

THE PROJECT OF PROMOTION ON VETIVER PLANTING ON UPPER WATERSHED AREAS WITH COMMUNITY PARTICIPATION

**(The Development and Promotion of the Utilization of Vetiver Grass
Under the Royal Initiative of His Majesty the King)**

Pintip Thitirojanawat and Pradermchai Seangkoovong

**Watershed Conservation and Management Office, Department of National
Parks, Wildlife and Plant Conservation, THAILAND**

1. Background

Due to problems of destroying forests nowadays, especially in upper watershed areas near communities, there are problems of academically wrong usage of lands. For example, there are agricultural areas used without concern for the principles of soil and water conservation. This results in the high rate of soil erosion, causing floods and landslides in some areas and water shortage in the dry seasons. His Majesty the King has realized these problems and is very concerned for his citizens. He has suggested utilizing vetiver grass to conserve soil and water, prevent soil erosion in watershed areas and restore the ecology of the soil and the forests. Vetiver grass can be used as wildfire defense lines and should be developed and planted sufficiently to meet the demand. An understanding about the benefits of vetiver grass in communities should also be fostered.

The Department of National Parks, Wildlife and Plant Conservation has followed His Majesty's suggestion about vetiver grass to outline the Development and Promotion of the Utilization of Vetiver Project for Conserving Soil and Water in Forests. The Development and Promotion of the Utilization of Vetiver of the Forestry Demonstration Center (DPUVFD Center) has been established as a place to hold activities concerning vetiver grass, as well as to learn and train in the completed procedures. It is meant to academically benefit related people and students, and promote planting vetiver grass in watershed areas. In the past, the Department of National Parks, Wildlife and Plant Conservation planned to promote planting vetiver for soil and water conservation in communities. The department had assigned the DPUVFD Center and related units which are capable and ready, both in terms of labors and space, to plant vetiver grass and support the communities living and farming in watershed areas to plant vetiver grass under the initiative of His Majesty the King. The activities also cover building understanding and awareness of vetiver grass benefits to the communities and youth in schools located in rural areas.

After the DPUVFD Center provided knowledge through lectures and demonstrations to promote planting vetiver grass in watershed areas, many communities now understand and want vetiver grass for their communities in high demand. However, many communities cannot find vetiver grass locally. It needs to be sent from other areas or from responsible agencies located far away causing high cost of transportation. This has become a problem for promoting vetiver grass. The Department of National Parks, Wildlife and Plant Conservation sees that if this task is transferred to the DPUVFD Center and potential Watershed Management Units located nearer to communities to promote the utilization of vetiver grass, the project deems to be successful. These units can plant vetiver grass and promote them locally. They can also provide demonstrative training,

more information, and create more understanding to target communities by implanting awareness to local youth and children in schools.

The Department of National Parks, Wildlife and Plant Conservation cooperates with the office of the Royal Development Projects Board to proceed according to His Majesty's suggestions by starting the project of promotion on planting vetiver on upper watershed areas with community participation in the fiscal years 2008-2014. The objectives of this project are: 1) provide young vetiver grass to support communities to plant vetiver grass in the areas with soil erosion risk especially in upper watershed areas, public use areas and agricultural areas; 2) promote and support people and youth in schools to use vetiver grass for soil and water conservation according to His Majesty's suggestion and participate in providing young vetiver grass; and 3) increase income to the communities from products made of vetiver grass leaves.

2. Purpose/ Benefits

- 1) Communities receive support in planting and produce young vetiver grass in risk areas.
- 2) Communities receive knowledge regarding vetiver grass benefits for soil and water conservation.
- 3) Communities participate in planting vetiver grass activity on important days.
- 4) Communities have local vetiver grass connection.
- 5) Communities have more income from products made of vetiver grass leaves.

3. Proceeding Departments and Areas

The Department of National Parks, Wildlife and Plant Conservation has assigned six DPUVFD Centers and two of its branches including other related units like the Watershed Conservation and Management Unit and the Watershed Management Unit to be main units to produce and expand young vetiver grass to cover the watershed areas like beneficial areas, public use areas, schools, temples, and residential areas. The communities are expected to participate.

4. Procedures

1) Set a committee for the Project of Promotion on Planting Vetiver on Upper Watershed Areas with Community Participation and hold meetings among the committee to set guidelines and regulations including assessment and evaluative procedures.

2) Assign two of the DPUVFD centers, two effective Watershed Conservation and Management units, and the Watershed Management Unit in watershed areas in risk of soil erosion to be responsible for the areas.

3) Produce young vetiver grass for distribution.

Responsible units produce young vetiver grass by plowing plots for planting young vetiver within the unit's areas and in spaces near targeted communities such as schools, temples and governmental offices.

3.1) Propagate vetiver grass by distributing it on unit's and targeted communities' planting beds. Young vetiver is propagated in small bags so that it will be strong enough for transportation. In this process, local communities will be involved in planting vetiver grass from the stage of propagation. Planting beds and local employment

are provided in the targeted areas for producing and caring for young vetiver grass. Vetiver grass breeds for distribution are selected to match the environment of targeted areas. (They are researched for this mean.) The young vetiver grass is propagated in small bags and cared for regularly until the young vetiver is strong enough to be distributed to targeted communities.

3.2) Build sign boards to mention the project at each planting bed stating the project's name, responsible unit, and budget-provider department.

3.3) When young vetiver grass becomes strong, distribute them to the DPUVFD Center where it will be transferred to project's supporters in some areas such as supporters of transportation and labors. This is because, in forest watershed areas where targeted communities for planting vetiver grass are located, most communities are poor and cannot afford vehicles and transportation costs for vetiver grass transportation, neither can they afford to hire vehicles. Therefore, the Department of National Parks, Wildlife and Plant Conservation must send young vetiver grass to each targeted area without charge. During the growing seasons, such as in the rainy season, some people in the communities may not have enough time to proceed. It is necessary to send workers to help with the planting as well.

3.4) Distribution of young vetiver grass: Officers in the responsible units are expected to record information on the distribution of young vetiver grass and map planting locations in each community asking for young vetiver grass support and write a summary of all the cultivated areas.

4) Promote and support information about vetiver grass for communities and youth.

4.1) Produce educational and promotional material about vetiver grass to use as documents for the trainings and distribute them to local communities. The materials are in the form of books, pamphlets, posters, and videos.

4.2) Train to ensure knowledge of vetiver grass in the course of developing and promoting the utilization of vetiver to conserve soil and water with community participation. The trainings are managed by organizations or communities, or those who are interested, which request for support at the DPUVFD Center. The training has been held annually. The content of utilization of vetiver grass training includes producing, planting, and caring for vetiver grass. The trainings provide both lectures and practical classes. Moreover, there are also trainings about making products from vetiver grass leaves to increase communities' income.

4.3) Promote and educate local communities/units. Experts from the DPUVFD center are sent to targeted areas to provide knowledge about vetiver grass utilization for soil and water conservation. Some of the officers may be the locals themselves. At first, they will promote by providing knowledge and create understanding to make sure that the locals see benefits of vetiver grass according to the saying, "Plant vetiver grass in people's mind first, then in the areas." This is because the benefits of vetiver grass will not show in a short period of time. At the same time, awareness will also rise, encouraging communities to promote the utilization of vetiver grass in neighboring communities and encourage participation among local people.

4.4) Encourage communities and youth in the upper watershed areas to join various demonstrations of vetiver grass utilization by the DPUVFD Center and take samples of planting beds in the upper watershed area to be models of their own planting.

4.5) Build awareness and motivation by having local activities related to vetiver grass on important days such as the Their Majesties' birthdays. Moreover, classes and activities about vetiver grass should be included in the school's curriculum.

4.6) Build vetiver grass networks among private organizations, community leaders, teachers, and students by having them participate in the program so that they will be the next generation leaders to promote the benefits of vetiver grass and make their communities to be local representatives of vetiver grass distribution center, encouraging and persuading neighbor communities to plant vetiver grass in their own fields.

4.7) In order to promote vetiver grass cultivation, officials both on field and assigned committees will provide suggestions and monitor the areas to determine the validity of planting, the survival rate of young vetiver grass, suggest proper planting procedures, and extend planting in the area. They will also talk to people in the area about planting vetiver grass, factors of vetiver grass cultivation, benefits, and problems and obstacles found on fields. This information is gathered to assess and analyze the output, outcome, and factors causing success in promoting the utilization of vetiver in the upper watershed areas for further procedure.

5. Performance

From 2008 to 2014, the Department of National Parks, Wildlife and Plant Conservation has been financially supported by the Office of the Royal Development Projects Board (ORDPB) under the Development and Promotion of the Utilization of Vetiver Grass Under the Royal Initiative of His Majesty the King to proceed with the Project of Promotion on Planting Vetiver on Upper Watershed Areas with Community Participation by producing and distributing young vetiver grass to encourage people to plant them in their fields and public use areas which are in risk of soil erosion taking place. This is to encourage the utilization of vetiver grass for soil and water conservation. The project is done by supporting communities living in all eight of the upper watershed areas, the DPUVFD center, and responsible units which are ready to produce and distribute vetiver grass to communities scattered all over the country. This work has been financially supported by the ORDPB continuously since the fiscal years 2008-2014 for the total amount of 51,975,000 baht (US\$1,599,230) to produce 31,500,000 young vetiver tillers to support 740 communities, 50 schools, and 28 temples. The distributed young vetiver tillers has been thoroughly tested so that it is known to suit for the targeted areas to prevent soil erosion, suitable to reduce the shortage of young vetiver grass in communities living in upper watershed areas, and suitable to reduce the cost of transporting young vetiver grass from remote communities with inconvenient transportation because they can produce young vetiver grass within the communities.

The process of creating awareness of the benefits of using vetiver grass to communities and youth in the watershed areas is through organizing seminars and training 82 groups in total which consisted of 4,100 people who were trained to be knowledgeable and understand about the benefits of vetiver grass for soil and water conservation. These people are expected to be able to produce, plant, and care for young vetiver grass according to academic principles. Moreover, these communities also have extra income by making products from vetiver grass leaves, which are also trained by this project as an extra motivation to plant more vetiver grass. At the same time support in producing learning materials and tools is to be distributed to participants and communities.

Table 1. Young vetiver grass produced to promote communities to plant for conserving soil and water from 2008 to 2014

| Fiscal year | No. of young vetiver grass produced (unit) | No. of responsible units (unit) | No. of communities to be supported (community/school/temple) | Budget (US\$) |
|------------------|--------------------------------------------|---------------------------------|--------------------------------------------------------------|---------------|
| 2008 | 5,000,000 | 5 | 100 communities, 5 schools, 5 temples | 253,850 |
| 2009 | 3,000,000 | 6 | 50 communities, 6 schools, 6 temples | 152,310 |
| 2010 | 2,500,000 | 12 | 50 communities, 6 schools, 5 temples | 126,920 |
| 2011 | 4,000,000 | 20 | 172 communities, 7 schools, 1 temples | 203,080 |
| 2012 | 5,000,000 | 15 | 155 communities, 9 schools, 2 temples | 253,850 |
| 2013 | 8,000,000 | 38 | 128 communities, 8 schools, 5 temples | 406,150 |
| 2014 | 4,000,000 | 24 | 85 communities, 9 schools, 5 temples | 203,080 |
| 7 years in total | 31,500,000 | 120 | 740 communities, 50 schools, 28 temples | 1,599,230 |

Note: US\$1 = 32.50 Baht

For the rural areas which are too far and have difficulties to participate, the center will send deputies who specialize in the knowledge of using vetiver to preserve water and soil. Some of the deputies are from community areas. This will result in a sense of accomplishment for the communities to know they can use vetiver and that they are able to instill conscientiousness to youth and students in schools.

From supporting communities and youth in the upper watershed areas to participation in planting vetiver grass in schools on significant days, the activities are partnering with local units like temples, schools, and the military. They are held twice a year allowing people in the upper watershed areas to be well-informed about vetiver grass and planting by attending the events.

Besides this, the centers create networking within private organizations and amongst community leaders, teachers and students by promoting these groups to take leadership roles in supporting and doing public relation in the communities. In addition it endorses vetiver related activities on important days, such as the birthday of His Majesty the King Also it introduces vetiver in school syllabuses with practical activities. Make communities to be responsible for distributing vetiver tillers, invite and propose farmers to plant vetiver grass in their own area.

The result of promoting vetiver with the participation of communities in the water source areas has been well granted and has received great feedback from communities. There has been an increase in demand amongst the communities for vetiver tillers to plant in their areas. However, the supply of tillers still do not match the demand and the distribution to the high ground areas still faces with difficulties; some communities don't have vehicles to transport, so the center also assists them. In addition, communities have

limitation in budget, the center also supports these communities by educating them how to produce goods from vetiver leaves to the purpose of improving the communities' economy.

Table 2. Trainings of vetiver grass utilization and production since 2008-2014

| Fiscal year | Vetiver grass training (Group/time) | Vetiver grass training (Person) | Budget (US\$) |
|------------------|-------------------------------------|---------------------------------|---------------|
| 2008 | 10 | 500 | 18,460 |
| 2009 | 10 | 500 | 18,460 |
| 2010 | 12 | 600 | 21,150 |
| 2011 | 12 | 600 | 21,150 |
| 2012 | 12 | 600 | 21,150 |
| 2013 | 12 | 600 | 21,150 |
| 2014 | 14 | 700 | 25,850 |
| 7 years in total | 82 | 4,100 | 147,370 |

Note: US\$1 = 32.50 Baht

6. Suggestions

1. Support potential local units to produce more vetiver grass for wider distribution especially for the units located in areas at risk of soil erosion and for rural areas. The grass is not enough to fulfill all demands due to the governmental policies encouraging more people to conserve natural resources and giving people more knowledge which raises the demand of vetiver grass gradually.

2. Encourage the communities to prepare planting beds for young vetiver grass in local areas by themselves to help saving costs and to reduce the distance of transport because the production of young vetiver grass in some areas requires relatively high cost of transportation, particularly in the rural areas.

3. Find a mechanism to encourage communities to use vetiver grass for preventing soil erosion. This can be done by finding ways to plant vetiver grass and increase revenue from making products from vetiver grass leaves which is immediate income rather than the benefits of soil and water conservation because communities located on the upper watershed areas are faced with economical limitation. Farmers are poor so they need to spend time growing crops making money quickly rather than waiting to see the results of vetiver grass utilization in soil and water conservation.

4. Create motivation in planting and maintaining vetiver grass continuously by arranging vetiver grass planting contests in the promoted areas. Awards should be given to the winner based on a reasonable opportunity to encourage and support communities.

