

สำนักงานคณะกรรมการพิเศษ
เพื่อประสานงานโครงการ
อันเนื่องมาจากพระราชดำริ
(สำนักงาน นปร.)



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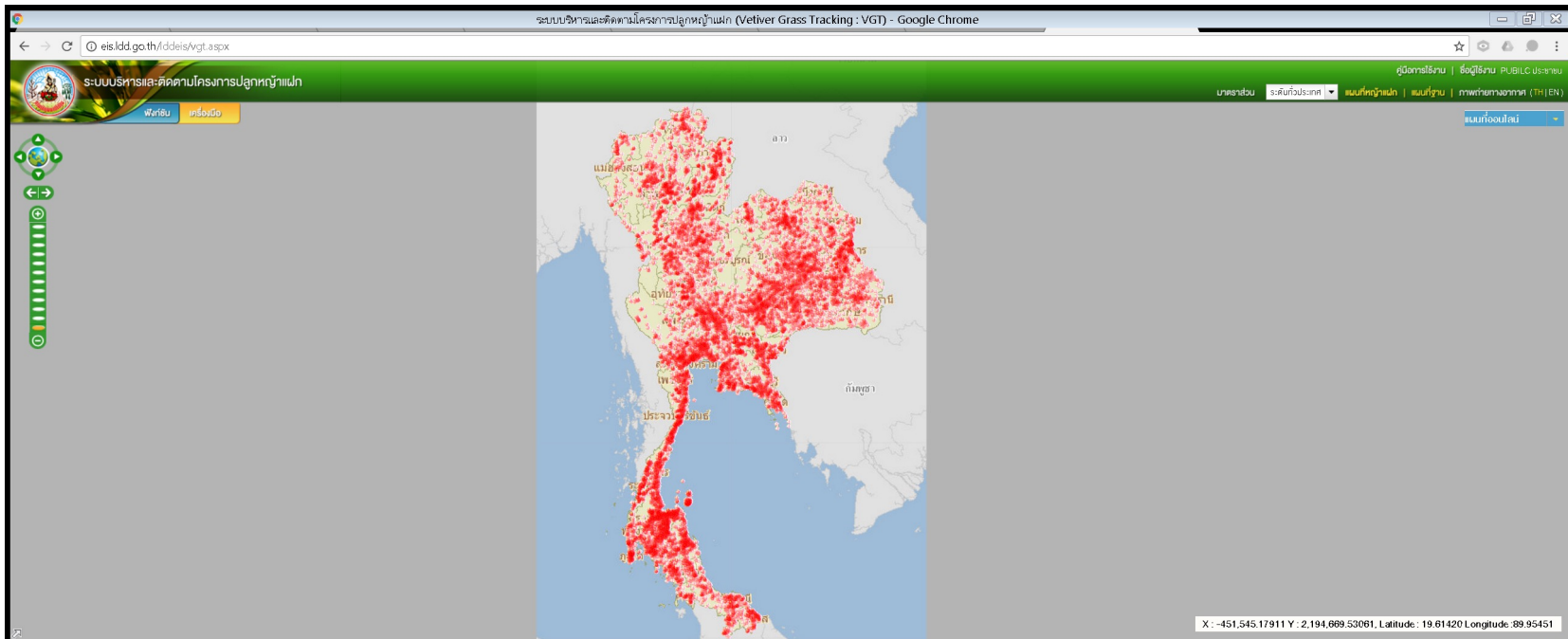
INTERNATIONAL VETIVER GRASS TRACKING SYSTEM (iVGT)

ICV-7

29 May - 1 June 2023

VGT Monitoring and management vetiver grass planting

- VGT was developed by Land Development Department to monitor and manage the vetiver grass planting
- However, only vetiver grass planting sites in Thailand were recorded and the main purpose is for monitoring work progress.



The Vetiver Network International (TVNI) group

The Vetiver Network International (TVNI) group

Peter Pitcher
July 15

Kenilworth (Queensland, Australia) Sewerage Treatment. Approximately 1HA of vetiver and endemic forestry species treating sewerage for around 350 people. Records indicate no discharge from the site in recent years.

Arjun Mandal
September 10 at 12:32 PM

Vetiver plantation on the bank of river and road side

13 Likes 1 Share

The Vetiver Network International (TVNI) group

Dick Grimshaw
September 14 at 9:20 PM

VETIVER FOR STEM BORER CONTROL OF RICE . This should be of interest to all rice growing countries, particularly in Asia. Liyu Xu, China Vetiver Network Coordinator tells me that twenty counties in China's Jiangsu and Zhejiang Provinces are planting vetiver as an ecological engineering method (trap crop) for the control of two stem borer species - Chilo suppressalis (striped stem borer) and Sesamia inferens (pink stem borer). The results are very encouraging and it appears tha... [See More](#)

37 Likes 2 Comments 7 Shares

Like Share

Shortcuts

- Remote Sensing a... [20+]
- FOSS4GThailand [2]
- MWIT#3 มหิดลวิทยานุสร... [20+]
- Department of Infor... [20+]
- BitCoin Thai Market [20+]
- เดือนภัยพิบัติ (วิชาการ) [20+]
- BitCoin Thai Club [20+]

See more

Main Features of Mobile Application



01

Show the site's location on online map with different symbols

02

Map Controls

Zoom in, Zoom out and Pan

03

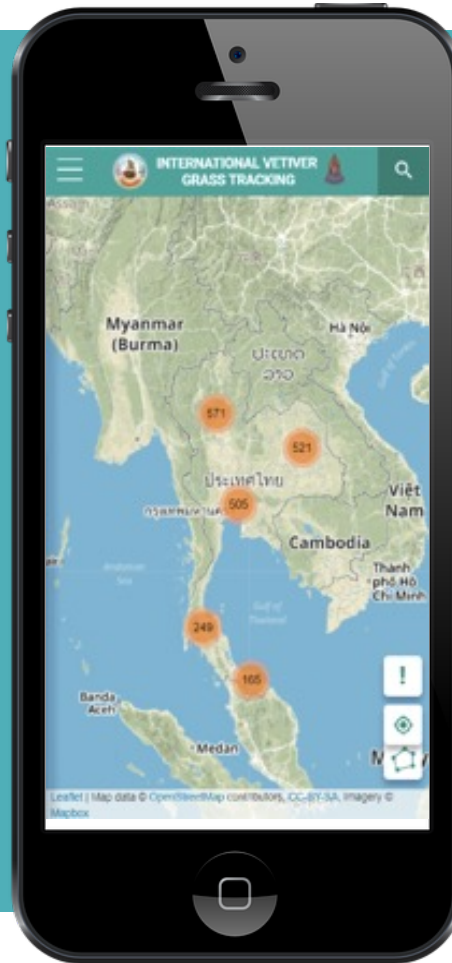
Base Maps

Bing map, Open Street Map

04

Information sharing on social media

Facebook



05

Geolocation for searching

06

Searching with site name, location and administrative boundary

07

Filtering with vetiver grass type, planting pattern, number of plant and application

Main Features of Web Application

01

Web Browsers

Google Chrome, Internet Explorer, Mozilla Firefox

02

Map Controls

Zoom in, Zoom out and Pan

03

Base Maps

Bing map, Open Street Map

04

Information sharing on social media

Facebook

05

Vetiver grass site info

Show the site's location on online map with different symbols

06

Searching with site name, location and administrative boundary

Main Features of Web Application

07

Filtering with vetiver grass type, planting pattern, number of plant and application

08

Geolocation for searching

09

Authentication with social account (FB, Gmail, Microsoft account)

10

Role-based access control

Admin, Representative, PI, Staff, and surveyor

11

Data management

Add, edit, and delete vetiver grass sites

12

Analysis Tools

Summary table or chart

App Store Preview

This app is only available on the App Store for iOS devices.

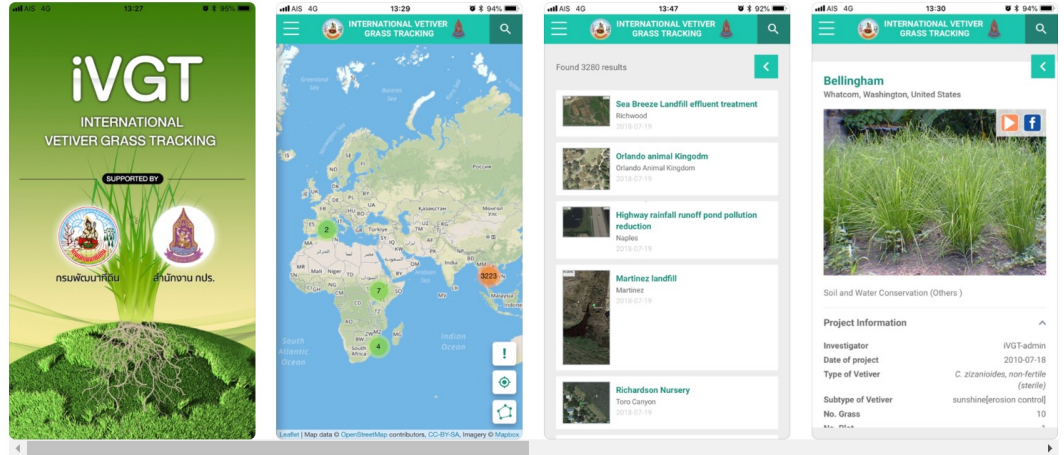


iVGT 4+
Land Development Department

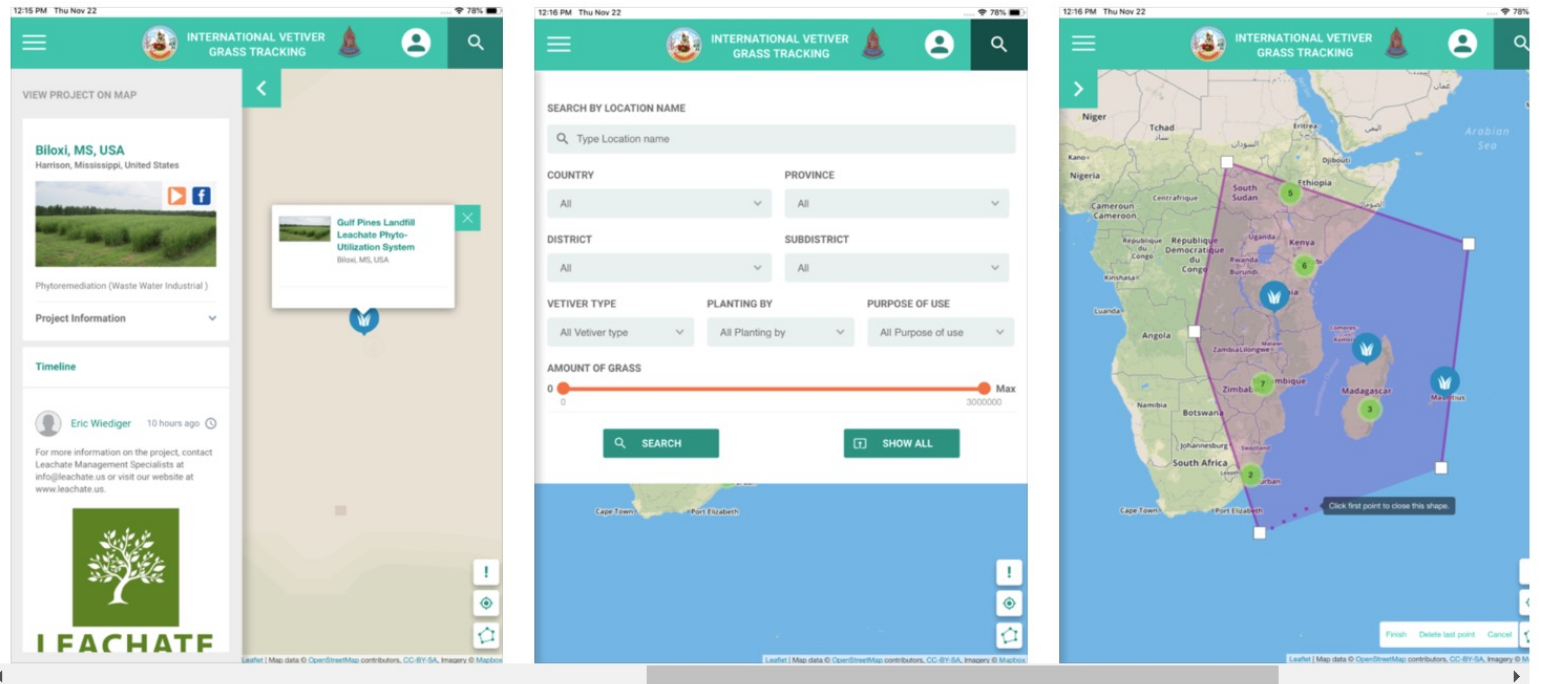
★★★★★ 5.0, 1 Rating

Free

Screenshots [iPhone](#) [iPad](#)

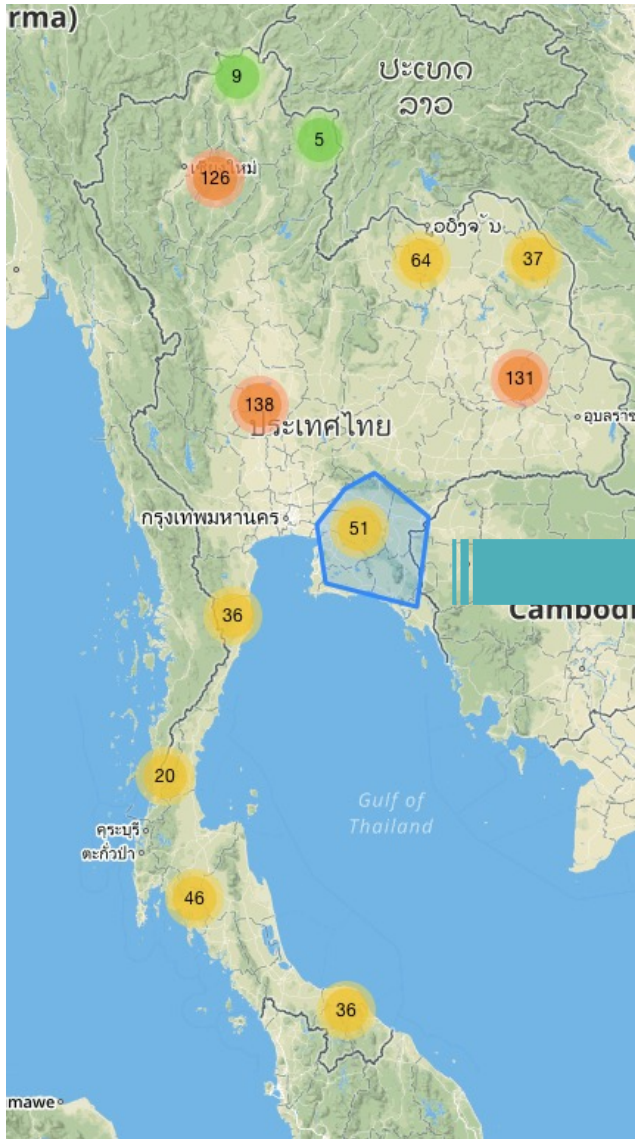


Screenshots [iPhone](#) [iPad](#)

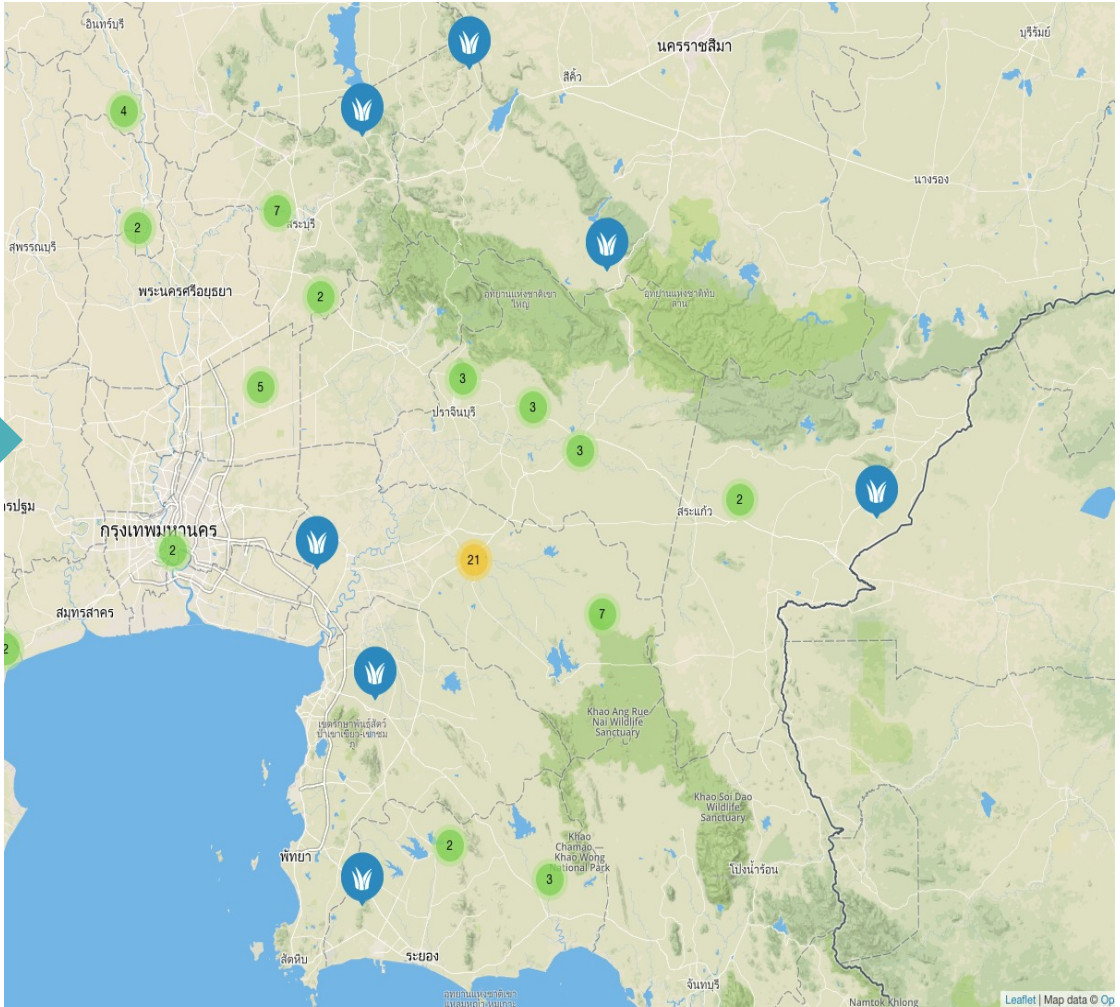


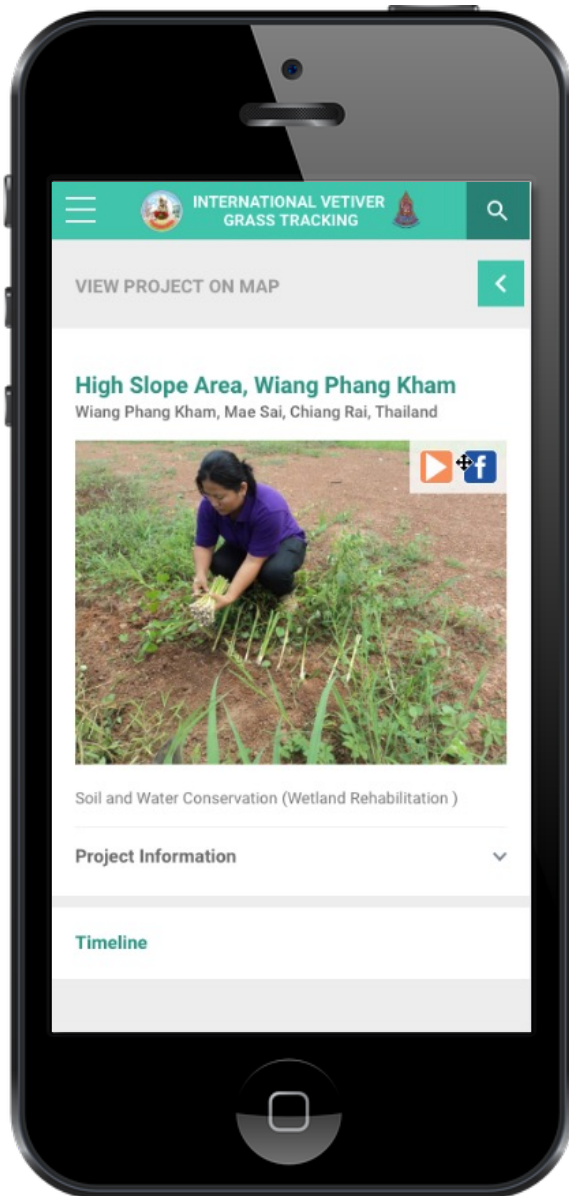
Application Elements





Marker Clustering





Showing the detail of the vetiver grass project

- Location Name
- Purpose of use
- Project Manager
- Date of project
- Type of Vetiver
- Subtype of Vetiver
- Number of Vetiver Grass
- Number of Plot

Showing project information

The screenshot displays the 'INTERNATIONAL VETIVER GRASS TRACKING' web application. The interface is divided into three main sections:

- Left Panel (Search Results):** A list of 3621 results. The entry 'GHA Bolgatanga - multiple Application' is highlighted with a red box. Other entries include 'ETH Assosa Farmer research', 'NGA Field Trials comparative studies', 'MWI Farm soil conservation - Lilongwe', 'MDG BV Ivory Projet de lutte anti-erosive', 'VUT Beach Protection', 'MMR -Nursery-U Saw Thet Khine Win', 'Casis erosion control project', and 'NZL Driveway stabilization'.
- Center Panel (Project Details):** Displays details for 'Bolgatanga - mis' in Bolgatanga, Upper East, Ghana. It includes a video player with a play button, a 'Project Information' dropdown menu, and a 'Timeline' section. The timeline shows a post by Richard Grimshaw from approximately 2 months ago, featuring a photo of a person in a field and the text 'C. nigritanus growing wild on seasonal flooded area'. A 'Load more' button is visible at the bottom.
- Right Panel (Map):** A map showing the location of Bolgatanga in Ghana. A green pin with a vetiver grass icon is placed on the map. A large orange play button is overlaid on the map with the text 'Users can watch the video by clicking'. Below the map, the text 'Timeline: show progress contents' is displayed.

Vetiver grass planting site


SEARCH RESULTS SHOW BY MAP STYLE

Found 3621 results

- Casis erosion control project**
Casis erosion
2009-08-01
- NZL Driveway stabilization**
Burrell Rd
2019-04-14
- BRA Comunidades Niteroi, RJ**
Comunidades Niteroi, RJ
2019-01-22
- UGA EPIC Lake Victoria sediment control**
Kikondo on Lake Victoria
2019-01-21
- Nairobi Kitisuru horsing**
Kitisuru horsing
2019-03-16
- Lodwar irrigation**
Lodwar Crossroads - check location
2019-03-16
- ZAF Vallonia Sugar Estae**
Near Shakaskraal
1995-01-01
- PHL nursery**
Donsol unidentified site
2019-02-27

Kikondo on Lake Victoria

Ssi-Bukunja, Buikwe, Mukono, Uganda




Soil and Water Conservation (On Farm Erosion Control)

Project Information

Timeline

Imran Ahimbisibwe approximately 3 months ago

Planting of slips in Kikondo nursery is in its final stages.



Imran Ahimbisibwe approximately 5 months ago

In yet another development, the Uganda Prisons Bungugu on the shore of Lake Victoria, a major stakeholder in the project area has come on board as partners and beneficiaries of the project. They are engaged in large scale agriculture in the area and authorities at the prison have accepted in principal to provide the project experimental site where Vetiver hedges will be established in their crop field to serve as a demonstration for the project area and beyond.




Vetiver grass planting site

SEARCH RESULTS SHOW BY MAP STYLE

Found 3621 results

- Casis erosion control project**
Casis erosion
2009-08-01
- NZL Driveway stabilization**
Burrell Rd
2019-04-14
- BRA Comunidades Niteroi, RJ**
Comunidades Niteroi, RJ
2019-01-22
- UGA EPIC Lake Victoria sediment control**
Kikondo on Lake Victoria
2019-01-21
- Nairobi Kitisuru horsing**
Kitisuru horsing
2019-03-16
- Lodwar irrigation**
Lodwar Crossroads - check location
2019-03-16
- ZAF Vallonia Sugar Estae**
Near Shakaskraal
1995-01-01
- PHL nursery**
Donsol unidentified site
2019-02-27


Comunidades Niteroi, RJ
Niterói, Niterói, Rio de Janeiro, Brazil




Bioengineering (Infrastructure: Drains)

Project Information

Timeline

 **Paula Leão** approximately 2 months ago

Vetiver grass on dry season.



vetiver grass on dry season.



Paula Leão

approximately 3 months ago

VETIVER Grass crossing erosion control blankets.

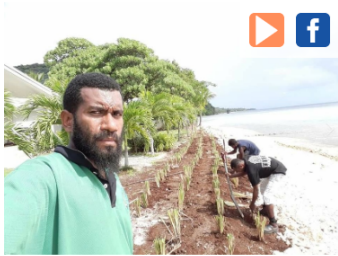


Load more

Vetiver grass planting site

Beach near Ifira Island

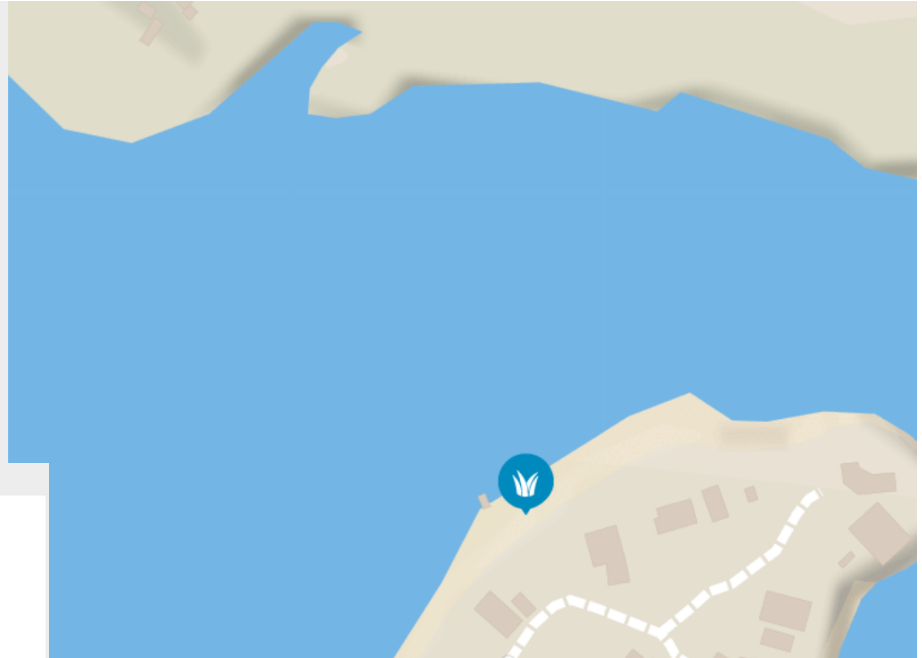
Ifira, Shefa, Vanuatu



Disaster Mitigation (Others)

Project Information

Timeline



Tantec Leather Ltd.

An Tây, B'n Cát, Binh Duong, Vietnam



Phytoremediation (Contaminated Land: Industrial)

Project Information

North of Saint Joseph

Saint-Joseph, Saint-Pierre, Reunion



Other Uses (Aromatic Oil)

Project Information

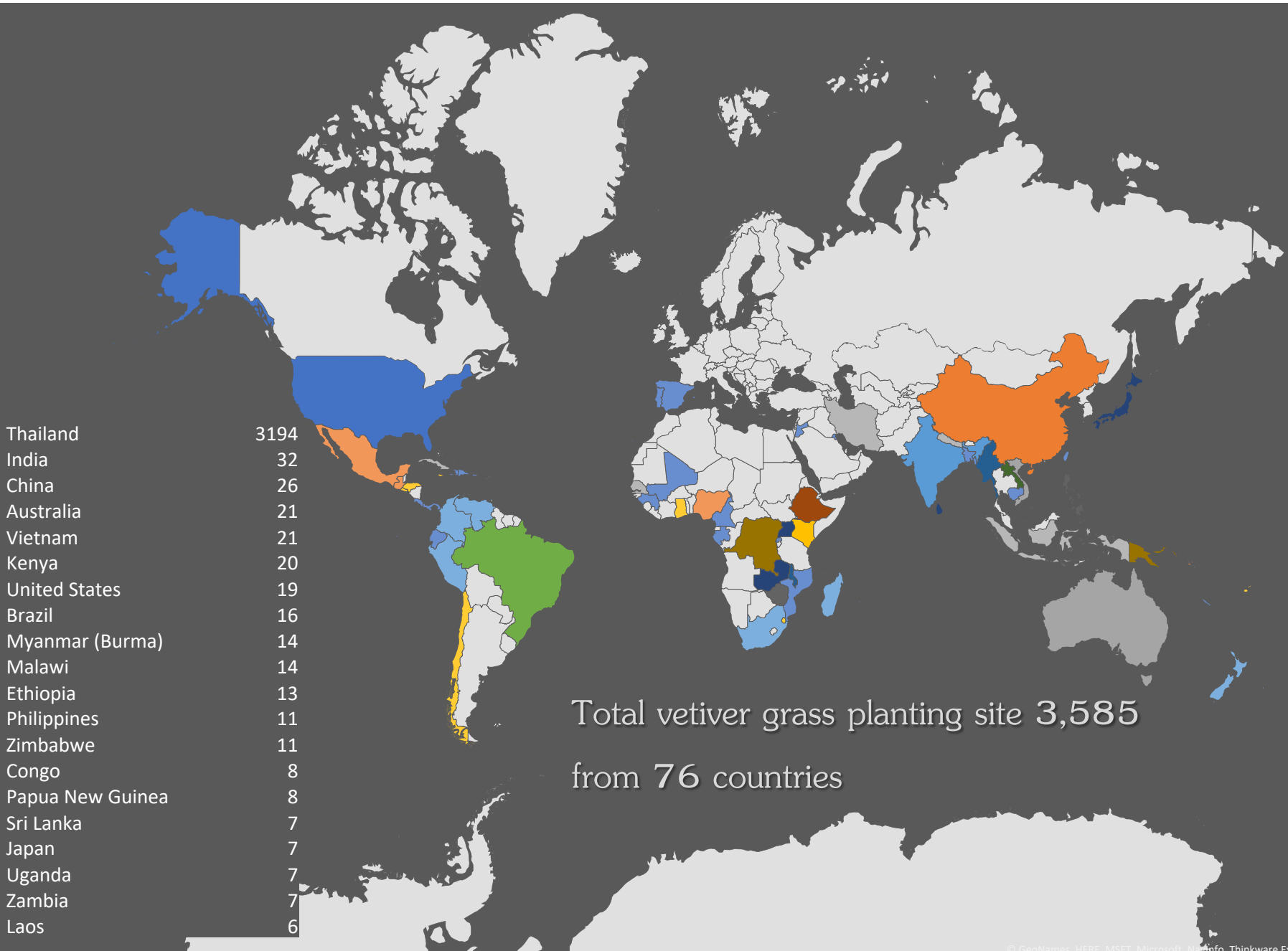


Richard Grimshaw

approximately 6 months ago

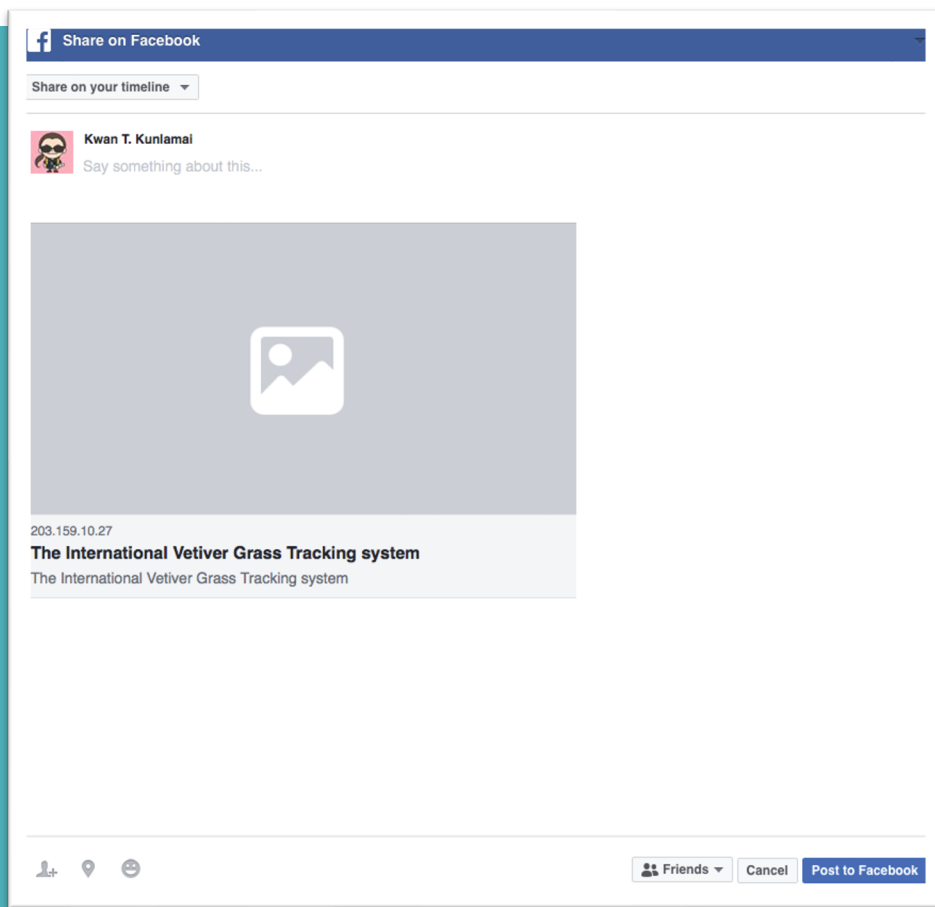
Vetiver handicraft and vetiver oil still near Saint Joseph, Reunion






Total vetiver grass planting site 3,585
from 76 countries

Post to Facebook



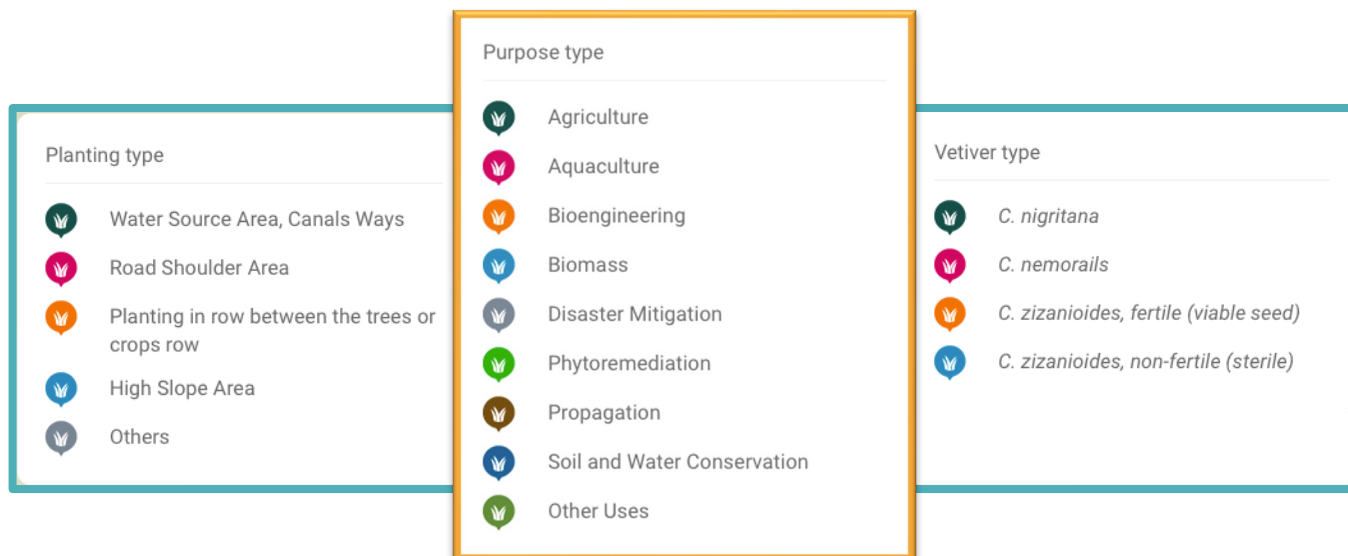
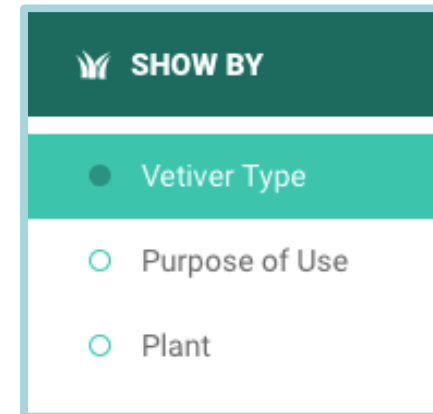
Users can share the information of the vetiver site on Facebook.

Sharing the project information can be operated by click on 

Changing the symbol the vetiver site

Users can change the classification of the project with the following conditions

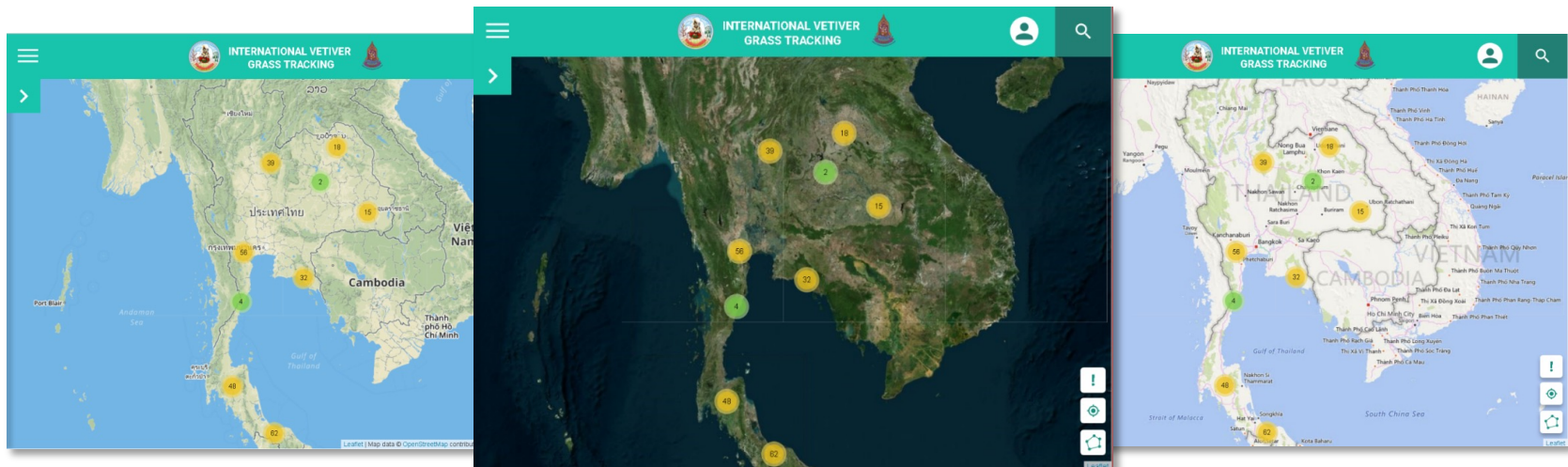
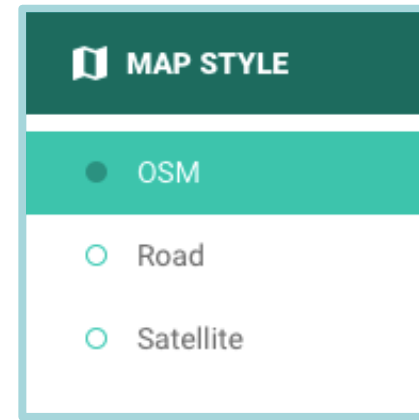
- 1) Vetiver Type
- 2) Purpose of Use
- 3) Planting type



Changing Online Base map

Open-source map data

- 1) Topography map (OSM)
- 2) Topography map (Bing Maps)
- 3) Satellite map (Bing Maps)



Searching

Searching for Vetiver Grass Projects



01

Search by vetiver project name

02

Search by administrative district

03

Search by user's current location

04

Search by drawing a polygon

Search by vetiver project name

SEARCH BY LOCATION NAME

🔍 Khlon

Bo **Khlong** Charoen Mo 12

Boriwen **Khlong** San Chao Pho (**Khlong** Lumnam Yom - Nan)

Boriwen **Khlong** San Chao Pho (**Khlong** Lumnam Yom - Nan)

Boriwen Rim **Khlong**

01

Searching
TYPING LOCATION NAME



User can search for vetiver project planting from vetiver project name by typing the desired location name *more than 3 letters*, Lists of suggested location will be shown as the user specified.

Search by administrative district

INTERNATIONAL VETIVER GRASS TRACKING

SEARCH BY LOCATION NAME

Type Location name

COUNTRY PROVINCE DISTRICT SUBDISTRICT

All All All All

VETIVER TYPE PLANTING BY PURPOSE OF USE

All Vetiver type All Planting by All Purpose of use

AMOUNT OF GRASS

0 Max 10000000

SEARCH SHOW ALL

02 Searching ADMINISTRATIVE

User can search for a vetiver grass sites from the project location by specifying the national administrative boundaries, province, district, and local level.

FOR EXAMPLE

To search for vetiver project in Thailand, Mueang district, Kanchanaburi, then start the search by pressing the button.

Filter conditions

User can select a specific vetiver grass sites by selecting additional conditions

PURPOSE OF USE

- All Purpose of use
- Agriculture
- Aquaculture
- Bioengineering
- Biomass
- Disaster Mitigation
- Phytoremediation
- Propagation
- Soil and Water Conservation
- Other Uses

Purpose of Use

VETIVER TYPE

- All Vetiver type
- C. nigriflora
- C. nemoralis
- C. zizanioides, fertile (viable seed)
- C. zizanioides, non-fertile (sterile)

Vetiver Type

PLANTING BY

- All Planting by
- Water Source Area, Canals Ways
- Road Shoulder Area
- Planting in row between the trees or crops row
- High Slope Area
- Others

Planting Type

AMOUNT OF GRASS

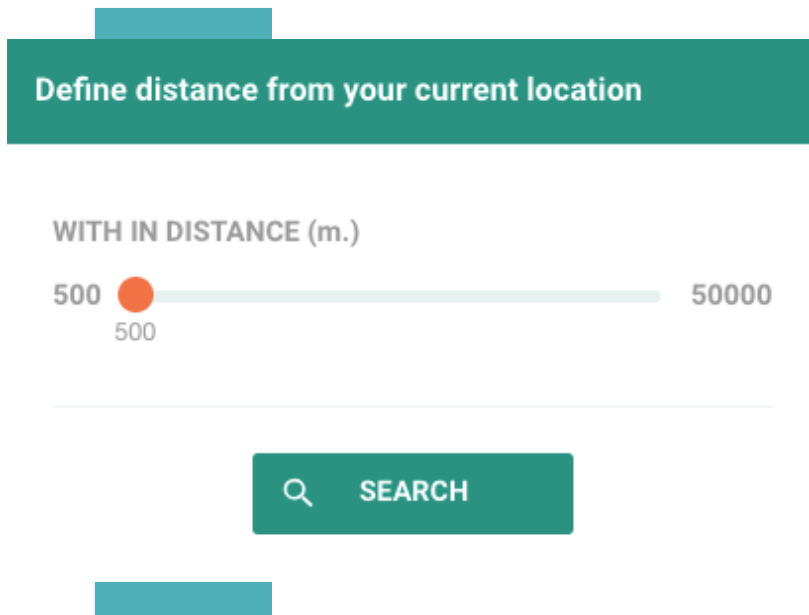
0 ————— Max
0 10000000

Amount of Grass

Search by user's current location


03 Searching **CURRENT LOCATION**

To define the distance from the current location of the user, the search range can be set from 500 to 50,000 meters from the user current location.




Define distance from your current location

WITH IN DISTANCE (m.)

500  50000

500

 SEARCH



Get the current user location

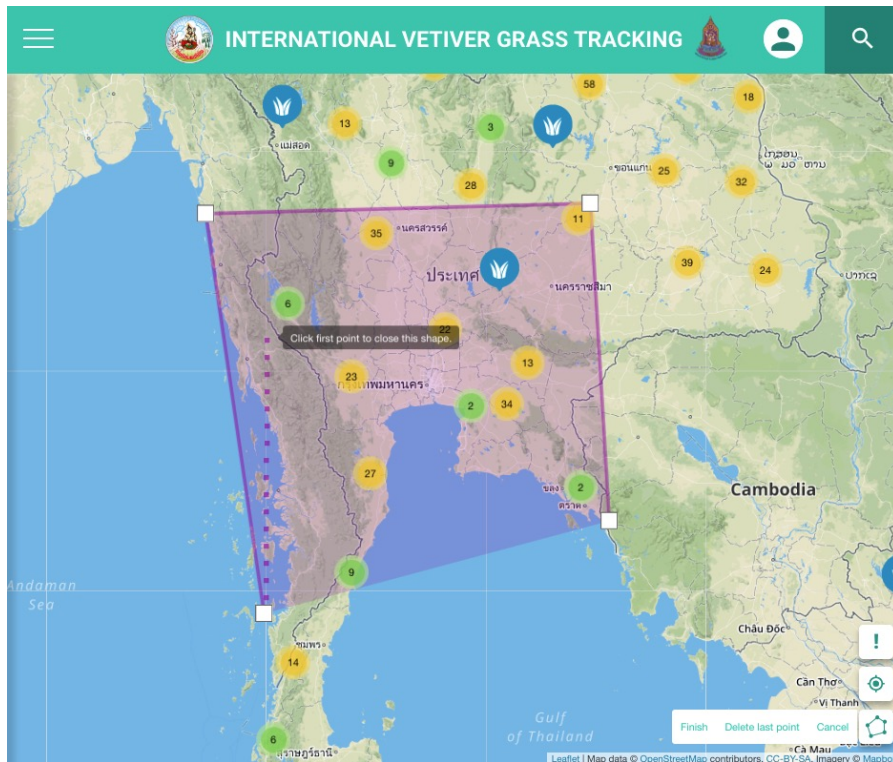


The current user location

For a computer, the user's location is predicted by the IP addresses that are connected at that time. Therefore, the accuracy of the position may not be precisely.

In the case of using this web browser with [Chrome browser](#), it must only connect with protocol "[https](#)". According to the [Chrome browser security requirements](#).

Search by drawing a polygon



04 Searching DRAWING POLYGON 🔍

Users can use drawing polygon tool to find projects that locate in the specified area

Finish Delete last point Cancel



Analysis Tool

Users can analyze data of vetiver grass sites according to the search with the criteria specified by type and usage.

SUMMARY TABLE

Summary table of Vetiver project

CSV Excel Print

Type	Amount
Soil and Water Conservation	217,585,098
Propagation	19,004,300
Other Uses	15,629,200
Others	13,295,580

Showing 1 to 4 of 4 entries

Chart of

Number of grasses

Group by

Purpose of project

REDRAW

PIE CHART

Summary chart of Vetiver project

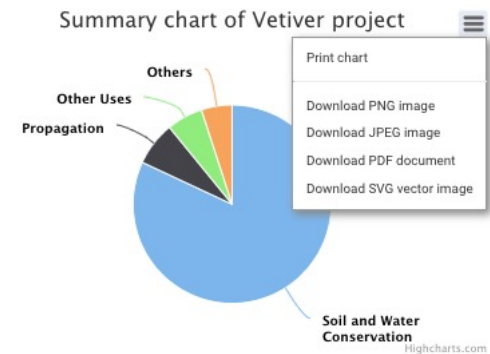


Chart of

Number of grasses

Group by

Purpose of project

REDRAW

Role-based access control

The permissions to perform certain operations are assigned to specific roles. Members are assigned particular roles, and through those role assignments acquire the permissions needed to perform particular system functions

01

System Administrator

System Administrator who have an obligation to manage user information and permissions.

04

Staff

Registered user who register to manage data which is an approved project

02

Country Representative

Country representatives have an obligation to manage the user data in the responsible area

05

Surveyor

Registered users who survey in various field and be accepted to import data from many areas.

03

Project Investigator

Registered user and response to some project

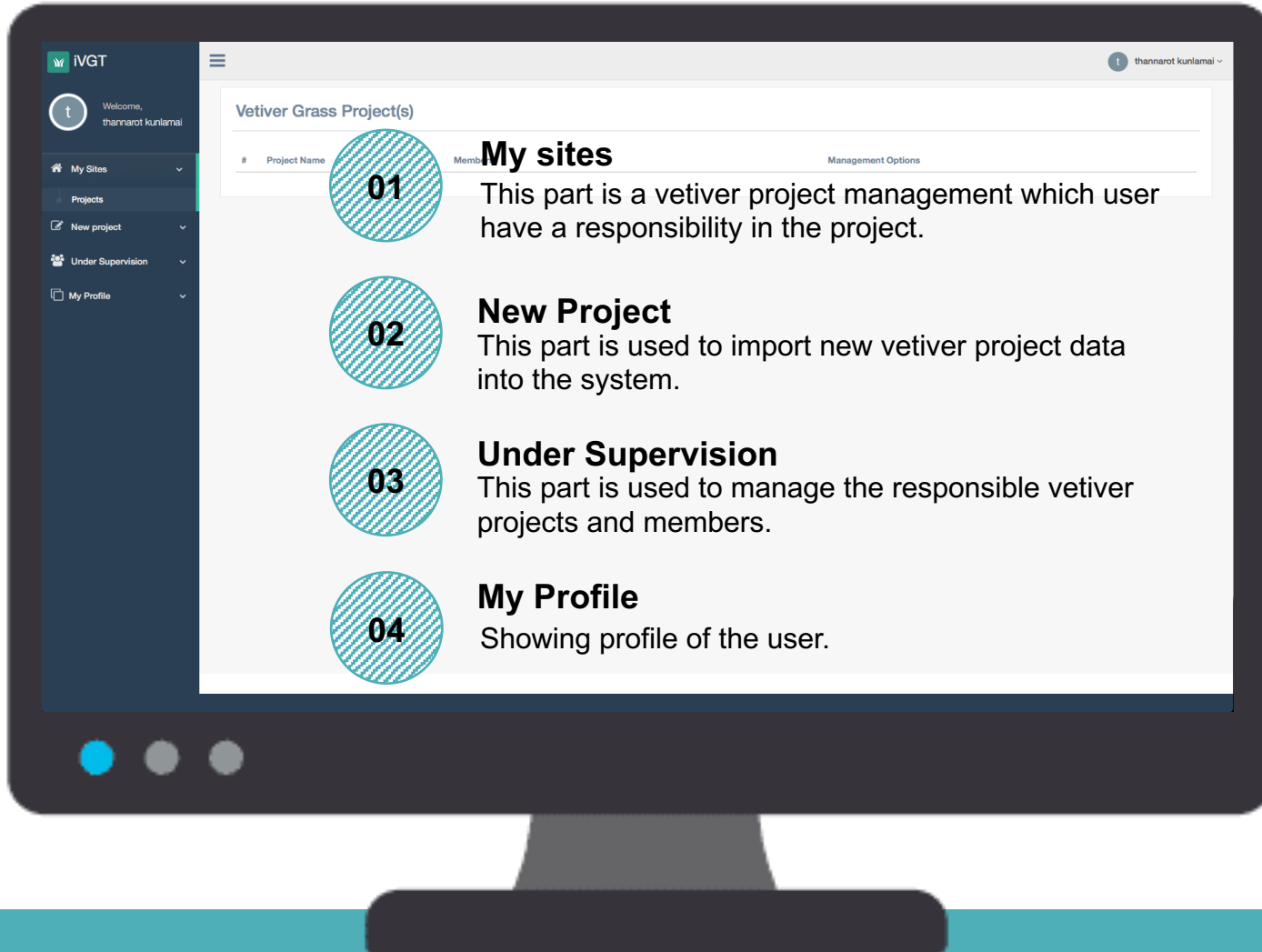
06

Public Users

No registration required

New Vetiver Grass Project

Users who are authorized and verified with social account will find that the profile image and account name of the user is displayed on the upper right corner and the left side of the screen.



New Vetiver Grass Project

To input new project, it is limited to Administration, Representative and Project Investigator for adding new projects.

IVGT Welcome, thannarat kullamai

New Project

Location Information 1

Location Name

Latitude Longitude

Country Province / State

District / City Sub-District

Village / Town

General Information 2

Project Name

Main Purpose

Sub-Purpose

Planting Pattern

Planting Date

Species of Vetiver Grass

Vetiver variety

Number of Plant

Number of Plot

Select image to upload Image caption

Select video to upload Video caption

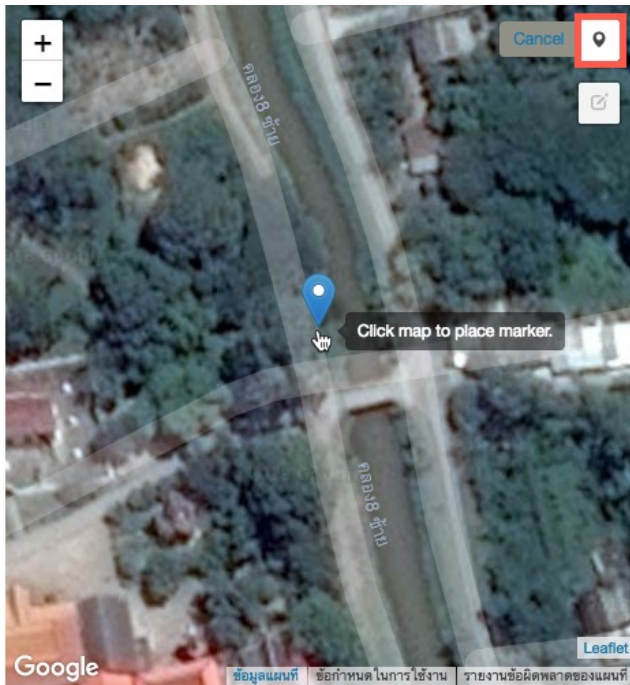
Assign staffs to work on the project

New Vetiver Grass Project

Identify the **location** of the vetiver project, there are 2 ways to give the location of vetiver site. After identify the position in the map, the administrative information will be input.

01

To click on the place maker icon on the top right corner of the map . Then, click on the map to set the desired position.



02

Users can specify the location of the vetiver project by filling the Latitude and Longitude

Location Information

Location Name

Latitude

Longitude

Country

Province

District

Sub-District

Village

New Vetiver Grass Project

Require Data

- Project Name
- Main Purpose of use
- Sub-purpose of use
- Planting Pattern
- Planting Date
- Species of Vetiver Grass
- Vetiver variety
- Number of Plant
- Number of Plot

Optional Data/Media

- Images
- Video

In addition, users who has a supervised staff can choose a staff and managed in the future by click on the staff list from select staffs.

General Information

Project Name

Main Purpose

Sub-Purpose

Planting Pattern

Date

Species of Vetiver Grass

Sub-Species of Vetiver Grass

Number of Plant

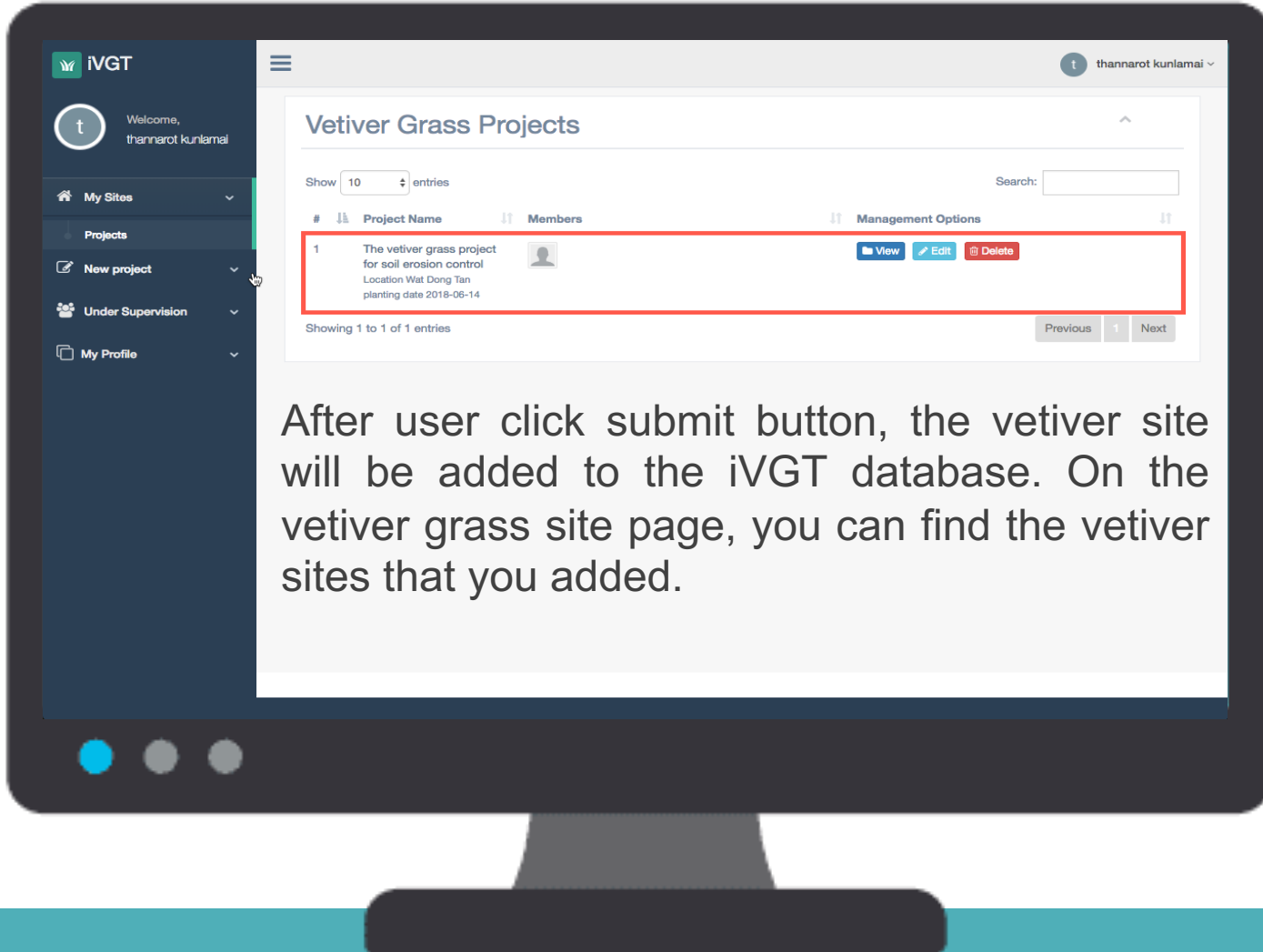
Number of Plot

Select image to upload No file chosen **Image caption**


Select video to upload No file chosen **Video caption**

Assign staffs to work on the project

New Vetiver Grass Project



The screenshot displays the iVGT web application interface. On the left is a dark blue sidebar with navigation options: My Sites, Projects, New project, Under Supervision, and My Profile. The main content area is titled "Vetiver Grass Projects" and shows a table with one entry. The entry is highlighted with a red border and contains the following information:

#	Project Name	Members	Management Options
1	The vetiver grass project for soil erosion control Location Wat Dong Tan planting date 2018-06-14		View Edit Delete

Below the table, it indicates "Showing 1 to 1 of 1 entries" and includes "Previous", "1", and "Next" navigation buttons. The user's name "thannarot kunlamai" is visible in the top right corner of the application.

After user click submit button, the vetiver site will be added to the iVGT database. On the vetiver grass site page, you can find the vetiver sites that you added.

Vetiver Grass Data Management

Add progress content

To support the monitoring of the vetiver planting project. The user can add a description with photos. The maximum number of photos is 3 pictures.


Add Progress

Content

Our vetiver is growing fast...|

Image Files

Upload Photo 📷




Add progress Cancel

Recent Activities

2 minutes ago by Thannarot Edit Delete

Our vetiver is growing fast...



1

+ Add Progress



Vetiver Grass Data Management

Editing a project

Location Information

Location Name: Wat Dong Tan
Latitude: 14.77633 Longitude: 100.49457
Country: Thailand Province: Lop Buri
District: Tha Wung Sub-District: Hua Samrong
Village: Ban Hua Lam Pong

General Information

Project Name: The vetiver grass project for soil erosion contro
Main Purpose: Soil and Water Conservation
Sub-Purpose: On Farm Erosion Control
Planting Pattern: Water source area or Water reservoir align
Date: 2018-06-14
Species of Vetiver Grass: C. zizanioides, non-fertile (sterile)
Sub-Species of Vetiver Grass: SongKhia 3
Number of Plant: 50000
Number of Plot: 1

Select image to upload: Choose File | No file chosen | Image caption
Select video to upload: Choose File | No file chosen | Video caption

Submit Cancel



Edit vetiver site information

The user can edit the project information by selecting the project and modifying the information you want such as project location, project name, etc.

Successfully!

The project has been edited successfully!

OK

Vetiver Sites & Member Management

Member Management

This section will be the main part in the management of registered user rights by clicking Under Supervision. The number in the bracket behind Request is the number of users waiting for approval.

The screenshot displays the iVGT Member Management interface. The left sidebar contains navigation options: My Sites, New project, Under Supervision, Request (1), Projects, and My Profile. The 'Request (1)' option is highlighted with a red box. The main content area is divided into two sections: Pending Requests and Approved Requests. Each section contains a list of requests with columns for Name, Email, and Organization, and buttons for View, Edit, and Delete.

Request ID	Name	Email	Organization	View	Edit	Delete
1	Panya	[Redacted]	Organization AT	[View]	[Edit]	[Delete]
1	Nattakran	[Redacted]	Organization LDD	[View]	[Edit]	[Delete]
2	Judy Snow	[Redacted]	Organization India_LDD	[View]	[Edit]	[Delete]
3	ivgt account	[Redacted]	Organization LDD	[View]	[Edit]	[Delete]

Vetiver Sites & Member Management

To approve a staff request

In the approval request for the staff, if the project investigators has their own under supervised project. They can identify the project to the staff to response for updating the project information. It is possible to assign more than one project to one staff member.

The screenshot displays the staff management interface. On the left is a dark sidebar with navigation items: 'My Sites', 'New project', 'Under Supervision', and 'My Profile'. The main content area shows a staff profile for 'Nichan K.' with fields for Country (Thailand), Role (Staff), Organization (CC. Company), Email (nichank361@gmail.com), Contact Number (023445434), and Position (staff). Below the profile is a 'List of Projects' section with a red box around the first three items: 'Site TH012', 'Site AA023', and 'Site A021, Thailand'. A red circle with the number '2' is next to this list. To the right is an 'Approved Projects' section with a red circle with the number '3' and a right-pointing arrow icon. At the bottom are two buttons: 'Accept Staff and Save Changes' and 'Cancel'.

Vetiver Sites & Member Management

Project Under Supervision Management

The administrator able to handle all projects. The Representative can only manage the projects in the country of their responsibility

The screenshot shows a web application interface for managing Vetiver Grass Projects. The browser address bar displays the URL `203.159.10.27/vetivertrack/ivgtmember/sites_admin.php`. The user is logged in as `thannarot kunlamai`. The main content area is titled "Vetiver Grass Projects" and features a table with the following data:

#	Project Name	Members	Management Options
1	Project Sun Khrongkan Nong Phlap_2 Location Sun Khrongkan Nong Phlap planting date 2016-05-19		View Edit Delete
2	Project Plaeng Pluk Phuet Khong Kasettakon Location Plaeng Pluk Phuet Khong Kasettakon planting date 2016-05-18		View Edit Delete
3	Project Sathani Phatthana Thidin Location Sathani Phatthana Thidin planting date 2016-05-18		View Edit Delete
4	Project Ngan Chat Rabop Rabop Location Ngan Chat Rabop Rabop planting date 2016-05-17		View Edit Delete
5	Project Chai Khlong Satharana Location Chai Khlong Satharana planting date 2016-05-16		View Edit Delete
6	Project Fai Chon Nam Ban Nong Phlap Location Fai Chon Nam Ban Nong Phlap planting date 2016-05-16		View Edit Delete
7	Project Fai Trok Lang Location Fai Trok Lang planting date 2016-05-16		View Edit Delete

Vetiver Sites & Member Management

To delete
Representative &
Project Investigators

In case, there are vetiver projects and members are under supervision of a representative or a project investigator. The administrator have to assign the projects and members to new representative/ PI.

The screenshot displays the IVGT web application interface. On the left is a dark sidebar with navigation options: My Sites, New project, Under Supervision, and My Profile. The main content area shows a warning message: "Please assign the projects, pi and staff before deleting". Below this, the site name "Nattakran P." is displayed. There are three main sections: "Projects Under 'Nattakran P.'" with a table listing two projects (PSN 0233 and PSN 0234); "Assign To New Representative" with a dropdown menu showing "Thannarot Kuniamai" and a red circle with the number "1"; and "PI & Staffs Under 'Nattakran P.'" with a table listing one member (Wayne rooney). At the bottom, there are buttons for "Delete" (with a red circle and "2") and "Cancel".

IVGT

Welcome, ivgt 2017

My Sites

New project

Under Supervision

My Profile

Please assign the projects, pi and staff before deleting

Nattakran P.

Projects Under 'Nattakran P.'

Show 10 entries

Search:

#	Project Name
1	PSN 0233
2	PSN 0234

Showing 1 to 2 of 2 entries

Previous 1 Next

Assign To New Representative

Thannarot Kuniamai

1

PI & Staffs Under 'Nattakran P.'

#	Member(s)
1	Wayne rooney

2 Delete Cancel

Conclusions

- iVGT was successfully service to the communities
 - 48 users from 28 countries
 - more than 4,000 vetiver grass planting site were recorded.
- Due to recent change of term of usage and technical implementation, authentication system which used the 3rd API is failed.
- The new features and bug fix are considered and improved soon.
- The mobile application will be discontinued since the responsive web design was implemented and reduce the budget for maintenance the update of mobile application.

THANK YOU

