

Effective Information Dissemination for Rapid Vetiver Development in China

Guoyan Xiong

Guangzhou branch, Chinese Academy of Sciences, Guangzhou 510070, China

Abstract: Information exchange and dissemination play an important role in Vetiver System developments both in the world and in China. Due to the vast tropical and subtropical territory suffered from soil erosion and other adverse conditions and huge rural population in South China, effective information exchange is more essential and urgent for vetiver development in China. This article describes ways and achievements of vetiver information exchange and dissemination in China that proved to be effective and helpful for rapid vetiver development in the country. Author's experience in this field is also described. It is concluded that for better and further developments of vetiver system, more effective and extensive information exchange and dissemination work is needed.

Key words: Vetiver, information exchange, information dissemination, CNVN

Email : gyxiong@ gzb.ac.cn

It is well known in contemporary China that Vetiver System (VS) is an effective biotech means for erosion control, slope stabilization, environmental protection and other sectors. However, only very few Chinese (phyto-taxonomists) knew the plant of vetiver about two decades ago. VS was introduced into China in 1980's and it was gradually recognized, accepted and widely applied by people in various sectors in the recent decade through consistent hard work of scientists, development and extension workers as well as information disseminators.

1. SOIL EROSION AND VETIVER SYSTEM

Soil erosion became a severe problem since the ancient time when human being began its farming activities. With the increase of world's population, the problem became worse and worse. In recent decades, soil erosion was accelerated in China due to the rapid reduction of forest area. Research show that nowadays China remain to be a country suffered from severe soil erosion with an eroded area of 3.67 million Km², of which 1.794 million Km² was due to fluvial erosion and 1.876 million Km² was due to aeolian erosion, constituting 38.2% of the country's total territory. 5 billion tons of fertile soil are annually washed away from China due to soil erosion.

As a result of the cycle of erosion and sedimentation, seasonally high flooding level caused by elevated river bed is above the level of riverside lands, resulting in heavy flood threats to human lives and properties. The typical case of this kind was found at Dongting Lake area in Hunan Province, where flooding level in rainy season was 10 m higher than the level of lands around the lake. According to the official statistics, the flooding event in 1998 alone brought about 4150 death , 6.85 million houses damages, 18.393 million resident's forced migration and losses of property valuing RMB ¥ 255,090 million, *i.e.* US \$ 31,108 million.

As more and more attention were paid to the issues of soil erosion and the *in situ* reservation of runoff alongside with its sediment loads, it was found that effective control of soil and water losses could be achieved with contour vetiver hedges planted along the hillside. Numerous experiments show that vetiver grass, characterized by its rapid growth rate, strong root system, powerful stress-resistant strength and huge biomass, can be used to not only the reservation of soil and water but also to the stabilization of engineering constructions. Moreover, tender vetiver plants can be used as cattle's fodder. This is especially important for the farmers in subtropical China where appropriate grass species for feeding cattle are usually lack. With the progress both of research and practice on vetiver, more applications for this kind of grass are discovered. For example, Vetiver can be used as green manure, as land surface mulch materials for keeping moisture and lowering soil temperature in summer, as weaving materials for baskets, ropes and various kinds of handicrafts, as the material for house roof cover, and even as materials for edible fungi culture. Therefore, wide vetiver system (VS) information dissemination became one of the most important issues for vetiver application and erosion control in China. Chinese scientists and information disseminators have been doing their best to the cause of information exchange and dissemination concerning vetiver system since this system was introduced to China in 1980's.

2 IDENTIFICATION AND ANALYSIS OF VETIVER RELATED ORGANIZATIONS

For most effective information dissemination, two key issues should be focused on: (1) Identification of potential users of vetiver system (VS) among numerous organizations or individuals; (2) Selection of appropriate kinds of information/publications for production, distribution and dissemination.

As a large agricultural country, there were huge number of organizations related to potential use of vetiver in China. According to our analysis, most of the related organizations are engaged in the fields of agriculture, forestry, ecology, biology, geography, environment, meteorology, soil and water conservation as well as hydraulic power. Organizations of these kinds or similar should be identified as our major objects for dissemination and partners in information exchange. The following 4 figures describe organization systems related to vetiver in China. All the organizations can be grouped into categories respectively, *i.e.* research, education, administration, and extension

Through comprehensive and detailed searching, we found that there were 957 research organizations related to vetiver at national and provincial levels in China (Fig. 1). Besides, there were over 1000 applied research institutes and country level extension centers (Fig. 2). Regarding to education, there were 388 organizations relating to vetiver at national and provincial level (Fig 3). Part of the vetiver related administrations were listed in Fig 4. However, institutions in industrial fields, including those in the fields of transportation, mining, and infrastructure, were still excluded in the list above mentioned. And it is estimated at least hundreds of institutes are vetiver related that are engaged in the fields of highway construction, railway construction, mining, and civil building constructions, etc.

Besides vetiver-related organizations, a detail list of individuals who might be interested in VS should be available for dissemination purpose. We began our work with searching into descriptions of institutions, journals, conference name lists, association and society memberships, and even telephone books which might be useful in finding and identifying vetiver related individuals.

And at last, a comprehensive database about institutions and individuals of vetiver interest was established. In this base, institutions and individuals concerned were grouped into several categories, so that we can distribute different kinds of information and publications to different people.

As a result, a nation-wide network was formulated for vetiver information exchange and dissemination in China. With this network, vetiver-related information and publications may be disseminated to all governmental and non governmental organizations and all individuals including researchers and farmers who need vetiver information. This enabled vetiver information exchange and dissemination becoming much easier and more effective, and was proved helpful and essential for promoting of vetiver research and applications in China.

Publications produced by CNVN in English are sent abroad via mails or Internet to facilitate international vetiver information exchange.

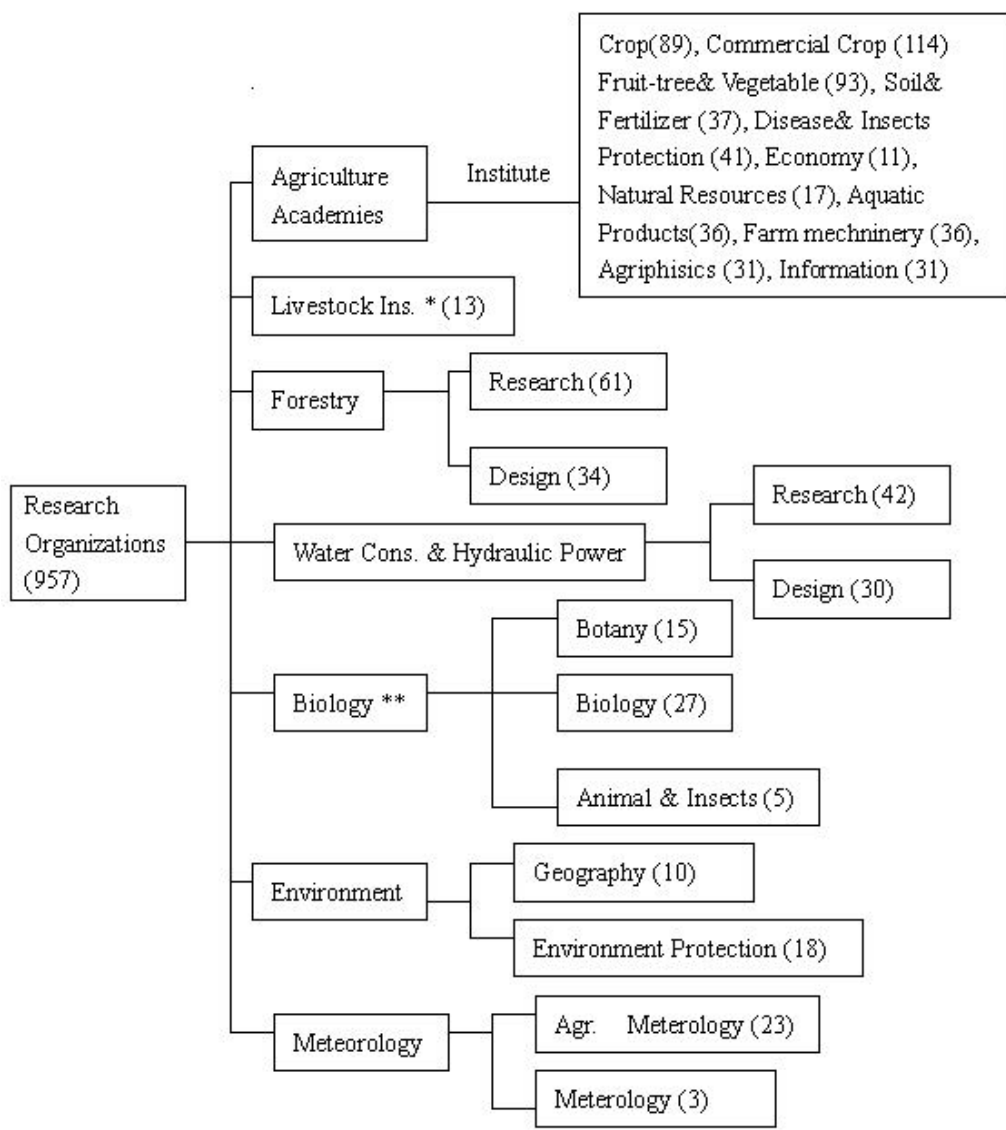


Fig.1. National and provincial Vetiver related research organizations

* some institutes belong to national Agriculture Academy

** some institutes belong to Chinese Academy of Sciences

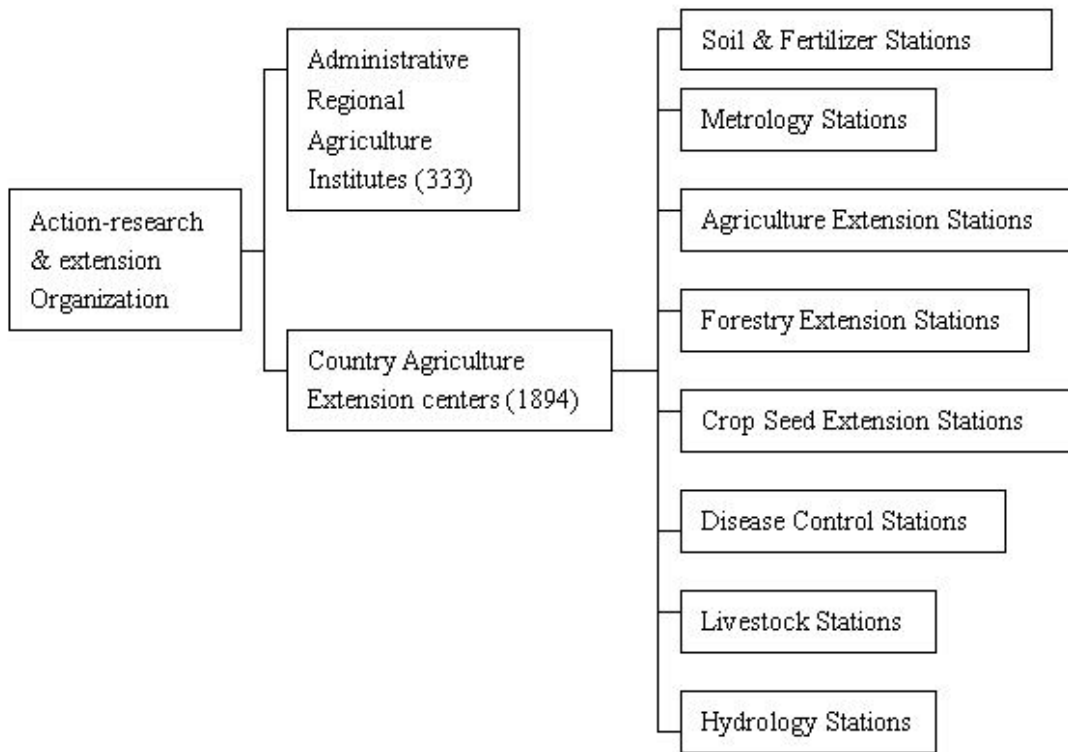


Fig.2. Vetiver related action-research and extension organizations

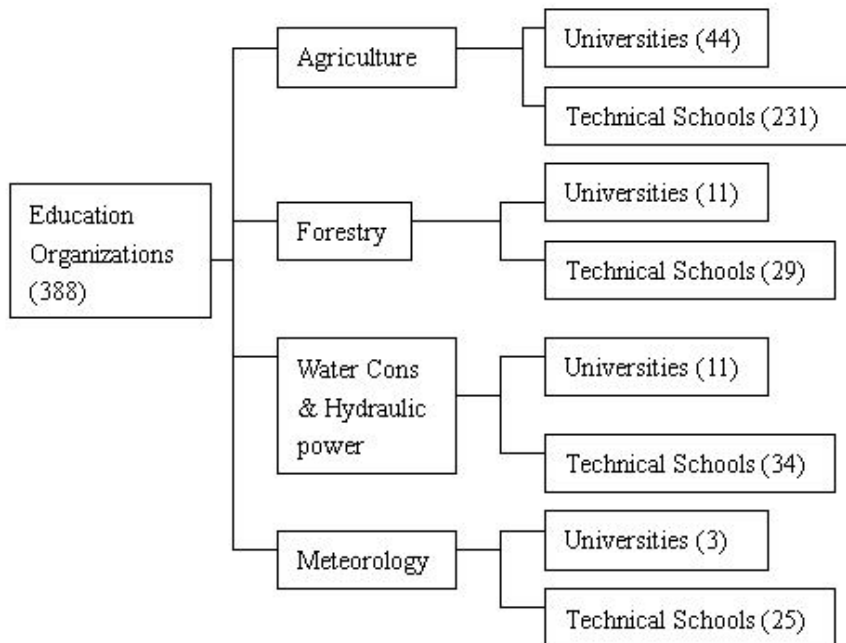


Fig.3. National and provincial vetiver related education organizations

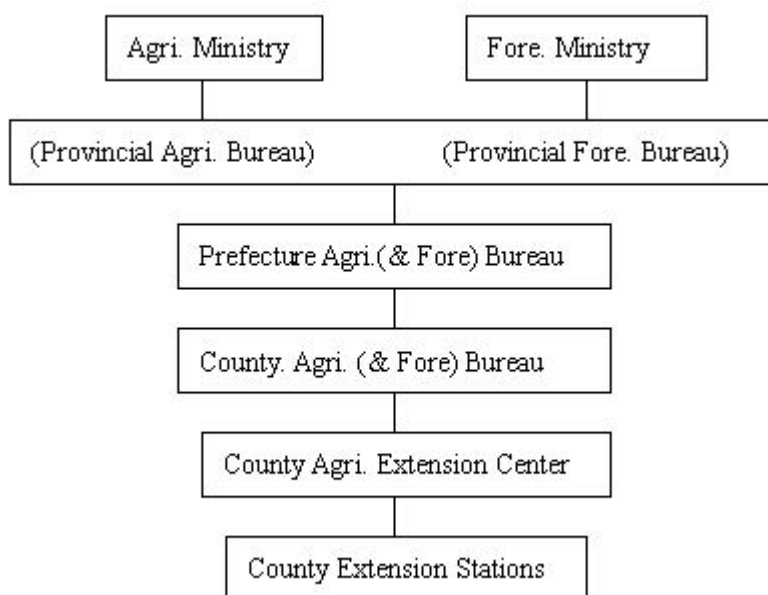


Fig.4. Net system of vetiver-related administrations

3 MULTIPLE PUBLICATIONS PRODUCED FOR DIFFERENT PEOPLE

Although there were huge number of people who were interested in vetiver system and were fervent potential users of vetiver system, great differences were found among different categories of people. It was obvious that interest of those involving in research might be quite different from that of those involving in application or in extension work. Differences might also found between categories regarding to education background, locations, jobs and disciplines and so on. Therefore different group of people needed different information and preferred special kind of publications. For example scientists need information on vetiver research, while farmers want to know about ways to plant and manage vetiver grass.

3.1 Multiple Publications Produced Through China Vetiver Network

Because there is great difference between Chinese and English, it is very difficult for Chinese people to read English, including most Chinese scientists. On the contrary, foreign people knew very little about vetiver development in China. Therefore bilingual-translation should be very important in exchanging and disseminating vetiver information. The author feel happy and honor for having the opportunity to take part in the most translation and edition work concerning vetiver for China Agroforestry Network (CAN) and China Vetiver Network (CNVN).

As early as in 1993, the author was responsible for the translation and edition of all agroforestry articles for CAN. The translations were published by *Agroforestry Today* (a quarterly journal in Chinese), *Agroforestry Communication* in English and the books entitled *Alternatives to Slash and Burn Agriculture* (in both Chinese and English). Of these publications, vetiver formed one of the important topics.

In 1996, China Vetiver Network (CNVN) was established based on and in cooperation with CAN. To disseminate vetiver system, multiple publications were produced in huge quantities by CNVN. These publications were:

- *Vetiver Newsletter* in Chinese (24 issues so far). It mainly introduced vetiver issues and activities, new research achievements and distributed to scientists and governmental officers.
- *Vetiver Newsletters* in English (2 issues). It introduced China's development into the world.
- *Vetiver FACT Sheets* (altogether 12 issues). It was produced with simple sentences and lots of drawings and printed on color paper in order to attract farmer and extension workers.
- *Vetiver Grass: The Hedge against Erosion* (Greenfield, 2000). It was distributed to people who had special interests in vetiver applications. Also, it was widely distributed to project farmers in the Dabie Mountains with a large area for about 100000 km².
- *Vetiver Grass for Slope Stabilization and Erosion Control* written by Thai expert Mr. Diti Hengchaovanich and firstly translated into Chinese in 1998 and introduced through *Vetiver Newsletter*. In 2001 the new version of the book was re-translated and published (Hengchaovanich, 1998). It introduced Diti's successful experiences in using Vetiver for engineering purposes, and was widely distributed to engineering institutions and individuals, highway and railway construction and maintenance engineers in particular. Some copies were distributed to private companies.
- *Color photo sheets* produced for special individuals on request to show certain characteristics of vetiver grass through printed color photos. For example, if people wanted to know if vetiver can stand flooding, we would print photos showing how vetiver standing under deep water.
- *Vetiver New Year's Greeting Cards* produced in large quantities in 2001 and distributed to huge number of various people during the Chinese New Year holiday called Spring Festival. It briefly described Vetiver Systems and encouraged interested people to contact China Vetiver Network for more information. Since the cards were distributed during New Year holidays, it would be showed in public to more people and strengthened information dissemination.
- *Vetiver Research and Development* a book published in 1998. Written for scientists, university professors, and government officials. It introduced vetiver research and development in the past decade in China and some developments in the world.

The fact that different vetiver publications were produced in large quantities, perhaps the largest in the world, and sent to appropriate people who needed vetiver information the most was considered useful and helpful to extremely rapid development and broadly popularization of vetiver system in China in the recent years. In our experiences, translation and edition might be considered as the key component of vetiver dissemination work. Moreover, it was important that texts of publications should be easy to read, especially those mainly distributed for farmers and extension workers.

3.2 Vetiver systems dissemination via public channels and media

To disseminate Vetiver Systems more widely, numerous public agencies, channels and media were considered to be effective cooperators and aids for introducing the grass from different points of view to users in various sectors. These included the central and provincial television stations, newspapers, academic journals, science-popularization magazines and other dissemination means

owned by agencies other than CNVN and CAN. This played an important role in Vetiver Systems dissemination in various institutions and in application promotion within various sectors. For example, according to an incomplete statistics there were over a dozen vetiver articles published in different highway journals, which were proved helpful for promoting Vetiver applications in highway construction.

3.3 Conferences and Training Courses as Dissemination Measures

Holding a conference is an effective way to disseminate and develop Vetiver Systems. For this purpose, CNVN organized International Vetiver Workshop in Fuzhou 1997 and International Conference on Vetiver Bio-Engineering Technology for Erosion and Sediment Control and Civil Construction Stabilization in Nanchang 1999. The workshop summarized experiences obtained in China from 1988 to 1997, while the conference introduced experience in vetiver application for engineering protection. Both conference and workshop played an important role in VS dissemination.

VS was also introduced at conferences organized by other organizations other than CNVN, such as water and soil conservation institutes and regional or national highway institutes. Besides, CNVN also organized Chinese scientists, enterprisers and officials of vetiver interests to attend international conferences held abroad.

CNVN organized different training courses through China Vetiver and Agroforestry Technology Project that was supported by several international organizations. For achieving greatest training effects, courses combined classroom lectures with hands on field practice.

3.4 Demonstrations and Visits

A good demonstration is better than a classroom lecture. During extension of the Vetiver System, excellent project officers were chosen to evaluate farmers' plots, and then best plots and households were identified and chosen as demonstration models. Then the officers were asked to organize farmers to visit these demonstration plots. As a result, VS was known and adopted correctly by more and more farmers. In addition, project officers from various areas and provinces were organized to visit each other for exchanging information and sharing experiences of vetiver system.

4. CONCLUSION

(1) Information exchange and dissemination was proved essential for vetiver development. It is the consistent effort for vetiver researchers and information disseminators that enable the vetiver system becoming familiar to the people in south China. For further and faster development of vetiver system, more effective and more profound dissemination work are needed. For example, although many private companies have been involved in vetiver dissemination, it is difficult to search and collect such information and therefore their successful experience is difficult to be extended.

(2) Experiences of persons engaged in vetiver information exchange and dissemination showed that the mission need enough devotion, commitment, effort, knowledge and talent. More young scientists should be encouraged to join the task.

(3) Much have been achieved in information exchange and dissemination on vetiver system applications in soil erosion control and hillside stabilization so far. However, dissemination for

other sectors, such as vetiver use as industrial and handcraft-making materials, receive insufficient attention in China. More remains to be done.

(4) National vetiver networks play an important and un-replaceable role in vetiver information exchange and dissemination in various countries. More internal and international support and understanding should be given to these networks. Frequent information exchange and dissemination between these networks should be encouraged.

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