations. However, it was developed relatively slowly in the first ten years (1988–97) compared with China's practical needs. The main reasons were: 1) the vetiver technique was a novelty and, therefore, needed a relatively long process to be widely accepted; and 2) the novelty had been confined in the circle of scientific research and no one devoted himself to push it into the market. It was in the year 1997 when the author decided to initiate the private sector to run the vetiver technique. The first private entrepreneur who was brought into the vetiver circle is Mr. Hong Hao, the President of Hongri Grass Industry Group. He plunged himself into the vetiver industry in 1998, and established the Guangdong Association of Grass Industry and Environment in 1999 to promote development of the technique and industry. Afterwards, at least ten vetiver consulting companies in China have begun, one after the other, to run the vetiver industry under the author's help and instruction. Some of them were newly established especially for the vetiver business, such as the Guangzhou Vetiver Grass Environmental Science and Technology Co. Ltd. and the Hangzhou Zhijiang Vetiver Engineering Co. Ltd. All these companies have made great progress in promoting the vetiver technique throughout South China and made a contribution to China's environmental amelioration. Through six years of experiences, the author thinks that the following four measures are necessary in order to initiate the private sector to enter and run the vetiver industry: 1) give entrepreneurs sufficient confidence that vetiver is really effective in soil erosion and environmental amelioration; 2) do your best to help them, especially when they need you; 3) try to solve problems that they encounter in the process of running vetiver; 4) objectively analyze possible difficulties and actual economic benefits running the vetiver industry. The practice indicates that these measures are feasible and effective and, therefore, might be adopted in other regions of China and even in the world.

**Key words:** vetiver technique, private sector, vetiver industry, vetiver business

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## 1 THE EARLY DEVELOPMENT SITUATION OF THE VETIVER TECHNIQUE IN CHINA

China was one of the earliest countries in the world to conduct vetiver research and application. As early as the 1950s, vetiver was introduced into China, mainly in Guangdong, for the purpose of extracting essential oil. The vetiver oil processing industry in China, however, ceased its operation several years later due to the high cost of cultivation and extraction, plus the low quality of the oil. Since then, vetiver work came to a complete stop in China; almost no one knew what vetiver was from late 1960s to early 1980s.

Vetiver has been utilized again since Mr. Richard Grimshaw, the then President of The Vetiver Network (TVN), was the first to introduce the technique into China in 1988. From then on, the research and development on vetiver has gradually been carried out throughout Southern China. As far as research on vetiver is concerned, Guangdong, led chiefly by the South China Institute of Botany (SCIB) of the Chinese Academy of Sciences, did a lot of creative work (Xia, 2001); as for dissemination, the provinces of Jiangxi, Guangdong, and Fujian claimed the most outstanding achievements (Chen *et al.* 1993; Xia *et*

*al.* 1996, 1998; Zhang, 1998). Based on their accomplishments, there were several Chinese scientists who won the King of Thailand's Vetiver Awards and The Vetiver Network Awards. As for academic exchange and training, a vetiver workshop, co-sponsored by the Ministries of Agriculture and Water Resources, was held in Fuzhou, Fujian as early as 1989. Later on, a number of training courses and international conferences were also held in many places in South China, such as the Fuzhou International Conference in 1997, the Nanchang International Conference in 1999, and the Guangzhou International Vetiver Application Workshop in 1999 (Xia, 2001). All these movements have helped to promote the development of the Vetiver System (VS) in China.

However, the development and promotion of the vetiver technique in the ten-year period from 1988 to 1997 was quite slow as a whole compared with the practical requirement of the Chinese environment. The main reasons are the following two aspects. 1) The technique was a novelty at that time and therefore, needed a relatively long process to be accepted. It is well known that any new thing needs to spend a spell of time to be completely understood and accepted. 2) The novelty had been confined in the circle of scientific research and no one devoted himself to push it into the market. As a result, almost no enterprises knew the technique; even a few knowing it also did not dare to take action due to scarcity of sufficient technical help. After getting to know the focuses of the problem, the author made a resolution in 1997: initiate the private sector to create and run the vetiver industry.

## **2 REPRESENTATIVE PRIVATE ENTERPRISES INVOLVED IN THE VETIVER CIRCLE**

Through 6 years of endeavor and struggle, there have been at least ten private companies around South China involved in the vetiver circle; among them the representative companies are briefly introduced as follows.

### **2.1 The Hongri Grass Industry Group and The Guangdong Association of Grass Industry and Environment**

Mr. Hong Hao, the President of the Hongri Grass Industry Group, is a celebrated private entrepreneur engaging in the grass industry in China. It was towards the end of 1997 that he heard of vetiver grass, and then he immediately came to SCIB to meet the author. At that time the author was very pleasantly surprised to receive him because the author was looking for entrepreneurs like him. After knowing more about vetiver's miraculous properties from the author, Mr. Hong decided to start his vetiver career in Guangzhou. A sub-company named "Guangzhou Hongri Landscape Engineering Co. Ltd." was soon set up in Guangzhou. Then the Company began to conduct projects. So far, nearly ten projects have been conducted, including one slope-stabilizing project with the total area of over 60,000 m<sup>2</sup> in Zhongshan City, South Guangdong.

In order to promote VS dissemination more rapidly, Mr. Hong founded the Guangdong Association of Grass Industry and Environment in November 1999. He arranged himself as the Secretary-General, and asked the author as the Vice Secretary-General. During the past four years, the author has done his utmost to help the Association to conduct pertinent work, including the compilation and issue of vetiver knowledge and technique, organization and operation of training courses and workshops, and acting as a liaison between governmental agencies and private enterprises. At present, in collaboration with Guangdong Academy of Agricultural Sciences, SCIB, and South China Agricultural University, the Association is actively organizing the Third International Conference on Vetiver and Exhibition (ICV-3) to be held in Guangzhou in October 2003.

## **2.2 The Guangdong Huihua Environmental Science and Technology Co. Ltd.**

Under the coordination of the author, the Company was co-established by the Guangzhou Sunrise Green Garden Engineering Co. Ltd. and SCIB and therefore, is a joint-stock company. Mrs. Xu Yuanxin, the Director of the Sunrise Green Co., was not only the first female entrepreneur devoting herself to the vetiver circle, but also, collaborating with SCIB, established the first joint-stock company in China running the VS. Since founded at the end of 1999, the Huihua Company began to promote the VS in the following four activities: 1) establishment of the vetiver nursery, 2) carrying out the vetiver eco-engineering, 3) publicizing the vetiver knowledge, and 4) striving to get financial support from the national government for the above three activities. So far, the Company has succeeded in all aspects above through the help of SCIB and the author. For example, the Company has strived to obtain two items of great financial support specially for vetiver application from the Ministry of Science and Technology of China in the last two years; one of them was from the National Sparking Planning Program, valued at Yuan 500,000 and the other was the National Agricultural Science and Technology Achievements Dissemination Item, also valued at Yuan 500,000. That was the first time that the China National Government formally gave a financial support to vetiver dissemination and application.

## **2.3 The Guangzhou Vetiver Grass Environmental Science and Technology Co. Ltd.**

This is the first company in China having the term ‘vetiver’ as part of the company’s name, and even probably the first one in the whole world. Under the author’s suggestion, Mr. Feng Ziyuan, set up the Company at the beginning of 2000. During the past three years, his company made a great progress and the projects conducted by this Company have been extended into Hunan, Hubei, Guangxi, Guizhou, Yunnan, as well as Guangdong. Furthermore, these projects were mainly concentrated on slopes of rivers, reservoirs, canals and lakes. More importantly, Mr. Feng, the arduous and diligent guy, is good at summarizing his work. He always sums up the success and shortage for each finished project and then writes them into papers. Under the author’s help and instruction, he has published 5 papers in periodicals, producing a quite big influence in the academic circle as well as the circle of water conservancy. At present, he and the author are applying to the China National Knowledge Property Bureau for a patent for a vetiver new technique in the aspect of slope protection of the “water body” ecosystem.

## **2.4 The Guangzhou Rivers Enterprise Co. Ltd.**

Originally, what this Company ran was mainly paints and environmental protecting equipment, almost having nothing to do with vetiver. Nevertheless, the boss of the Company, Mr. Liu Xiaofeng, was a postgraduate student of SCIB; Mr. Zeng Binhua, a staff member of the company, is a relative of an SCIB personnel; as a result, they both got to know about vetiver a long time ago. As early as 1998, the company began to grow vetiver from tissue-cultured plantlets and established the first tissue-culture laboratory mainly for the vetiver in China under the supervision of SCIB. Since 1999, the company has started to conduct vetiver projects under the instruction of SCIB. To date, several large-sized vetiver projects, including quarry, landfill and highway slope, have been successfully finished by the Company. At present, the company is actively co-organizing the ICV-3.

## **2.5 The Guangzhou Eco Environment Science and Technology Co. Ltd.**

Guangzhou Eco Environment Science and Technology Co. Ltd. is a relatively newly established company as compared with the other ones. Despite only two years or so since its foundation, the Company has made a great progress. Mr. Zhang Ping, the Company’s President, is a very smart and courageous guy, he always challenge difficulty that others are afraid. For example, quarry, especially headwall, is ‘the hardest bone’ to eco-restoration. Considering the huge economic perspective and urgent social demands in this aspect, he plunged him into the battlefield. Eventually, the world-class problem

was solved through several years of endeavor; a newly typed vetiver complex eco-technique that revegetates rock headwalls quickly was invented jointly by him and the author in 2002. Due to the high efficiency of the new technique, the Company has successfully finished a project with the headwall area up to 60,000 m<sup>2</sup>, and is signing a batch of new agreements with bosses of quarries or pertinent government departments. The perspective is quite optimistic. Now the Company is also co-organizing the ICV-3 and is ready to give a financial support to the Conference.

## **2.6 The Yunnan Green Land Enterprise Co. Ltd.**

The Company lies in Kunming, the capital city of Southwest China's Yunnan Province. Due to the remote geographical location, the Company did not know vetiver until the end of 2001. Then Mr. Huang Bo, its Vice Manager-General, immediately paid a special trip to Guangzhou, asking the author to give help to their work. Under the help of the author, vetiver shipped from Guangzhou was successfully established on mountain slopes of 1,900–2,100 m above the sea level in Yunnan. Last year, the Company, uniting with SCIB, successfully applied to Yunnan Natural Science Foundation for a research proposal to further disseminate the technique throughout the southwest region of China.

## **2.7 The Hangzhou Zhijiang Vetiver Engineering Co. Ltd.**

This is the second company in China named after the term “vetiver”. It was founded in July 2000 in Hangzhou, the capital city of East China's Zhejiang Province. The president of the Company is Mr. Zhao Zhaoqing, a former official of the Zhejiang Provincial Traffic Department. Since foundation, the Company has played an important role in East China for the dissemination of VS. Despite not giving a face-to-face help to the Company, the author also provided Mr. Zhao with a large amount of vetiver information and technique material and replied all of his queries through telephone, email, and mail.

## **3 THE MAIN MEASURES INITIATING THE PRIVATE SECTOR TO ENTER AND RUN THE VETIVER INDUSTRY**

On the whole, the development and dissemination of VS in the last 6 years was much quicker than the previous ten years. More importantly, the vetiver industry has formed in Guangzhou and is exercising influence on other places of South China. This indicates that involvement of the private sector has made a distinct promotion to the development and dissemination of the new technique. Through a summary of the past 6-year work experience, the author thinks that the following four points may be the main reasons attracting the private sector to enter and run the vetiver industry.

1) Give entrepreneurs sufficient confidence that vetiver is really effective in soil erosion and environmental amelioration. As stated above, the VS is a novelty and therefore, is a little bit difficult to be widely accepted in a short time. In order to persuade these entrepreneurs to accept the novelty, the author offered them, always free of charge, lots of pertinent material, including brochures, books, articles, discs, posters, photos, vetiver samples and even a small quantity of vetiver seedlings; moreover, the author always led them, on his own initiative, to visit demonstration spots. In order to assure them that vetiver really has a massive, deep and strong root system, the author made a special experiment showing vetiver roots and got samples of bulky roots. Everyone felt very surprised at vetiver's strong, deep roots and became more confident of the miracle plant after they visited the samples.

2) Do your best to help companies, especially when they need you. For example, when the Hongri Company was just founded, vetiver planting materials were very scarce. In order to meet the demand for establishing a large-scale nursery, the author personally made a special trip to Jiangxi Province to buy vetiver planting materials for the Company in April of 1998. Another example, the Huihua Company obtained two 500,000-Yuan funds from the pertinent government agencies as mentioned above. In fact, it was the author who voluntarily helped the Company to finish the two thick application forms. In addition,

all companies above-mentioned asked the author many times to give an instruction on the spot, the author always did his best to meet them. For instance, the author even flew to Kunming, nearly 2000 km away from Guangzhou, at the request of the Yunnan Green Land Co. Ltd., which took him 5 days, from 3-7 August 2002. The author did for these companies voluntary; i.e. he never charged them. However, to those demands unbeneficial to development of the vetiver industry, the author always ignores them. For example, the bosses of three vetiver firms in Guangzhou attacked mutually each other at the beginning. Each boss spoke ill of the other two sides in order to make himself occupy the vetiver market; at the same time, each boss involved in “fight” asked the author to be with him and to be against the other two sides. The author deeply knew that it would be very unfavorable to the development of the newly born vetiver industry no matter which side he stood and furthermore he felt that he could not keep silent. Whereupon he rose to speak, making an intercession patiently among the three sides. Through nearly one year of endeavor, the fight eventually ceased. At present, almost all vetiver enterprises in Guangzhou have formed a good situation of mutual competition and of mutual cooperation.

3) Try to solve problems that they encounter in the process of running vetiver. The author and his research team have made scientific researches on vetiver and found lots of its excellent features, but some new problems still appear from time to time in the process of running vetiver or implementing vetiver projects by the private sector. For example, at the beginning, vetiver was regarded as too high; thus the author conducted an experiment on effects of plant growth retardants on the growth and tillering formation of vetiver. As a result, it was found that the application rate of 8 g/L B9 (daminozide) had the best inhibition effect on the growth of vetiver (Xia and Liu, 2000). Later on, some enterprisers pointed out that vetiver became brown in winter and its landscape became ill-favored accordingly. After hearing the feedback, the author immediately embarked on a collection and investigation of different vetiver ecotypes and varieties from home and abroad, including Thailand, USA, Australia, and even Africa. As a result, of 14 collected ecotypes, the ecotype Karnataka coming from India was found to be the shortest and greenest all year round (Xia and Liu, 2003). At present this ecotype is being applied experimentally by some companies. In recent years, the vetiver technique has been concentrated on rivers, reservoirs and lakes for the purpose of inner slope protection. Obviously this demands vetiver to endure a long time of submergence or flooding, but no exact data can indicate this point so far. Since 2000, the research team led by the author has initiated the new experiment investigating the tolerance of vetiver to submergence. Although the experiment is not yet over, the phasic result indicates that vetiver can endure at least 100 days of complete submergence, much stronger than many other grasses used widely in South China. The result provides sufficient evidence for vetiver’s application in “wet” slopes, which greatly enhances the confidence of vetiver enterprises and engineers of water conservancy in this respect.

4) Objectively analyze the difficulties and economic benefits to run the vetiver industry. The vetiver industry is a promising industry; it is full of temptation and challenge. However, the investment is indispensable, especially in the early stage; furthermore you cannot win repayment in a short time, and even result in failure or losing money if you run it improperly. On the contrary, you may win a considerable economic benefit and produce a good social influence. Thereby, when these entrepreneurs first came to meet the author, he always clarified this point to them first and told them the possible difficulties and trial in the early stage; at the same time the author assured them that any firm can win resplendence and triumph as long as the personnel are persistent forward along the correct way. Honesty wins trustiness. In the past years, there really appeared some failing projects brought by certain companies due to incorrect operation, but the bosses of the companies did not lose confidence due to these small failures. On the contrary, they summarized experiences and sought after failing reasons in good season. Eventually, the vetiver industry in South China is becoming more and more attractive; the vast majority of companies running vetiver have begun to obtain profits and some of them have won huge economic benefits.

## 4 CONCLUSION

In Guangzhou, besides the foregoing five companies (from Section 2.1 to 2.5), there are several other vetiver consulting companies. They are Guangdong Greenew Co. Ltd., Guangdong Kunpeng Science and Technology Development Co. Ltd., Guangzhou City Baiwo Ecological Science Research Center, etc. All vetiver companies coming from Guangzhou and other places of China have made great progress in creating China's vetiver industry, promoting the vetiver technique throughout South China, and furthermore made a contribution to China's environmental amelioration (Xia, 2002). Today, vetiver is becoming one of the most popular buzzwords in Guangzhou. One main reason is that there are so many private companies applying vetiver and so many institutions doing research on it. Together, they have made vetiver 'taking a deep root in the soil' of Guangzhou. Of course, there is another main reason, namely the organization of the Third International Conference on Vetiver (ICV-3) to be held in this city in October 2003. At that time, you will see that a team of vetiver consulting companies coming from China, mainly from Guangzhou, are being up and doing at the venue of ICV-3.

Undoubtedly, Guangzhou is becoming one of the most active centers in China and even in the world due to the fact that so many private firms are involved in the vetiver circle. The main reason resulting in development and prosperity of the vetiver private sector in Guangzhou and in South China is that, apart from a good scientific research basis, there are zealous vetiver specialists in here who have voluntarily helped or instructed the private sector to promote the VS. Obviously the author is the representative among them.

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