

Guidelines for volunteers for the Badas Tree Planting 2021 project

Background

It is increasingly acknowledged that reforestation and rehabilitation of degraded lands are a highly effective means of storing and reducing carbon emissions to combat climate change.

The Badas Tree Planting 2021 project is a collaborative project between Singapore-MIT Alliance for Research and Technology (SMART), Universiti Brunei Darussalam (UBD), the Forestry Department of the Ministry of Primary Resources and Tourism, Wetlands International Brunei (WI), and funded by Brunei Shell Petroleum (BSP). The project is both a research project, and a citizen-science reforestation project involving members of the public. More information on the project can be obtained from <https://badastreeplanting.org/>

The location of the project is the Badas peat swamp forest, Brunei Darussalam. Since the natural landscape of peat swamp forests takes the shape of a dome, Badas peat dome is also used interchangeably to describe the forest type. Badas peat swamp forest is the largest peat dome in Brunei Darussalam. About one-third of the Badas peat dome has been degraded due to sand mining and constructions for industrial and residential purposes. Forest fires at Badas peat swamp forest have been happening more frequently due to the combustible nature of the peat and the unpredictable long dry spells.



Figure 1. Map overview of Badas peat swamp forest with the planting location outlined by the white square ring (adapted from Google Earth).

The tree species involved in this rehabilitation project is *Shorea albida*, locally known as Alan. *Shorea albida* is a high conservation value species, being endemic to Bornean peat swamp forests and is classified as endangered in the IUCN Red List. Brunei's peat swamp forests hold the least disturbed stands of *Shorea albida*, as populations elsewhere in Borneo have been extensively logged. The need to conserve *Shorea albida* is further elevated by its low natural reproduction due to irregular flowerings, the last of which was observed in Brunei in 2015.

Objectives of the volunteering program

1. To provide an opportunity for volunteers to participate as citizen scientists, via an "Adopt a tree programme".
2. To provide local capacity building and skills transfer via knowledge sharing and interactions with researchers from UBD and SMART throughout the project
3. To increase the general public's awareness of Brunei's peat swamp forests in general, and in particular, of the Badas peat swamp forest
4. To share knowledge on the importance of peat swamp forests and the threats faced, including forest fires, and what the public and the local community can do to help protect these forests
5. To contribute towards Brunei Darussalam's national target for reforestation as a climate change mitigation action

Volunteers' expectations of Badas Tree Planting experience

As this is an 'adopt-a-tree' planting event, volunteers of at least 18 years of age are encouraged to commit their time and effort in maintaining and updating the growth and health status of *Shorea albida* tree saplings for a course of one year at different time periods i.e. after 1-, 3-, 6-, and 12-months period after planting.

Since the tree planting is located at Badas peat swamp forest, volunteers should be prepared to get themselves wet and muddy as the site is currently experiencing high water levels due to the rainy season. Volunteers should be prepared to spend some time in the hot sun.

Volunteers do not need prior experience in tree planting or hiking in a peat swamp forest as the trained team leaders on site will guide them safely in this tree planting experience. Volunteers will be paired up with each other and help one another to plant a tree and do their part in saving the environment. Volunteers will be supervised by designated team leaders.

Benefits provided

All volunteers will receive a certificate of participation, and will be provided with refreshments during the volunteering days. Transport from designated meeting points to the project site will be provided.

Registration

Registration will be open from January 2021, and throughout the first year of the Badas Tree planting (until March 2022).

Volunteers are required to register via the link:

<https://forms.gle/dhgoR83qE8t2rt6t5>

All volunteers are required to provide their health and emergency contact details, and to complete a UBD liability release form.

For enquiries, please contact: badasplanting2020@gmail.com

Volunteers' requirements

1. At least 18 years old
2. Fitness level: at least intermediate (Note: Volunteers will have to trek for about 50 – 100 m in open and unstable peat swamp terrain to reach the planting locations allocated – see Figure 2)
3. Able to stand long hours in the heat and sun or rain.
4. No major medical issues or chronic health conditions.



Figure 2: Conditions at Badas peat swamp forest during the rainy season in December 2020.

Schedule of activities

Volunteers are needed for the following events/dates:

1) Actual Planting (10 days)

- Dates: 25th Feb - 7th Mar 2021
- Time: 7 am to 12 noon
- Tasks for volunteers:
 1. Planting of saplings
 2. Measuring of saplings height and stem diameter (Refer to Picture 2 under Figure 2)
 3. Taking pictures of saplings (optional but encouraged)

2) Post-planting - First month (5 days)

- Dates: 3rd - 7th Apr 2021
- Time: 7.30 am to 12 noon
- Tasks for volunteers:
 1. Sprinkling of fertilizers to saplings
 2. Recording of mortality
 3. Taking pictures of saplings (optional but encouraged)

3) Post-planting - Third month (5 days)

- Dates: 5th – 9th Jun 2021
- Time: 7.30 am to 12 noon
- Tasks for volunteers:
 1. Recording of mortality
 2. Replacement of dead saplings
 3. Taking pictures of saplings (optional but encouraged)

4) Post-planting - Sixth month (5 days)

- Dates: 4th - 14th Sep 2021
- Time: 7.30 am to 12 noon
- Tasks for volunteers:
 1. Measuring of saplings height and stem diameter
 2. Recording of mortality
 3. Taking pictures of saplings (optional but encouraged)
 4. Sprinkling of fertilizers to saplings

5) Post-planting – Twelfth month (5 days)

- Dates: 5th – 9th Mar 2022
- Time: 7.30 am to 12 noon
- Tasks for volunteers:
 1. Measuring of saplings height and stem diameter
 2. Recording of mortality
 3. Taking pictures of saplings (optional but encouraged)

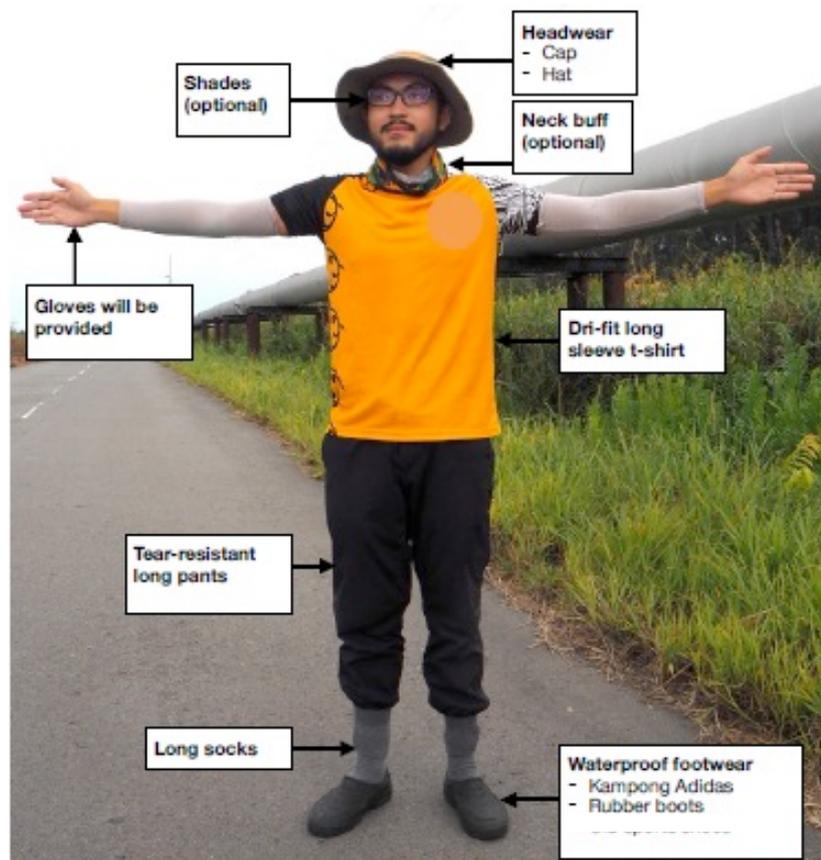
Information for volunteers

Attire

1. Cap/hat. (Note: For ladies wearing headscarves, we recommend using light material)
2. Shades (optional)
3. Long sleeve dri-fit shirt (tear-resistant)
4. Long breathable pants (tear-resistant)
5. Long socks (prepare to get muddy)
6. Rubber shoes/gardening boots (easily washed)
7. Volunteers are advised not to wear jewelry.

Note: For safety reasons, volunteers who are not properly attired may not be allowed to join the field activities.

Field Attire for Volunteers



Items to bring

1. Water bottle (Note: Extra bottled water will also be provided)
2. Snacks e.g. granola bars, biscuits, dry fruits, etc (Note: Optional, but recommended)
3. Sunscreen
4. Insect repellent
5. Raincoat
6. Hand sanitizers and wet wipes (extras will be provided)
7. Small towel
8. Gloves (event will provide but optional to bring your own)
9. Extra shirt and pants (to change to after field activities)
10. Slippers (to change to after field activities)
11. Waterproof bags or ziplock bags (to carry personal items to the field) – Volunteers are advised not to bring along any valuables with them.

Reminders

- Volunteers are requested to arrive at designated meeting points on time.
- Volunteers who are unwell at the start of activities are advised not to join for the day. Volunteers who feel unwell during activities at the project site must immediately alert their team leaders.