



# International Sustainability Project

A collaborative environmental program between  
Swinburne University of Technology (Melbourne, Australia)  
and  
Tra Vinh University (Tra Vinh, Vietnam)

## *Proposals for a Greener TVU Campus*



### **Authors**

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*Compiled by Dr François Malherbe, 22<sup>nd</sup> January 2014, Tra Vinh*

## Preface

This project was conceived by Dr Pham Tiet Khanh, Rector and President of Tra Vinh University, Dr Ho Dac Tuc, Deputy Dean of the Faculty of Economics, Law and Foreign Languages, and Dr François Malherbe, Associate Dean International of the Faculty of Life & Social Sciences at Swinburne University of Technology, in January 2013. With the assistance of Miss Nguyen Thi Mai Khanh and Dr Vivienne Waller, it was elaborated and developed into the International Sustainability Project. Dr Vivienne and Dr François Malherbe took the proposal a step further by creating an academic subject submitted to the Faculty Academic Committee (FLSS) as a Summer Unit on offer at Swinburne University. The subject was formally endorsed by the Academic Senate in May 2013, and 18 students were enrolled by end of June.

The Swinburne group arrived in Tra Vinh on the 6<sup>th</sup> of January 2014 and each student was immediately paired up with one TVU student. The two weeks have been a fantastic experience for all of us, and all students, SUT and TVU, unanimously expressed their sadness that the project was too short.



*The joint Swinburne-TVU team*

We would like to thank Tra Vinh University, Swinburne University of Technology, the Australian Federal Government, the Faculty of Life & Social Sciences, Swinburne International, and the Vietnamese International Students at Swinburne, for making this project possible and enjoyable.

*Dr François Malherbe and Dr Vivienne Waller*

*Tra Vinh, January 2014*

## Introduction

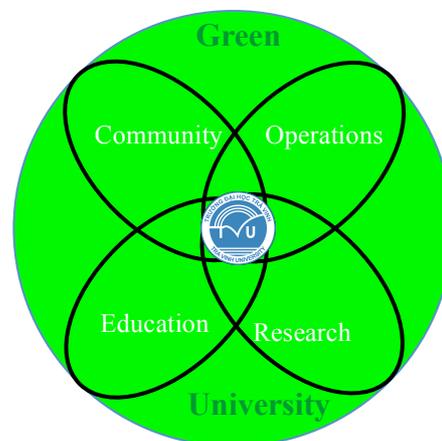
In addition to being centres of knowledge and learning, university campuses are microcosms that are supported by vast systems of institutional and operational functions. A Green Campus is one that carries out these functions according to a global culture of environmental sustainability, establishing a fine equilibrium between function and design with existing and future resources. It is also a place where environmentally responsible practices and education work in harmony, and where environmentally sound concepts blossom by examples.

The Green Campus institution is a real-life laboratory of reflection, experimentation and application of the best practices to ensure a healthy environment. It represents a model environmental community where operational functions, business practices, academic programs, and people are interconnected, providing educational and practical values to the institution, the region and the world.

As an institution of higher education with a population of over 20,000 students, TVU Campus One is the ideal place where the seeds of change can be sown. These will then grow and ultimately disperse back into the broader community. TVU students originate from all the districts of the province and by educating them about how the environment is crucial for our survival (we breathe air, drink water and eat products from nature) we will ensure that they will spread the message into their respective communities.

Greening the campus is about looking critically at how we do things; avoiding wasteful inefficiencies and instigating positive changes. Many of these changes address the daily, practical aspects of campus life – correct disposal of waste, minimising the production of waste, purchasing environmentally friendly supplies, adopting effective recycling programs.

Greening initiatives are challenging and require determination and long-term commitment from the entire campus community: senior management, operation, academic and research staff, and students.



Changes do not have to happen all at once, they can be approached through a manageable, progressive process in which they are built into the institutional planning and budgeting with a view to continually improving the campus through the implementation of sensible recommendations. The Green Campus concept offers TVU the opportunity to take the lead in the rethinking of an environmental culture and the development of new standards for addressing problems that are local, national and global in nature.

Following two weeks of activities at TVU, the SUT Team is proud to submit to the Senior Management of TVU a list of proposals to achieve the overarching objective of making TVU campus greener.

# SPROUTS

## Growing Kids for a Sustainable Future

### Proposal by Xanh Team

*SUT: Verity Lougoon, Nathan Smith, Jonina Su*

*TVU: Huỳnh Phước Lộc, Sơn Thị Hoan Ny, Thạch Thị Diệu Linh*

#### 1. Goals and Objectives

The goals of the Xanh Team are to contribute to Tra Vinh University becoming a greener campus whilst also becoming an advocate for sustainability for the wider Tra Vinh community.

The main objective is to create a generation of sustainability-minded residents by implementing education and awareness-raising programs in primary schools. In particular the awareness-raising program will focus on the waste management behaviors of children.

#### 2. Rationale

Waste is a serious environmental issue globally which not only pollute but also contributes to the depletion of natural resources and emissions of greenhouse gases. For every rubbish bin put to the kerb it is estimated that another 70 bins have already been sent to landfill upstream in mining and manufacturing processes (Leonard 2009).

In Vietnam there is minimal infrastructure for the collection and management of waste. In Tra Vinh in particular it is not uncommon for waste to be discarded in the streets, which not only causes pollution but also poses public health risks for people in the local community. Over 80% of Vietnam's waste is organic waste that could be composted. There is also no collection of recyclable wastes. Often waste is burnt at the landfill, on the side of the road or at homes. Burning waste creates extremely toxic fumes as well as contributing to global warming.

The majority of Vietnamese and Tra Vinh community is largely unaware of environmental issues. With awareness will come motivation for change and caring for the environment. Implementing an education and awareness-raising program will lead, in the long term, to a sustainable future.

In Vietnam regulations and rules are implemented by educating people through schools. Children are very good at mimicking behaviors. Playing games can be fun and rewarding for children while establishing productive habits. In primary schools, there are fewer set subjects and a program can be integrated from an early age.

### **3. Aims**

This project aims to create awareness of waste as an environmental issue within the Tra Vinh community.

- To create a generation of community members who are ecologically literate and understand good waste management practices
- To educate and create awareness of the environment among primary school students.
- To build upon the capacity of communities to undertake their own sustainability waste education
- To widen knowledge for sustaining the present and future developments of their lives, and future generations
- To make a visible reduction in waste, reduce the carbon footprint and conserve energy through recycling and composting
- To create a culture that includes a mindset for caring for the environment.

### **4. Desired Outcomes**

If successful, the next generation will become more aware of waste and its impact on the environment, and also how they can reduce waste at home. It is also hoped that waste education can be implemented as part of an ongoing primary school classes through the:

- Visible reduction of litter/rubbish, particularly in public places.
- Increased motivation of next generation regarding waste reduction.

### **5. Methods**

#### **Teachers' Sustainability Training**

The teachers' sustainability training will include a 2-day workshop whereby teachers learn about the most pressing environmental challenges society is facing today. The following methods will be adopted:

- PowerPoint presentations
- Videos
- Group activities

## Primary School Workshops

Primary school workshops will be activity based, taking place over one day:

- Presentations on awareness and education for waste management and environmental protection
- Create games with prizes to keep primary school students interested
- Mentoring program
- Posters with green slogans designed and hung around schools by children
- Teaching by example
- Pilot project by volunteering activities with TVU students. Students could potentially set up an ongoing training organization/program.

## 6. Examples of teachers' training and children workshops

For the long-term success of the project it will be vital that primary schools are fully engaged with environmental sustainability and reducing waste on their campus. This means not only gaining full support from senior management but also increasing teachers' knowledge of environmental sustainability and good waste management practices.

The Xahn team may organise training sessions for teachers on environmental leadership.

TEACHER TRAINING DAY 1		
9am	Introduction	
Group Activity		<ul style="list-style-type: none"> <li>• Icebreaking questions</li> <li>• What is environmental sustainability?</li> <li>• What does it mean to be environmentally sustainable?</li> </ul>
10am	Understanding the problem	
PowerPoint Presentation	Teachers learn about major environmental problems facing society today.	<ul style="list-style-type: none"> <li>• Climate change and its causes</li> <li>• Peak oil, peak water, peak phosphorous, peak everything?</li> <li>• Rubbish, rubbish, everywhere! The North Pacific Gyre (Midway Film)</li> <li>• Who is responsible? We are...</li> </ul>
1pm	Lunch Break	
2pm	Empowering Change	
PowerPoint Presentation		<ul style="list-style-type: none"> <li>• Are we all alone?</li> <li>• The global sustainability movement</li> </ul>

<b>TEACHER TRAINING DAY 2</b>		
<b>9am</b>	<b>The Solutions</b>	
		<ul style="list-style-type: none"> <li>• Energy savings</li> <li>• Water conservation</li> <li>• Waste avoidance, recycling &amp; composting</li> <li>• Biomimicry</li> <li>• What is a carbon footprint?</li> <li>• How we can reduce our carbon footprint to prevent climate change?</li> </ul>
<b>2pm</b>	<b>Becoming an Environmental Leader</b>	
Video		<ul style="list-style-type: none"> <li>• Leadership lessons from a dancing guy starting a social movement</li> </ul>
Activity		<ul style="list-style-type: none"> <li>• Leadership skills</li> <li>• Community engagement</li> <li>• Sustainability in the curriculum</li> <li>• Greening your campus</li> </ul>

## SPROUTS Children's 1-Day Sustainability Workshop

Time	Activity	Aim/objective	Materials
9	Educational lecture	Educate children why the earth needs saving	PowerPoint presentation
9.30	Video	Educate children using cartoon characters	
9.40	Activity	Integrate physical learning	
10.30	Morning tea - collect food scraps	Create compost	Food and drinks
11	Educational lectures - what does it mean to be green, how to recycle	Educate further about the environment, how can they create better living conditions	PowerPoint presentation
11.30	Activity - clean area for planting	Prepare children for environmental change	Gloves, rubbish bags
12	Lunch - collect food scraps		Food and drinks
1	Educational lecture - how to compost	Educate children easy ways of recycling back into nature	PowerPoint presentation
1.30	Practice composting	Physical fun activity to keep children interested	Compost bin
2	Educational lecture - Importance of plants, how to care for plants and the environment	Integrate reducing noise pollution and creating a greener environment	PowerPoint presentation
2.30	Activity - planting trees, seedlings to take home	Fun physical activity for a greener environment	Soil, plants, seeds, gardening equipment that the school can keep
3.30	Finish		

### SPROUTS Leaders

To ensure ongoing discussion participants can be paired with a volunteer mentor from TVU to spend an hour each week with them talking about environmental sustainability.

## 7. Project Timeframe & Example of Implementation Plan

It is estimated it will take approximately 6 months for the first pilot primary school workshop and evaluation. This includes time for community consultation, volunteer sourcing, workshop design and implementation, and a 1-week and 2-month follow up evaluations. An example of implementation plan is provided below; the exact format of which will depend on the curriculum.

Action	Champion	Milestone
Working group of volunteers to set up project including TVU Staff, TVU student volunteers	Xahn Team	01 Feb 2014
Stakeholder consultation including TVU Staff & Management, Primary school management & teachers, TVU volunteers, local government, waste management contractors	Working Group Coordinator	01 March 2014
Presentation and activities developed for primary school children	Working Group	15 March 2014
Evaluation surveys designed	Working Group	15 March 2014
TVU Primary school to approve pilot program	Working Group	30 March 2014
TVU Primary teachers to attend two day workshop	Working Group	15 April 2014
TVU Volunteers to attend one day workshop	Working Group	15 April 2014
Pilot program run with TVU primary school	Working Group	01 May 2014
Evaluation surveys conducted	Working Group	01 July 2014
Post-pilot stakeholder consultation	Working group	15 July 2014
Evaluation report written	Working Group	25 July 2014
Amendments made to program	Working group	30 August 2014
Implementation plan for rollout	Working group	30 September 2014
Funding sought for further rollout	Working Group/TVU Management	
Program rolled out to other primary schools in Tra Vinh	Working Group	

## **8. Measuring the Outcomes**

Evaluation will be an important part of the project if it is to be rolled out on a larger scale. The success of the project will be measured through the following:

- Surveys – pre-lesson, post-lesson and 3 months out to discover the importance to the individuals
- Discussion about how they felt / feel about changing their waste practices
- Visual inspections to verify if rubbish is reduced in the local area
- Feedback from teachers on children’s behavior / attitude

Once the project has been evaluated the working group may decide to continue the program as it is or redesign in light of any issues that may have arisen during the pilot phase and evaluation.

## **9. Budget**

Allowances should be made for the following costs:

- Materials associated with developing posters and other creative media
- Cost of providing training to teachers / other staff to teach and educate children
- Cost associated with development of training program and initial plan/course as well as setting up individual / group to continue further training.

## **10. Stakeholders**

The following stakeholders should be consulted in the lead up to the project.

- TVU staff/students/management
- Primary school staff/students/management
- Parents of primary school children
- Local government
- Waste management contractors

Staff would need to be consulted in order to facilitate volunteers into the primary school schedule as well as help to develop the program. Local government will ensure project is legal and acceptable. Waste management contractors will explain and teach the methods of waste removal, as well as work out the best solutions for appropriate waste removal. Organizations involved in recycling could also be contacted.

## 11. Risk Management Plan

Risk	Risk Level	Management Strategy
Initial implementation phase <ul style="list-style-type: none"> <li>• Difficulty getting support from stakeholders</li> </ul>	<b>High</b>	Promote benefits to the community of participating in such a project <ul style="list-style-type: none"> <li>• Improvement in public health</li> <li>• Better looking community</li> <li>• Community empowerment from not being surrounded by rubbish.</li> <li>• Education</li> </ul>
Lack of participation and involvement	<b>Medium</b>	Incentives / rewards for participants
Lack of motivation	<b>Medium</b>	<ul style="list-style-type: none"> <li>• Make it interesting and fun to be involved.</li> <li>• Incentives – as an example, creating a game where children who pick up the most rubbish win a prize.</li> <li>• Give credit points to TVU students involved in pilot project.</li> </ul>
<ul style="list-style-type: none"> <li>• Lack of financial support</li> </ul>	<b>Low</b>	<ul style="list-style-type: none"> <li>• Fundraiser</li> <li>• Very small budget pilot can be performed.</li> </ul>
<ul style="list-style-type: none"> <li>• Risk associated with performing tasks. For example children working with rubbish</li> </ul>	<b>Low</b>	<ul style="list-style-type: none"> <li>• Personal protective equipment</li> </ul>
<ul style="list-style-type: none"> <li>• Loss of momentum</li> <li>• Difficulty in continuation of action plan after pilot project.</li> <li>• Getting the children to continue behavior by themselves (when not under direct observation)</li> </ul>	<b>High</b>	<ul style="list-style-type: none"> <li>• Penalize bad behavior.</li> <li>• Establish program in to curriculum</li> <li>• Create sustainable side project with focus on adults / older children to continue fostering idea.</li> </ul>



# **Environmental Outreach Program for Secondary Schools**

## **Proposal by Team Là Xanh**

*SUT: Matthew Horat, Kathleen Julian, Angela Nguyen*

*TVU: Nguyễn Quốc Tài, Nguyễn Thị Mỹ Tú, Triệu Tố Hoa,*

### **RATIONALE**

To raise awareness about environmental sustainability and incentivize environmental literacy in the wider community by educating the younger generations.

Environmental sustainability involves using natural resources without harming or destroying the environment. This ensures that future generations have a cleaner world with an abundance of natural resources. Environmental literacy is the understanding of how the communities and their actions affect the environment. It is important to educate secondary students, as some may not have the opportunity to learn about how to care for the environment. In addition, knowledge gained from the program can be passed on into the community.

### **OBJECTIVES**

In order to raise awareness of environmental sustainability and to increase environmental literacy, the following objectives must be met:

- Empower students by showing them that their actions can make a difference
- Provide education to secondary students so they can pass on their knowledge into the community
- Create connections between secondary schools and Tra Vinh University

### **DESIRED OUTCOMES**

Hopefully this program will encourage the following outcomes in the schools and the community:

- Increased knowledge and environmental literacy in the community
- Secondary students and the community become more proactive in protecting the environment
- The project is incorporated into secondary school curriculum

## METHODS

In order to plan the project, the following steps should be taken

- Choose a pilot high school to run the program
- Consultations with teachers and principals to gauge interest
- Conduct surveys among students
- Measure and evaluate issues to determine what needs to be focused on

## TIME FRAME

Week	Activity
Week One	Planning Classes
Week Two Class One	Sustainable Practices
Week Three Class Two	Environmental Literacy
Week Four Class Three	Practical Activity Planning
Week Five Class Four	Undertake Activity
Week Six	Evaluation and Celebration

## STAKEHOLDERS

The following stakeholders can contribute to this program by providing funding, resources and connections to help build stronger relationship with one another and improve the environment in which they share.

- **Tra Vinh University:** A student from the university could run the program with incentives provided by Tra Vinh University. This could include the replacement of a subject or work experience for students to attend. This will enhance the connection between high school and university students. High school students have the opportunity to be involved with the university and would aspire to seek future education at TVU.
- **Thuc Hanh su pham secondary school:** The secondary school can benefit from this program as it will help their students engaging in the sustainability program and students will be planning environmental projects at their school, resulting to a cleaner school and a better learning environment.
- **Local government:** The local government is currently promoting their streets to be cleaner. This program will help secondary school students to do just that, and promote to their family and friends the importance of taking care of the environment to sustain it for future generations.
- **Local community:** By educating secondary school students on environmental sustainability, some of the projects, which the students may want to target, could connect with local businesses and with the local communities. This could lead to a social enterprise providing employment for the community.

## **MEASURING THE OUTCOMES**

After completion of each individual secondary school program, facilitators should report on the following outcomes to measure the success of the program:

- Follow up surveys stating engagement by students and teachers
- The success of secondary class projects
- Test results showing secondary students knowledge after the first two classes

In the long term, the number of schools participating in the program, and the number of students participating from each school will show whether the programs are growing. It is a goal for this project to be completed at all secondary schools in the Tra Vinh province, and to become a part of the secondary school curriculum.

## **BUDGET/RESOURCES**

The University will need to cover the costs of the following items to ensure the success of the program:

- Printing for work sheets and advertisements
- Transport for facilitators
- Rewards for students
- Facilitator enticements
- Funding of each individual secondary class project

It is anticipated that the cost for running the program would be minimal.

## **CHALLENGES AND RISKS**

There are a couple of key challenges associated with the program. The key difficulty is in engaging interest with all members of the project. It is important that secondary school staff and students, facilitators, and the University are all committed to the program. The following recommendations should help minimising the risk and increasing engagement:

### **Secondary school students**

- Including games and other fun activities
- Promoting the program with posters, including the lists of fun activities

### **Secondary school staff**

- Explain the benefits of the program to the school and surrounding community
- Offer the program for free, to reduce the risks for the schools
- Facilitators
- Offer extra credits or include the program as part of their curriculum
- Advertise the program around the campus
- Offer rewards and incentives for participating

In the eventuality that secondary school students do not show interests in participating in the program, the classes can be run for university students instead. This would help to lower costs, and is a useful backup plan.

## **CONTINUITY**

In order for the program to continue successfully the program needs to run at least once a year, allowing for different students to be involved in the program. It will also ensure that an evaluation can be conducted on the sub-projects created by students.

It is recommended the program aims at increasing the number of secondary schools participating each year. This will ensure the program grows progressively until it is running in all secondary schools. The goal it is that the program will eventually be included in secondary school and university curricula.

# Environmental Sustainability Group

## Tra Vinh University

### Proposal by Team Kermit

*SUT: Luke Egorov, Kristen Hamilton, Je-An Lui*

*TVU: Chung Thanh Liễu, Lư Thị Thanh Hằng, Võ Thị Thuỳ Dương*

#### **Aim**

Today, we are beginning to learn that natural resources are limited and are quite sensitive to everything that we do. We are starting to experience the effects of the actions of generations before us. To make sure that future generations will not experience worse, we need to be aware of the ideals and requirements of sustainability.

Positive change often arises through the shift in perception and the attitudes of those involved. The most effective way to take the next step forward to a healthier environment and future is to first educate the younger generations, that is, the students of Tra Vinh University. With concise, interesting and fun communication, incentives and activities, it will be more effective to educate and promote environmental sustainability by creating a supportive network. Changing staff and students' mindsets through these actions would subsequently offer the students a greater understanding of the impacts of their actions as well as being more mindful of the environment. Ultimately, education is the key to altering the paths we take and the actions we make, for a better and brighter future for all.

As a result we hope to motivate the students to engage with each other in promoting a greener campus at Tra Vinh University. At the same time, the students could potentially spread the word and educate the wider community for better support, as well as a greater and lasting impact.

#### **Objectives and Goals**

The main objective of the Environmental Sustainability Group is not only to put sustainability initiatives into practice, but to also educate future leaders and decision-makers in ecologically sound principles. As an education institution there is a responsibility to prepare tomorrow's workforce to contribute to a sustainable future. It is essential to find the balance between our use of natural resources, our growth and our responsibility as a service provider within the community. To achieve this, it is proposed that Tra Vinh University introduces an Environmental Sustainability Group that encourages students of all faculties. In doing so, this will develop sustainability initiatives that cover both institutional practices, and research and education curricula.

In accordance with the elements of the Talloires Declaration, outlined below are the objectives to which the group will commit and further develop:

- Raise and increase environmental sustainability awareness
- Educate for environmental responsibility
- Promote the Environmental Sustainability group
- Promote environmental sustainability to students, staff and the boarder community
- Engage students and staff of all faculties
- Collaborate for interdisciplinary approaches
- Maintain the movement

## **Methods**

Listed below are the potential actions that the Tra Vinh Environmental Sustainability Group could implement and further develop.

- Introduce sustainability radio announcements on campus during their broadcasts at 8:30am and 2:40pm. This may involve sustainability facts, tips, and reminders.
- Design and create sustainability posters that illustrate the various messages the Environmental Sustainability Group are trying to communicate to both students and staff. This could also be done through newsletter over the student notice boards.
- Implement more informative signage around campus, for example 'remember to turn off lights' in classrooms, or clearer signs on bins to differentiate the three bins available.
- Invite all the students within the environmental group to reach out to their respective TVU students clubs. During each of their monthly meetings, students would be encouraged to convey and discuss the concepts of a sustainable environment with their Students Club members. At the same time, sustainability activities could be developed in conjunction with their usual activities, such as a clean up day around their respective district.
- Propose the inclusion of sustainability in the curriculum for all students in which the course content is tailored to their field, for example engineering or business.
- Include a sustainability pack and/or information session for all new students during the University's orientation or induction. This will offer the students a better idea and understanding of Tra Vinh University's standpoint in creating a greener campus, and in turn promoting engagement and activism.
- Develop a drama/play based on a sustainability campaign as an informative way of generating awareness whilst entertaining, educating and motivating student engagement with the environmental group. It could also showcase the level of impact the group may have with their initiatives in a fun and social environment.
- Offer incentives to motivate students to join the environmental group, such as offering excursions and field trips that are social, educational and fun.

## **Desired outcomes**

Upon implementing the suggested methods above, the Environmental Sustainability Group would have created a collaborative and empowering group that is motivated to drive and initiate sustainable practices. It will provide a platform for students interested in the environment and sustainability in moving towards an ecological civilization, and acting on ecologically sound initiatives within and around Tra Vinh University. The purpose of the group would be to promote, engage and educate awareness and interests of environmentally sustainable practices.

## **Ways of measuring desired outcomes**

Relevant to this project, measuring the desired outcomes will be objective focussed. The Environmental Sustainability Group will be able to measure and track the progress and efficiency by reflecting and identifying the link between the objectives and achievements.

The following methods can be used to build awareness of the proposal and invite feedback:

### **Notices**

Includes student newsletter, newspaper, radio broadcast, and student email bulletin.

### **Surveys**

Used to gain an indication of students' support or rejection of an idea whilst offering an opportunity to share thoughts, opinions and suggestions.

### **Meetings**

Environmental Sustainability Group Meeting inviting internal and external guest speakers.

### **Tests and assessments**

Short tests and assessments to be included in the compulsory unit. During environmental sustainability meetings, short quizzes and group activities can be used to test students knowledge.

### **Key Stakeholders**

- Rector's Executive Group/Senior Management
- Staff of the Department of International collaboration and project promotion
- Security
- Cleaners
- Facilities and Maintenance
- Academic and General Staff
- Students

## Timeframe

Item	Action	Milestone Date
Promotion of newly developed group	Radio announcement	Upon project approval
Coordination of regular group meetings	As a group, deciding how often the Environmental Sustainability Group should meet	First group meeting
Environmental Sustainability promotion	Addressing methods listed earlier	Ongoing
Field trip, once a semester	Group Members visit an organisation that promotes Environmental Sustainability	First field trip commences 12 months upon project approval
Extra-curricular, additional compulsory unit	Including the compulsory unit it in every course	Commences 12 months upon project approval

## Resources and Costs

Resource planning is where you determine what resources (people, equipment and materials) and what quantities of each should be used to perform activities. Once the resources have been determined, estimate the project costs. Include a more detailed resource and cost plan in the Appendices if required.

Resource	Estimate cost
Posters, varying in size	Cost to print for students at the university, investigate how much the larger posters are much like the one near the entrance.
Signs	Cost of printing and wooden stakes.
Radio promotion	No additional costs
Field trip	Zero to little cost – depending on the number of seating required
Orientation/induction pack	Cost of printing handouts and flyers Reusable bottles and cups Items contained in an environmental material/ bamboo bag
<p>Note: Any additional costs that may be required can be collected through fundraiser, sponsorship and/or faculty staff/students.</p>	

## Project Risk Assessment

Risk	Risk Level	Management Strategy
Development phase <ul style="list-style-type: none"> <li>Stakeholders are not approached, informed and unaware of the new green practices</li> <li>Assignment of group facilitators</li> </ul>	<b>High</b>	<ul style="list-style-type: none"> <li>Ensuring the group engage all staff including</li> <li>Student votes project manager and the assignment of group roles</li> </ul>
Implementation phase <ul style="list-style-type: none"> <li>Lack of participation and involvement</li> <li>Lack of motivation</li> </ul>	<b>Medium</b>	<ul style="list-style-type: none"> <li>Extra marks/credit points</li> <li>Certificate of participation</li> <li>Incentives eg. Field trip/excursion</li> <li>Setting achievable goals</li> </ul>
Operational phase <ul style="list-style-type: none"> <li>Lack of financial support</li> <li>Miscommunication</li> </ul>	<b>Low</b>	<ul style="list-style-type: none"> <li>Fundraiser</li> <li>Clear, precise and appropriate use of pictures and language for promotion tools, ie posters, radio</li> </ul>
Loss of Movement	<b>High</b>	

Outline how you are going to track, monitor and report on the project. For example:

- Status Reports
- Exception Reports
- Issues/Risk Log
- Variance Requests

List the Appendices to be attached to the Project Plan:

- Stakeholder Needs Analysis
- Work Breakdown Structure
- Network Diagram
- Gantt Chart
- Activities Schedule
- Budget /Cash flow
- Human Resource Planning Schedule
- Roles and Responsibilities
- Procurement Schedule
- Combined Resources & Cost Schedule
- Risk Management Plan
- Quality Management Plan
- Communications Management Plan

## **Future Related Projects**

- Communicating with other environmental related groups within the university.
- Reaching out and engaging to local universities. This could be to share information as well as assist in developing an environmental sustainability group.
- Keep in contact with the Swinburne University International Sustainability Group as this could also be extended to the Swinburne University Environmental Group.

# CLEAN THE AIR – AN ALTERNATIVE PLAN FOR TRANSPORTATION TO TVU

## Proposal by Dustbusters Team

*SUT: Gabriella Farrugia, Jessie, Spiteri, Mark Swan*

*TVU: Lê Hồ Trung Khang, Trần Thị Diễm Trang, Trần Minh Hiếu*

### Abstract

Transportation is the major factor that both students and staff of Tra Vinh University have in common. Looking at the campus, motorcycles are used abundantly by all, resulting in an area of dense noise and air pollutions. Both staff and students can minimise these impacts as part of their contribution to a green campus.

### Aims

- To reduce the number of motorcycles on campus.
- To minimise the extent of air and noise pollutions on TVU campus.
- To increase the number of bicycles used in and around the campus.
- To provide a designated pedestrian area to reduce the amount of horn honking.
- To increase safety, particularly for the wildlife.

### Rationale

- To reduce noise and air pollution, the amount of traffic, increase safety in shared traffic areas and financially benefit both students and staff.
- On average a Vietnamese student will pay 80,000 VND for fuel once a week will cost. Over a year this will add up to over 5 million VND.

### Objectives

- To reduce noise and air pollution.
- To increase bike racks.
- To provide alternative parking outside campus.

### Desired Outcomes

- Provide a transportation option that is more sustainable for the campus
- Reduced amount of motorbikes on the campus
- Implement a system that will allow students and staff access to a bus service, without time, location and financial constraints
- Increase safety for all people and wildlife on campus

### **Methods/Intervention/Action:**

- (i) Research:
  - a. Tally the amount of motorcycles, bicycles and pedestrians entering the campus.
  - b. Measure the decibel levels in peak hours.
- (ii) Gauge Interest:
  - a. Send out an email survey to students with questions to assess whether the service is needed and wanted.
  - b. Have teachers 'spread the word' in classes.
- (iii) Advertise
  - a. Create adverts for the Tra Vinh University website announcing availability of the service.
  - b. Engage with TVU radio announcers to have the bus service promoted during afternoon and morning notices.
  - c. Create posters and slogans for distribution around campus.
- (iv) Implement Pilot:
  - a. Engage with local bus company or Tra Vinh University (internal) bus owners to have a trial period.
  - b. Scope local areas to find an appropriate location for the car park
  - c. Run a focus group with a group of students from a particular ward to gauge interest in and attitudes towards a possible bus service..
  - d. Run the bus service for the students who attended the focus group and take note of the attitudes of, and level of engagement by, these students.
- (v) Increase services:
  - a. If trial period is successful, increase the amount of buses available from the motorbike parks
- (vi) Assess success:
  - a. Once trial services have been in place for a period of time (typically more than 1 month), resend survey to gauge interest.
  - b. Measure decibel levels to see if there is a decline.
  - c. Tally the amount of vehicles entering the campus and compare to initial data.

### **Pilot:**

- Engage with local bus company or assess current bus services used for Tra Vinh University.
- Assess local area to find appropriate location for a motorbike park, ensuring the location is central to either Tra Vinh or to a particular ward and is safe for students to leave their motorbikes and travel to university.
- Have a specific ward or faculty chosen to be the focus group of the project based upon location, faculty or time of year.
- Run the trial bus service for the focus group over a one-week period and measure the reduction in motorbikes on campus and decibel levels.

### **Plan B**

- Implement a small-scale plan engaging specific focus groups, which could be based upon location, campus size/time of year or faculty.
- Install a pedestrian only path to reduce the amount of horn honking.
- Organise a 'Ride to Uni' day promoting the benefits of choosing a bicycle over motorbike. Provide possible green incentives.
- Allocate a parking space outside the campus grounds to create a 'motorbike free' campus.

## Ways of Measuring the Outcomes

- Counter at gates to measure how many students travel to university using either motorcycles, bicycles, shared transport or walking.
- Student feedback from teachers who will engage with their students and promote bus availability.
- Follow up surveys to be distributed after the trial period to assess whether there has been a reduction in motorcycles on campus and if more are required. Compare to pre-trial survey results.
- Decibel levels measured against the initial decibel tests.
- Financial savings of students measured through student feedback and survey questions.

## Budget and Resources

- Government funding if the university considers the trial period a success.
- University funding based upon student amenity fees or enrolment.
- Suitable land for relatively large parking space to allow students the opportunity to travel alternate routes to and from university, whilst still maintaining a green campus.
- Appropriate bus and bus driver – current bus service within the university to be expanded or engage with an external bus provider.

## Timeframe

15<sup>th</sup> January 2014, 6.30 – 7.30am:

- Motorcycle, bicycle and pedestrian count at front gate – tally the number of each specific category entering the campus.
- As a result, during morning peak hour the following transportation figures were found:
  - Motorbikes = 583
  - Bicycles = 330
  - Pedestrians = 31
  - Passengers = 98
- This equates to a ratio of 20 motorcycles and 11 bicycles for every pedestrian entering the campus.
- 

15<sup>th</sup> January 2014, 7.00am:

- Measure the decibel levels during peak period.

Early February 2014:

- Gauge student interest and send out a group email with survey questions.
- Distribute advertising around campus promoting the service and availability. Ensure this is done to specific faculties or wards involved to ensure services are not overfilled.
- Seek out appropriate locations for parking considering distance, route and size.
- Commence trial period with small faculty or specific ward.

June 2014:

- Transportation count and measure decibel levels at front gate to assess success rate.
- Increase bus services to and from motorbike parking location if required.
- Expand demographic size to determine whether further buses are required.
- Follow up survey to assess demographic, demand, required motorbike spaces and frequency of service. Also consider inter-campus shuttle services.

## **Stakeholders**

- Approved and engaged with staff and students at Tra Vinh University
- Accepted by Tra Vinh province
- Successful engagement with a bus company or internal bus drivers
- Vietnamese Government and province education services

## **Risks**

- Specific times chosen for bus departures and arrivals may not suit students.
- The bus fills too quickly (this can be resolved by increasing the amount of buses or their frequency).
- The bus ride from the motorbike car space is too long due to poor traffic conditions.
- Time constraints based on individual students locations and travel time.
- Parking space location and bus services do not provide a safe environment for the students and staff (this can be resolved by engaging with onsite security or bus representatives).
- Non-Tra Vinh students/staff using the bus service (this can be resolved by using student identification or specific bus pass to use service).
- Unmotivated students will choose to ride the entire trip on their motorcycles rather than changing transportation.
- The location of the motorbike space is inconvenient.

## **Similar Projects**

- 'Ride your Bike to Work' day in Australia where employees are encouraged to choose their bicycle over their motor vehicle.
- Can Tho University have a shared bus service, which can be analysed and assessed as a model for the Tra Vinh bus service.

## **Approval Process**

- Desired and approved by Tra Vinh University staff and students.
- Beneficial to the Tra Vinh University directors and key decision makers.
- Positive service for the Tra Vinh province.
- Vietnamese Government and education service representatives.

## **Continuity**

- The bus service must meet staff and student demands to ensure people are arriving to the campus.
- The buses must be maintained to ensure the passengers are being transported in a safe and secure way.
- The province must adapt to the bus service, potentially repairing roads to allow more students to use the bus service.
- The bus service must be adaptable and respond to issues with time schedules and routes.

## SURVEY QUESTIONNAIRE

1. Which method of transport do you use to get to Tra Vinh University Campus 1?

- Motorbike       Car       Bicycle       Walking

2. If using a vehicle, are you a driver or passenger?

- Driver       Passenger

3. How far do you have to travel to get to Tra Vinh University Campus 1?

- 1-4kms       5-9kms       10-14kms       15-20kms       more than 20kms

4. On average, how long does it take you to get to Tra Vinh University Campus 1?

- 0-10 minutes       11-20 minutes       21-30 minutes       more than 30 minutes

5. If Tra Vinh University were to offer a shared bus service, would you use it?

- Yes       No

# Plastic Waste Management

## “Think Outside the Bottle”

### Proposal by Team Puma

*SUT: Orla Glover, Paul Hibbert, Cathryn Kanizay*

*TVU: Nguyễn Ngọc Sinh, Nguyễn Thị Mỹ Tú, Trần Hà Giang*

#### **Rationale**

Tra Vinh University (TVU) has approximately 22,000 students enrolled. If each student bought 2 bottles of water each week this would result in over 2 million bottles of plastic waste a year. This figure excludes plastic waste produced by employees and guests. This level of waste produced from purchased bottles of water is extremely detrimental to the environment as 70% end up in landfills. Furthermore plastic bottles take 700 years to begin degrading.

#### **Proposed Solution**

In order to reduce the waste produced by purchased bottles of water, we propose to install a number of drinking fountains at the TVU campus that students can drink from or refill their empty bottles with clean water. We hope the installed drinking fountains will remove the need for staff and students to buy water bottles regularly. To begin with, portable water tanks could be placed at busy areas on TVU campus such as the canteen and library and if these water tanks are successful, permanent drinking fountains could be installed throughout the TVU campus and on every level of each building. In hopes of gaining initial popularity for the water fountains, free reusable plastic bottles, branded with the TVU logo, will be distributed to staff and students.

#### **Adopting the 3R Approach to Reduce Plastic Waste**



## **Aim**

To reduce the use of plastic bottles by 30% at Tra Vinh University

- *A 30% decrease would save 600,000 bottles per year in plastic waste. This number is deemed a realistic achievable goal that will also result in a large reduction.*

## **Objective**

Implementing water refill stations

- *The ease by which students can refill water bottles at refillable drinking fountains is the ideal way of reaching our target of a 30% reduction of plastic bottles used at Tra Vinh University.*

Short-term scope: Placing portable water tanks at busy areas of the TVU campus such as the canteen and library.

Long-term scope: Implementing permanent drinking fountains throughout TVU campus such as each floor of every building including the library and canteen.

Evidence for proposed solution: The implementation of drinking fountains that allow students to refill reusable drink bottles has been very successful at Swinburne University. The current proposal was inspired by Swinburne's initiative. Other universities that have had similar initiatives include Penn state University, Bundanoon University and Toronto University.

## **Steps Involved**

1. Establish sites for drinking fountains (canteen, library, classrooms, etc.)
2. Identify resources and materials required for production
3. Consult stakeholders
  - Chemistry department
  - TVU campus community
  - Staff
4. Implement drinking fountains
5. Begin awareness and education
  - Signage next to fountains
  - Campus announcements
  - Promote usage of the water fountains by distributing free reusable water bottles

## **Benefits**

- The new drinking fountains will allow easy access to clean drinking water for all staff, students and other personnel at TVU
- There will be a reduction in the production and accumulation of plastic bottle waste
- Greater access to clean drinking water could increase staff and student productivity as a lack of water can cause a 13% decrease in concentration and 7% in short term memory

- Promotes diversity by providing all persons with access to clean water, not just those who can afford to pay for bottled water. It also breaks down barriers allowing students to meet other students from different educational backgrounds
- Greater access to clean water is associated with low mortality rates and higher public safety
- Pollution released by decomposed plastic bottles or burning of plastic bottles would be reduced
- Saves the energy that would be used to make the plastic bottles that staff and students regularly purchase
- The Tra Vinh community would also benefit from the initiative due to decreased landfill wastes produced by plastic bottles
- Promotes TVU's image as a 'green campus' and can raise awareness in the local community
- Endorses long term problem solving action as the drinking fountains are an easily managed system that will be permanent and by supplying free drink bottles this ensures limited bottles bought in the future

### **Potential Challenges**

- Profits made by purchased water bottles will decline with increased use of the drinking fountains
- The maintenance of the drinking fountains to ensure the initiative continues
- The initial installation of the water fountains and any necessary plumbing would have to be considered

### **Performance Indicators**

- Observe a reduction in the number of plastic water bottles being bought
- Positive Student and staff feedback obtained through a survey
- Noting the water usage of portable tanks to determine initial success
- The number of fountains installed , (The more fountains available suggests that there will be a greater reduction in water bottles being purchased and eventually discarded)

# Rainwater Collection System

## Proposal by Team Awesome

*SUT: Matthew Chaplin, Owen Hancock, Jaron Helman*

*TVU: Huệ Hồng, Thạch Tha Ri, Nguyễn Thị Yến Thy*

### **Rationale**

Tra Vinh experiences high rainfall for 8 months of the year, while on the other hand TVU purchases millions of litres of town water each year for use on the university's premises. The project aims to capture rainwater on the roof for use in toilets, showers and sinks.

### **How does it work?**

This water tank system works by harvesting the vast amount of rain that falls on the roofs of TVU buildings and storing the water for reuse. When needed, the water can be pumped back to the roof storage tank, and then gravity fed to the piping systems to toilets/shower. Water is pumped up to the roof using a pump powered by a wind turbine. No further power is needed.

### **Timeframe**

The timeframe for implementing the project is relatively long but we expect that the system will pay for itself within a couple of years. The aim is to have a rainwater collection system set up at the Guests House within the next year.

### **Construction**

A few materials will be needed, most of which can be sourced from the University's facilities department. Most of the work can be done by TVU students as research projects. The water tanks for the project can be made by metal workers/engineers at the university, the activated carbon can be prepared by chemistry students using waste coconut shells and engineering students can do the plumbing.

### **Benefits**

The anticipated advantages are:

- Reduce the consumption of drinking water in showers, toilets, gardening systems
- Significant savings
- Protect the environment
- Showcase sustainability in action at TVU

## **Challenges**

The challenges include the technical aspects of the project and the length of time needed for its implementation. An initial capital investment is also involved. Although the project will take a few months and substantial manpower to be implemented, in several years, the return on investment will be significant.

## **Measuring Outcomes**

There are multiple ways to assess the outcomes of the project. The Swinburne students are interested in being involved in monitoring the progress from Australia. Another way of assessing the impact is that one member of the group will return to assess the design and effectiveness.

## **Impact on Community**

The main impact, however, will be on the whole Tra Vinh University community. The cost of water to the university will dramatically decrease; the stored water will be used for flushing toilets (each flush uses ~9 L of water), showers and washing hands.

The project also aims to demonstrate to the rest of the community that an environmentally responsible way of living is a better and cheaper way of living.

## **Long-term benefits**

Our proposed project is a long-term solution to the problem of water sustainability. Also, at the moment the University is spending a fair amount of money on water and the project aims to reduce this. The scope of the project is small, however, it can be expanded to have more storage across more buildings.

Our project will be promoting good practices in the management of natural resources because the system will be visible to everyone.

## **Why this project?**

This project is unique because the long-term savings gained from the stored rainwater will be significant. The money that is saved can be used to fund even more sustainability projects or invest into the students' development.

Although the project is not groundbreaking it is still very useful and it is a relatively new concept to come to TVU.

## **Stakeholders**

In order for the project to go ahead its importance needs to be promoted to various groups of people. Various sectors need to get involved, including scientists (science behind how it works), engineers (how to construct it), management (getting the project approved) and language (translators to communicate with Swinburne).

# Minimising Polymer Waste

## Proposal by Staff

*SUT: Dr François Malherbe, Dr Vivienne Waller*

*TVU: Dr Ho Dac Tuc*

### Rationale

Waste management is an area where vast improvements in sustainability can easily be made.

We observed during the project that in half an hour of rubbish collection at TVU Campus One, the group of 36 TVU and SUT students collected 53.1 kg of plastic rubbish. In one hour of collection at Ba Om Pond, the group collected 151.2 kg. A brief survey of the garbage collected indicated that it consisted mainly of plastic straws, plastic bags and polystyrene takeaway food containers.

We understand that rubbish collected from TVU campus is sent to landfill, which is expensive. Rubbish from the town of Tra Vinh tends to be burned. The burning of plastic and polystyrene in particular, produces toxic fumes that affect human health, as well as producing greenhouse gases. Plastic litter, such as carrier bags, straws and polystyrene containers, does not degrade. It breaks into smaller pieces, which are then ingested by animals and have the potential to enter the human food chain. Toxic substances tend to bind to these tiny plastic particles, which is detrimental for the health of birds, animals and humans.

### Recommendations

We have a few recommendations for reducing the amount of waste produced in Tra Vinh, both on TVU campus and in the wider community. As well as increasing the sustainability of Tra Vinh, these recommendations will have financial benefits for the University and will contribute to provide a healthy environment for the community.

1. Phase out the use of polystyrene by replacing containers for take away food with cardboard containers. Cardboard soiled with food waste can be composted. Develop research projects for science and engineering students to look at using agricultural wastes such as coconut fibres and shells, rice husks, etc.
2. Substitute cardboard cups for plastic takeaway cups. Used cardboard cups can be composted.
3. Reduce the use of plastic bags. As a start, the canteen could provide drinks in a cup without putting the cup in a plastic bag. Introduce slogans around the campus such as "Think of the environment. Do you really need that plastic bag?"
4. Phase out the use of plastic straws. In the short term, plastic straws can be replaced with paper straws that can then be composted. For the long term, however, we suggest that students undertake research into the use of an organic material, for example, bamboo leaves, in the manufacture of straws. Used straws could then be composted, and any litter from straws will be less of a problem.
5. All organic waste (food scraps and paper towels) should be composted. Producing compost to be used for growing food has the following major benefit: it reduces the amount of organic waste going to landfill.

## Conclusion

The Swinburne students had the opportunity to apply skills they had acquired during their induction courses at Swinburne directly to the project. It is clear, as demonstrated by their interactions with the TVU students, that they have been able to transfer their knowledge by successfully conducting the interactive workshops. Their first assignment, an oral presentation alongside their TVU partners, has evidenced their ability to apply these skills by evaluating various options for the campus and, in doing so, discovering areas where there could be significant impact on the improvement of sustainable practices on TVU campuses.

They have realised that the impetus for a successful Green Campus must begin at the top and emanate throughout the rest of the campus, hence their desire to submit these proposals to the Senior Management of TVU. Without a strong message of commitment and involvement from both the President of TVU and the administration, well-intentioned initiatives may be too fragmented to allow for campus-wide participation and easily undermined by other obstacles.

The Green Campus project is a golden opportunity for TVU to develop an exciting new curriculum that encourages students to take the lead in creating positive change and, at the same time, to gain invaluable, marketable skills. Your students, particularly those who hope to work in the environmental field, are the key ingredients for a successful continuity.

On behalf of the students, the convenors of this unique project would like to thank everyone at TVU for their legendary hospitality and extraordinary logistic support. We sincerely acknowledge support from Dr Pham Tiet Khanh, Dr Ho Dac Tuc, the Department of International Collaboration and Project Promotion, the Facilities Management Unit, and Centre for Communications and Public Engagement.

We were all extremely honoured by the decision of Dr Pham Tiet Khanh to erect a plate to commemorate the work accomplished by the Swinburne team during their stay in Tra Vinh.



*Plate commemorating the joint activities of TVU and SUT students*

Slides of the Presentations  
Delivered on the 17<sup>th</sup> January 2014



## Aims of the project

- Focus on providing a 'Be Green' workshop to primary school children.
- Help to develop beneficial waste management behaviors for children and the larger community.
- To make a measurable reduction in waste.
- Promote a culture of recycling and composting and mindfulness of the environment.

## Benefits on the project

- Visible reduction of waste creating an aesthetically pleasing environment.
- Increase motivation to 'be green'.
- Benefits for public and environmental health.



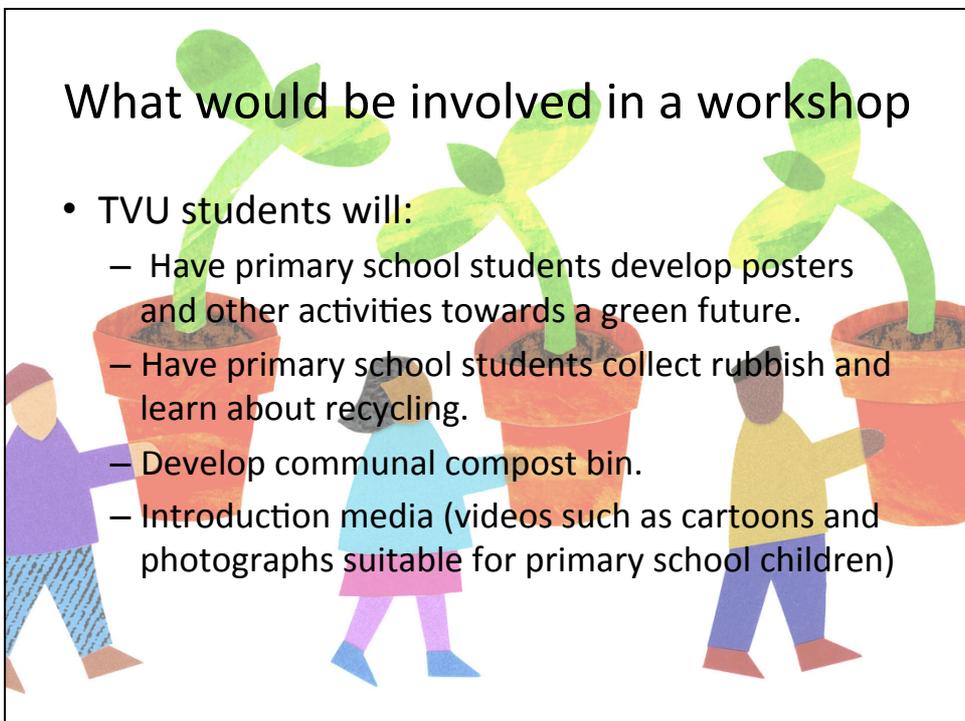
## How the project will work

- Workshop to educate children
  - TVU students playing educational games and videos and talking with local primary school
- Workshop to educate teachers
  - A plan to implement sustainability into primary school curriculum.



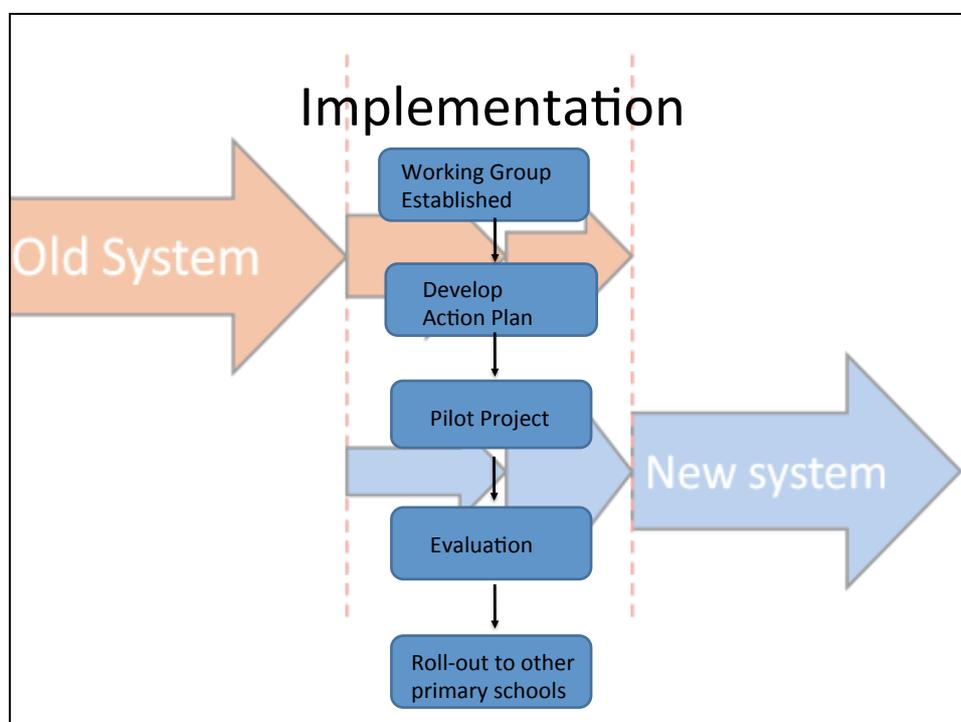
## What would be involved in a workshop

- TVU students will:
  - Have primary school students develop posters and other activities towards a green future.
  - Have primary school students collect rubbish and learn about recycling.
  - Develop communal compost bin.
  - Introduction media (videos such as cartoons and photographs suitable for primary school children)



## What would be involved in teacher training.

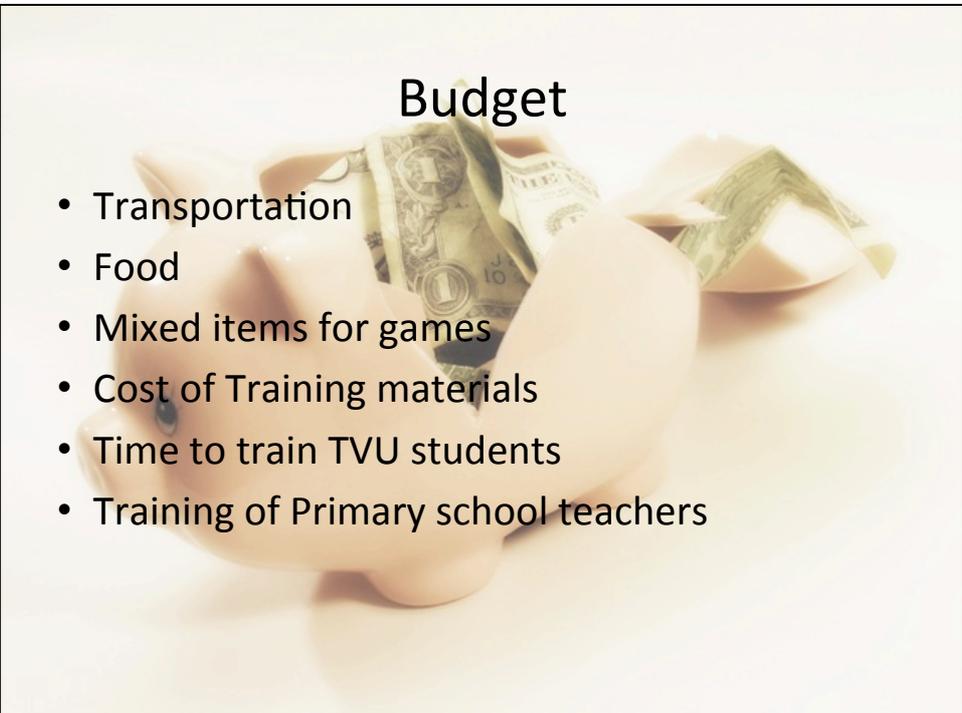
- Teachers of primary schools will;
  - Understand current issues of sustainability
  - Identify energy, waste and water saving solutions
  - Report on progress with children
  - Develop their own lesson plans & multimedia for educating children
  - Start a movement for Greening their own campus





Measuring **success** of the project

- Pre-program surveys
- Post-program surveys
- Discussion with teachers
- Feedback from TVU students and primary school children



**Budget**

- Transportation
- Food
- Mixed items for games
- Cost of Training materials
- Time to train TVU students
- Training of Primary school teachers

## Conclusion

- A pilot project can be implemented by TVU students at a primary school to encourage recycling and composting
- This project would make Tra Vinh University a pioneer for sustainability in Vietnam
- Workshops would be fun and educational for primary school students
- This project is achievable and would be very affordable

## Secondary School Environmental Outreach Program

### Objectives

1. Create connections between secondary schools and Tra Vinh University
2. Encourage students to think green by showing them that their actions can make a difference
3. Educate students on the environment, allowing them to pass on their knowledge to the wider community

## Rationale

To raise awareness and environmental literacy in the wider community by educating the younger generation, many of whom will not be able to attend University.

## Desired Outcomes

- Increased knowledge and environmental literacy in the community
- Knowledge about environmentally sustainable practises passed on into the community
- Project is completed regularly in all high schools
- Secondary school students taking responsibility for their actions
- Students become more proactive on environmental issues

## Timeframe

- 6 week program
- Two secondary school periods a week

Week Number	Activity
Week One	Planning Classes
Week Two	Class One – Sustainable Practises
Week Three	Class Two – Environmental Literacy
Week Four	Class Three – Practical Activity Planning
Week Five	Class Four – Undertake Activity
Week Six	Evaluation and Celebration

## Method - Planning

1. Choose a high school to run the program
2. Obtain two student volunteers
3. Measure and evaluate issues around the school
4. Create activities for students to engage in over the four weeks of classes
5. Work with past Secondary School students

## Method - Evaluation

- Celebrate the success of the project. Evaluate its impact with the students. Perform surveys to provide feedback on the program.
- Select the top students to assist with the running of the next program

## Measuring

- Follow up survey for students and teachers
- Test for students on the theory they have learnt
- Evaluation of the success of student project
- Number of schools and students participating in the program each semester

## Project Risks

- High school not interested in the idea
- Students not interested in doing the program
- Not able to get enough volunteers

## Plan Continuity

- Program should run every semester
- The number of schools involved in the program should increase each semester, at a sustainable rate
- Review the impact of the program on past students six months after



**Group Members:**

- Hang Lu
- Je-an Lui
- Lieu Chung
- Luke Egorov
- Lindaduong Vo
- Kristen Hamilton



## Importance of Environmental Sustainability

- Environmental resources are limited and are quite sensitive to everything that we do.
- Meeting the needs of current generations without compromising the needs of future generations.
- Making decisions and taking action that are in the interest of protecting the natural world and support life.





## Aim and Direction



- Education is the key to changing the future.
- To motivate the students to promote a greener campus and potentially spread to the wider community.
- Create a collaborative and empowering group of students that are motivated to drive and initiate sustainable practices.
- Provide a platform for students interested in the environment, sustainability, in moving towards an ecological civilization, and to act on ecologically sound initiatives within and around Tra Vinh University.



**TRA VINH UNIVERSITY**  
"Bringing quality education to the community"





## Objectives and Goals



- Raise and increase environmental sustainability awareness.
- Educate for environmental responsibility.
- Promote the Environmental Sustainability group.
- Promote environmental sustainability to students, staff and the boarder community.
- Engage all students and staff of all faculties.
- Collaborate for interdisciplinary approaches.
- Maintain the movement.



## Approach

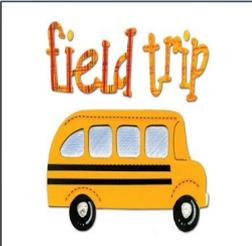




(Radio Announcements)



(Posters and Improved signs)



(Field Trips)



(Informative Drama Play)



(Green Induction Packs)



(Chi Hoi)



## Timeframe



Item	Action	Milestone Date
Promotion of newly developed group	Radio announcement	Upon project approval
Coordination of regular group meetings	As a group, deciding how often the Environmental Sustainability Group should meet	First group meeting
Environmental Sustainability promotion	Addressing methods listed earlier	Ongoing
Field trip, once a semester	Group Members visit an organisation that promotes Environmental Sustainability	First field trip commences 12 months upon project approval
Extra-curricular, additional compulsory unit	Including the compulsory unit it in every course	Commences 12 months upon project approval



## Risk Overview

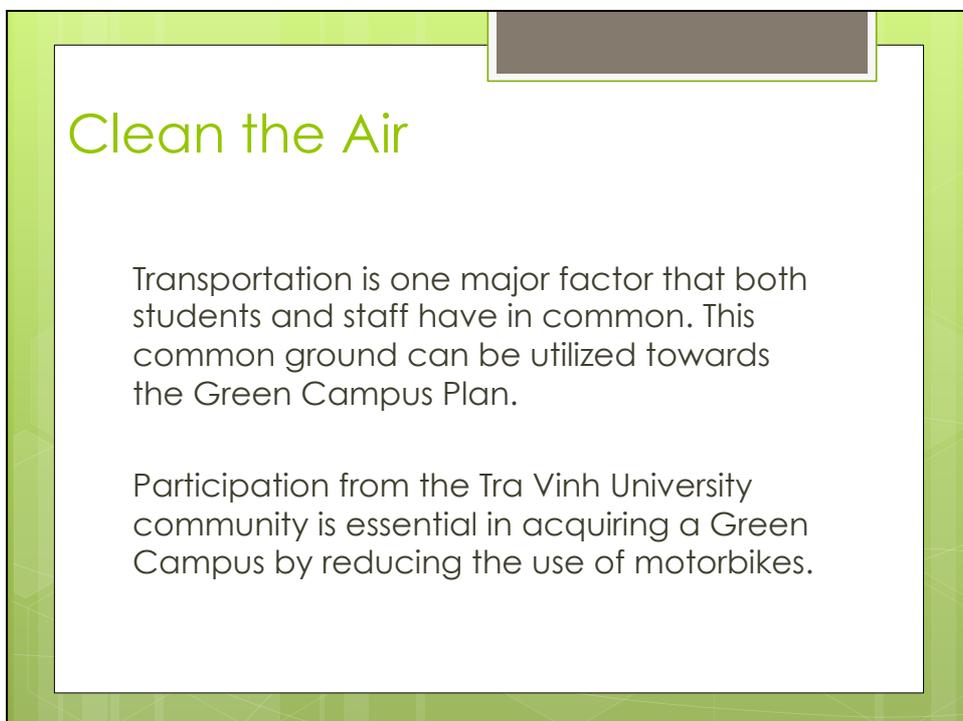
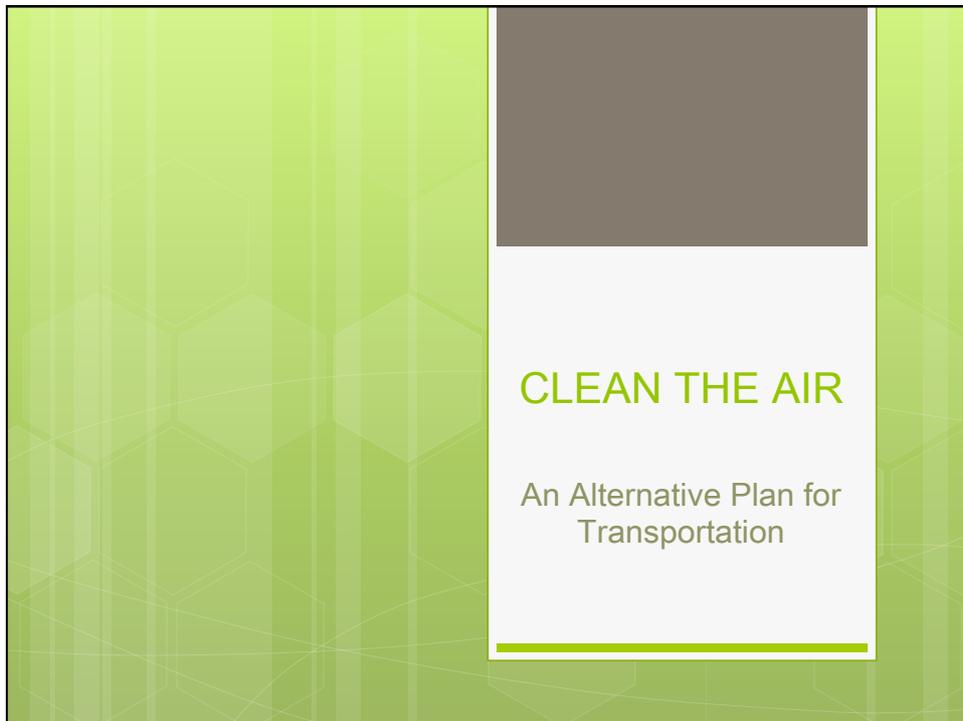


Risk	Level (High/Medium/Low)	Management Strategy
Development phase <ul style="list-style-type: none"> <li>Stakeholders are not approached, informed and unaware of the new green practices</li> <li>Assignment of group facilitators</li> </ul>	<b>High</b>	<ul style="list-style-type: none"> <li>Ensuring the group engage all staff including</li> <li>Student votes project manager and the assignment of group roles</li> </ul>
Implementation phase <ul style="list-style-type: none"> <li>Lack of participation and involvement</li> <li>Lack of motivation</li> </ul>	<b>Medium</b>	<ul style="list-style-type: none"> <li>Extra marks/credit points</li> <li>Certificate of participation</li> <li>Incentives e.g. Field trip/ excursion</li> <li>Setting achievable goals</li> </ul>
Operational phase <ul style="list-style-type: none"> <li>Lack of financial support</li> <li>Miscommunication</li> </ul>	<b>Low</b>	<ul style="list-style-type: none"> <li>Fundraiser</li> <li>Clear, precise and appropriate use of pictures and language for promotion tools, i.e. posters, radio</li> </ul>
Loss of Movement	<b>High</b>	<ul style="list-style-type: none"> <li>Re-evaluate aims and objectives</li> </ul>




## Thank you For Listening

**“Keep it clean, keep it green!”**



## Objectives

- To reduce air and noise pollution by reducing the number of motorbikes on campus and providing alternate methods.
- Increase the number of bicycles on campus and introduce a designated pedestrian lane.
- Increase safety and financial benefits towards staff and students of Tra Vinh University.

## Desired Outcomes

More sustainable transport options, such as:

- i. Bus service between all four campuses
- ii. Prioritized parking to bicycle owners
- iii. Parking outside campus with shuttle bus service to and from Campuses
- iv. Bicycles for student loan on campus

## Pre-Planning

### Research Stage

- i. Tally the amount of pedestrians, bicycles and motorcycles entering and leaving campus at peak times.
- ii. Measure decibel levels at peak times.



- During morning peak hour the following transportation figures were found:
  - Motorbikes = 583
  - Bicycles = 330
  - Pedestrians = 31
  - Passengers = 98
- This equates to a ratio of 20 motorcycles and 11 bicycles for every pedestrian entering the campus.

## Gauge Interest

### Advertising on University

- i. Radio Station
- ii. Newsletter
- iii. Website

## Implement Pilot

- Engage with local bus company
- Find an appropriate location for the parking area
- Selected ward or faculty.
- Run the bus service for the focus group and take note of the interest expressed and participants engaged.

## Ways of measuring outcomes

- Counter at gates to measure how many students travel to university using either motorcycles, bicycles, shared transport or walking.
- Student feedback from the various advertising techniques
- Follow up surveys; compare to pre-trial survey results.
- The financial savings of students measured through student feedback and survey questions.

## Continuity

- Bus service reliability is required for timely arrival by students and teachers to respective campuses.
- The buses must be maintained to ensure the passengers are being transported safely.
- The addition of more services may require the fixing of local roads.

# Think Outside the Bottle

An easy and effective way to  
decrease plastic waste

## Plastic How Bad is it?

- Plastic bottles take 700 years to degrade
- 70% of plastic bottles go to landfill



## How Much Does TVU Produce?

- Tra Vinh has around 22,000 students
- If each student bought 2 bottles of water a week >2.2 million bottles a year
- And that's only students. Not employees or guests

## What Can We Do?

- We believe you could easily reduce this number
- We would hope by at least 30%
- That would be over 600,000 bottles!!

## Refill Your Bottle!

- Instead of using a new bottle every time. Students should refill their bottles from easy to find drinking fountains.
- This removes the need for new bottles. Therefore saving plastic waste and making TVU greener.

## Drinking Fountains at Swinburne

- There are many drinking fountains around the Swinburne campus and students use them to refill their bottles every day!



## Short Term Plan

- At first, water tanks can be installed at busy areas on the TVU campus such as the canteen, library and on each level of every building.
- These water tanks are already used on campus!!



## Long Term Plan

- At first, permanent drinking fountains will be located at the canteen and library
- Eventually, permanent drinking fountains will be located throughout TVU's campus

## Other Benefits

- Easily available clean water will also ensure the health of Tra Vinh University's staff and students
- As well as to keep all students well hydrated
- Whilst dehydrated, concentration can decrease by up to 13% and short term memory by 7%

## How Will We Know it Works?

- Less waste of plastic bottles
- Student and staff feedback
- How fast the tanks run out of water

## Challenges & Risks

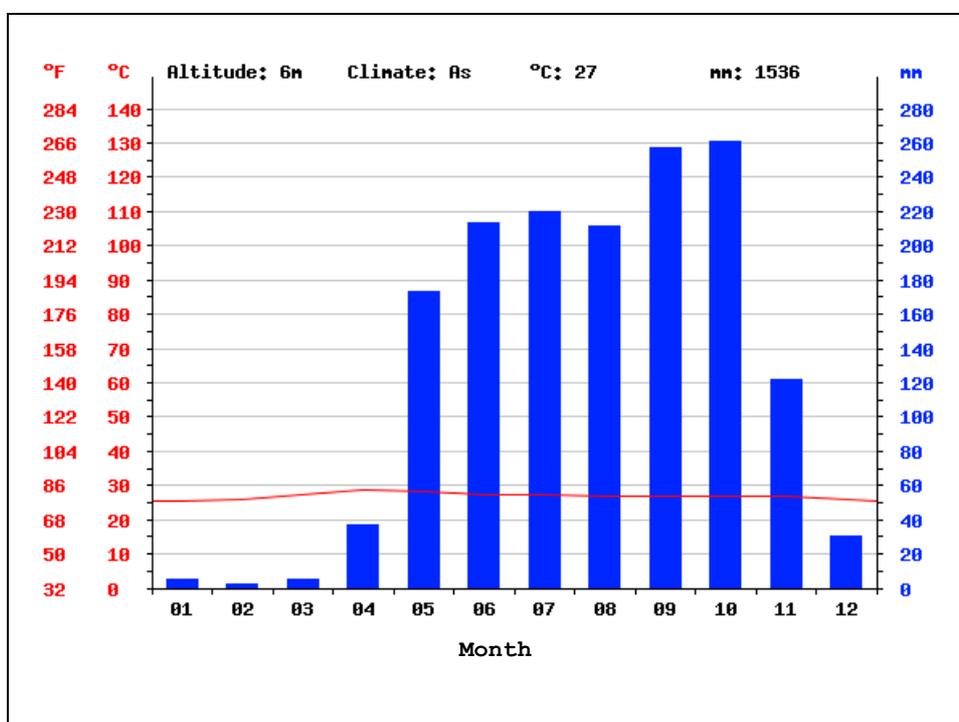
- Keeping water bottles filled until permanent stations are in place
- Getting the chemistry department to help filter the water (if using portable water tanks)
- Ensuring the fountains keep working as they should
- Fountains need to be regularly checked to make certain filters are kept clean and there is no growth of bacteria (this can best be done by adhering to guidelines for drinking fountains)

# Thank You

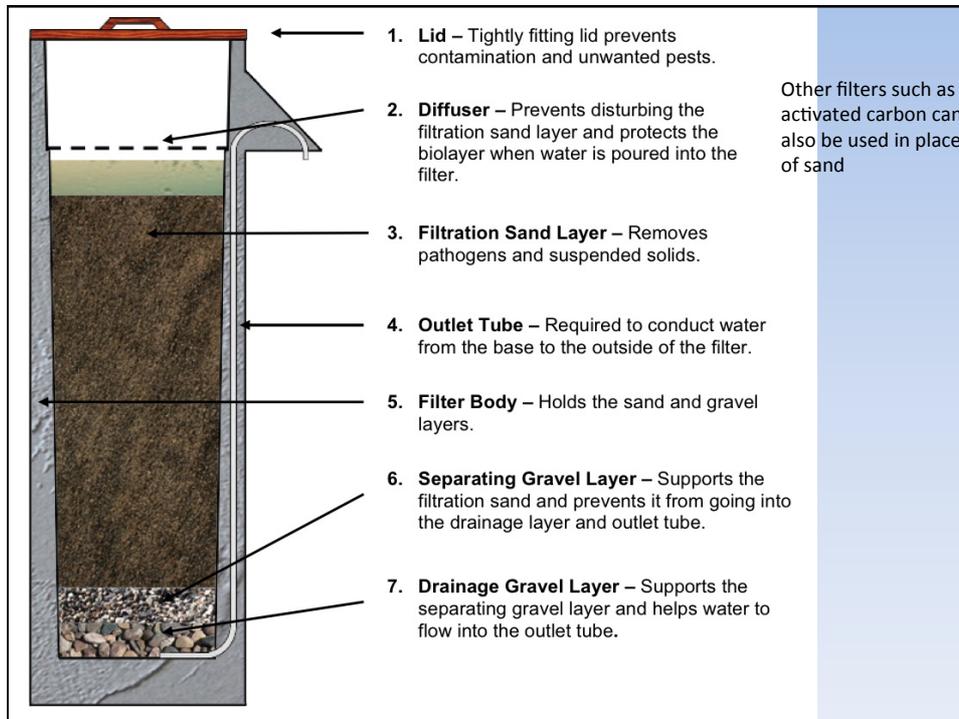


## Rain Water Collection

- By:
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  - Jaron Helman
  - Huệ Hồng
  - Thari Thạch
  - Thy Nguyễn







## Benefits

- Over 1500mm of rain annually on average.
- Lots of space for rain water storage
- Water can be used for toilet flushing, hand washing and even drinking with appropriate treatment
- The cost will be minimal as the water will no longer need to come from the ground
- Plumbing systems are already in place
- Water pressure will be provided by gravity from tanks on roof
- Simple filtration will allow us to remove solid material which is cheap to build

## Collaboration between Faculties

- Engineering will design the final systems
- Chemistry students will be able to monitor the quality of the water
- Metal working students can help to build the water systems
- Electrician students can help to wire the pump systems
- Plumbing students will be able to connect the rain water tanks to existing plumbing systems
- Should the rain water become depleted, a switch can be installed to be reconnected to the town supply

## Pilot Program and Time Frame

- The initial pilot can be built at the guest house to measure the impact here
- The Engineering faculty believe they can complete a pilot project within 4 months but we will allow 12 months to finalise details

## Measuring Impact

- A representative from the group will return to Tra Vinh University to see how the project has come along
- We will also keep in contact with students and staff to find out how the project is coming along

## Should you have any questions

Please feel free to email

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## Disadvantages

- Filtering system using sand or activated carbon requires ongoing maintenance (Monthly)
- Water must be monitored if it is to be used for drinking (Pathogen testing)
- Storage tanks may require an initial purchase or may be built by engineering department
- It will take time to implement this system
- There is very little rainfall between December and April

## Things that will need to be done

- In order for the system to work, some new systems will need to be built that we hope the engineering department may be able to help us with
- A tank on the roof (approximately 2000L to 3000L) will need to be placed or built that we can connect to the taps and toilets. The size of the roof tanks will depend on the building size and number of bathrooms available
- The water pressure will be provided by gravity
- Ground tanks will need placed somewhere nearby that that water collected from the roof can be diverted into
- A pump connected the ground tanks to the roof tank will also need to be built to continuously top up the roof tanks from the ground water. Overflow from the tanks will feed back into the ground tanks
- The pump can be powered by a combination of solar, and wind energy and a pump design can be established later so that no paid electricity is required

## Filter system options

- The options available for filtering the water are vast. The simplest system would involve a sand filter or activated carbon filter using the basic principal of a solid material collecting particles and bacteria prior to entering the storage tanks. Tanks should also be chlorinated to approximately 5ppm so that Algae and other pathogens can not grow in the tanks allowing for longer storage of this water. By having the pump continuously topping up the roof tanks, the water will never remain stagnant and so mosquitoes will also not be able to reproduce in the water tanks.

- Other filter systems include using the existing water bottling filter system that is already in place on a larger scale allowing for drinking water straight from the taps, reverse osmosis or distillation which we would build from harvesting sunlight energy to heat the water.
- A UV sterilization system should also be considered to further improve the safety of the water from toxins produced by bacteria.