



# 2023 PROGRAMME REPORT

Zero Waste Schools & More (ZHub)



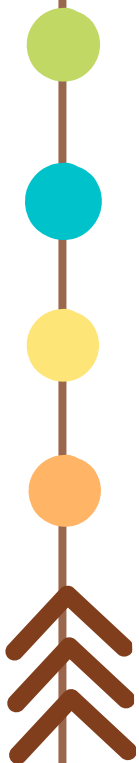
*Students at Phenikaa University proposed their group's waste separation model on campus, at a GreenHub training session on March 11, 2023*

February  
2024

Center for Supporting Green Development  
Ha Noi, Viet Nam

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## ABBREVIATIONS

01

### **ZHub**

Zero Waste Schools & More

02

### **GreenHub**

Center for Supporting Green Development

03

### **ESES**

Experimental School of Education Science

04

### **APD**

Academy of Policy and Development

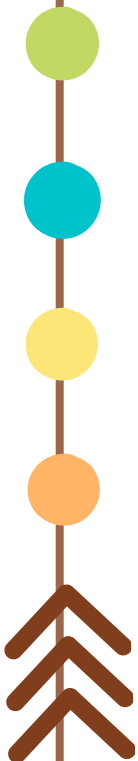
05

### **MRF**

A “Material Recovery Facility” model at school

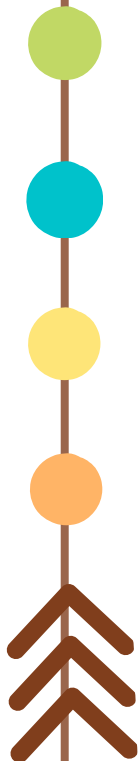
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# I. ZERO WASTE<sup>1</sup> SCHOOLS AND MORE (ZHUB)

**A Programme to reduce waste from schools and universities, to progress Vietnamese youth**

Rapid economic growth, urbanization and changing lifestyles in Vietnam have led to challenges of pollution and many health problems. Children are especially vulnerable because of inadequate information and awareness about impact of unhealthy food and waste on sensitive bodies.



In this context, the Center for Supporting Green Development (GreenHub) - a science and technology organisation with strengths in Zero waste, developed the Programme "Zero Waste school<sup>2</sup> and More" (ZHub). It is aimed to minimize the impact of waste and especially plastic waste on children, improve lifestyle consumption habits as well as develop conservation habits.

The ZHub Programme is funded by the Let's Reuse Programme<sup>3</sup> of H&M Hennes & Mauritz Vietnam Co., Ltd (H&M Vietnam) to raise student and community awareness towards

## Practical and experiential education

Promote a Zero waste lifestyle through practical and experiential education



## Connect communities

Connect communities with a Zero waste lifestyle, encouraging the use of environmentally friendly products



## Build an ecosystem

Build an ecosystem of organizations, businesses, and governments working together for common environmental benefits



[1] Zero waste - The conservation of all resources by means of responsible production, consumption, reuse, and recovery, of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health (Source: Zero waste International Alliance - <https://zwia.org/Zero-waste-definition/>).

[2] Zero Waste School (or Zero Waste School model) - The Zero waste concept implemented by schools and universities with practical activities by students, teachers, and staff, seeking to raise awareness and minimize waste impacts on the environment and human health.

[3] Let's Reuse - The campaign was officially launched by H&M Vietnam from March 25, 2021 with a fee collection of 2,000 VND/paper bag, all proceeds from this activity are transferred to GreenHub to join hands in action for a green lifestyle, reduce waste and protect the environment.



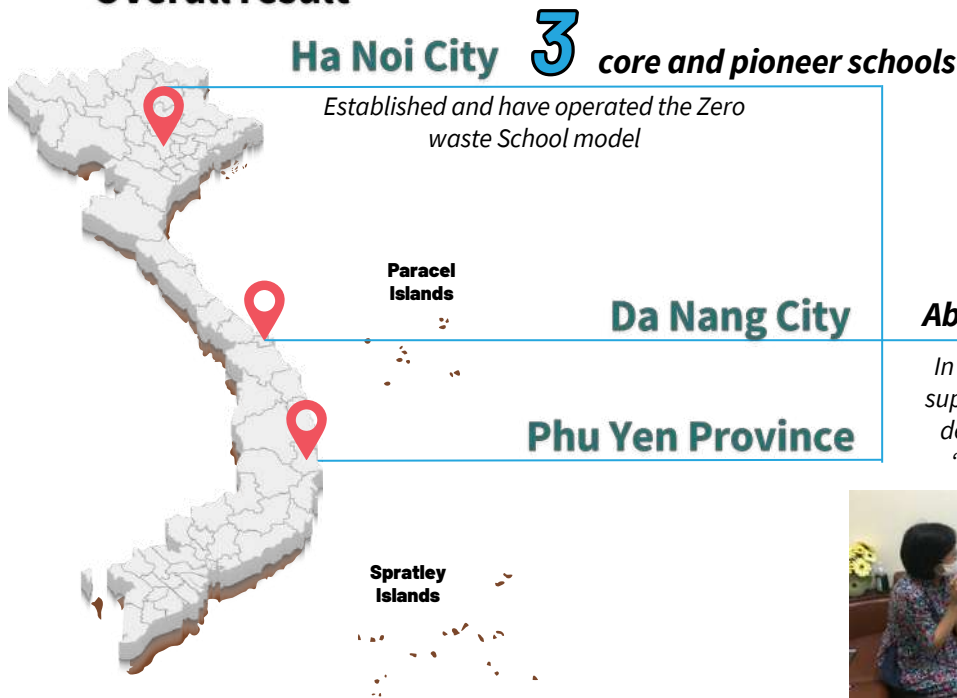
# II. ZHUB PROGRAMME FROM MARCH 2021 TO DECEMBER 2022

## Foundation for the Zero Waste School model

### 1. First results of the Programme at the end of 2022

As of December 2022, after nearly 2 years of operation, the ZHub Programme has successfully piloted the Zero waste School model at the Experimental School of Education Science (ESES), Trung Yen Primary School, and Academy of Policy and Development - APD (a state university) in Hanoi. Our significant achievements include:

#### Overall result



About **150** networked schools

In Hanoi, Da Nang cities and Phu Yen province, supporting each other and working with ZHub to develop the theory and practice of a common “Criteria for Zero Waste Schools” in Vietnam

**28,000** students **1,460** teachers, lecturers

were positively impacted through raised awareness on waste environmental and health impacts, introduction to waste handling

### 2 Material Recovery Facility models (MRF<sup>4</sup>)

were established by GreenHub at ESES and Trung Yen Primary School associated with practical student waste training activities



Figure 1: GreenHub and Representatives of the ESES's Directors Board discuss their cooperation plan in October 2021



Figure 2: APD (University) officially became a core school in ZHub's Programme on July 26, 2022



Figure 3: GreenHub and Trung Yen Primary School Board Directors' Representatives planning to implement a Zero waste School model in May 2022

[4] Material Recovery Facility Model (MRF) is the name of a dedicated model area in an institution including physical structure, equipment and operations, appropriate to the capabilities of each school, to recover waste material: convert organic solid waste to compost and collect recyclable materials from other solid waste.



Figure 4: Trung Yen Primary School teachers received advanced knowledge about waste and measures to reduce waste in schools through training on September 22, 2022



Figure 5: Trung Yen Primary School students practice composting in customized tubes at their campus MRF set up by ZHub programme



Figure 6: Training session for 50 students and 8 APD lecturers on Circular Economy and Zero Waste School models on December 22, 2022



Figure 7: ZHub organised training on the Zero waste for Trung Yen primary school students on September 26, 2022







**64,000** people were attracted

through ZHub's activities media and online communication channels to practice waste-reducing actions

**11** institutional partners

including farms, research institutes, universities, etc. collaborated with GreenHub to increase waste collection efficiency and implement waste reduction models



Figure 8, 9: Students, teachers and lecturers of ESES and APD visit and learn about the a Circular Economy model applied at Hop Farm, Hoa Binh city in 2022

**8** experts

in the field of environment and education collaborated with GreenHub to design lessons, training, plans, etc. on Zero waste content for students



Figure 10: APD lecturers, ESES teacher, GreenHub Director, and expert in environmental management discuss solutions to reduce waste generated in the environment in the online Talk show: "Zero waste Schools", November 2019



Figure 11: Student provides feedback on the importance of environmental education in schools at the "Zero waste School Festival", held in Ho Chi Minh City, September 9, 2022

## 2. Negative impact of Covid 19 Pandemic to the end of 2021 – How the ZHub Programme learned to respond to the challenge

The Covid 19 pandemic had a huge impact on Vietnam. Children were heavily affected not only physically, but also in terms of learning and development opportunities. Vietnam recorded its first case of infection on January 23, 2020 (according to the Ministry of Health) and increased significantly until the end of 2021. As the number of infected people increased rapidly, students were allowed to study online instead of going to schools.

To adapt education delivery, the ZHub Programme created home competitions and online events on many platforms, helping students and teachers acquire knowledge and to continue to interact. This experience facilitated the H&M funded ZHub programme in maximizing outreach to schools and students.

First, **ZHub organised training sessions** via online platforms such as Zoom, Google Meet, etc. With support from teaching technology, online training also saved travel and preparation time comparing to direct contact, while ensuring that knowledge is conveyed fully with an approach attractive to youth.

**5** online training sessions

**121** teachers

**80** students

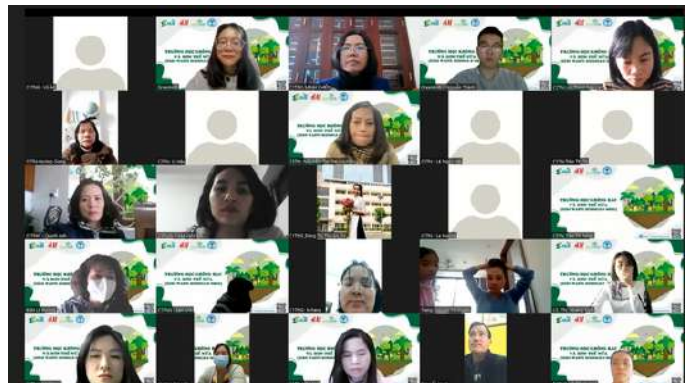


Figure 12, 13: Online Training for students and teachers at ESES in September 2021 on the topic of Zero waste and the 5R

The online training sessions of students of ESES took place through a "Self-Study" method: students were sent documents before the training session on the **Zero waste rules (5R)** and examples of Zero waste practices.

At the training session, they were divided into groups to discuss the Zero waste concept, and how to apply the 5 rules of Zero waste to daily life. These groups then presented online to their class their "research". This "online teaching" method helped students increase their initiative in searching for knowledge and improve their presentation and teamwork abilities, during the period of the pandemic. This was an innovative activity with positive results, and new learning methods for students.



Second, the ZHub programme also organized **the contest "What is the waste in our home?"** for 30 student and **the Talk show "Zero waste School"** during the pandemic season:

***The contest "What is the waste in our home?"***

The contest "What is the waste in our home?" organised for 7 days, promoted students to practice waste separation and identifying types of domestic waste.

The videos and photos sent by students showed that they learned to distinguish low recycling value waste to high recycling value waste, and importantly direct parental involvement with students in the experiences.

This has extremely profound meaning for the Programme, not only students but parents also learned how to separate waste, forming community values and reinforcing connections between students and parents laying the foundation for community level impact.



***Below are some home photos of the ZHub contest "What is the waste in our home?":***



*Figure 14: ESES student shows types of household waste in his home and explains how to classify them*



*Figure 15: Student at the ESES sorts waste at home based on ZHub Programme training*



*Figure 16: Result of a student's sorting of his family's household waste*



## The Talk show "Zero waste School"

Talk show impacted a wide community. The event was organised in November 2021, by GreenHub, ESES and APD University. With the topic of waste pollution, generation, and conserving natural resources, the online broadcast received 2,161 'reaches', nearly 400 interactions and 9 shares from different ages and groups.

This shows local community concern for environmental issues and the ZHub Programme.

**2,161** reaches

**400** interactions

**9** shares



Figure 17: APD lecturers, ESES teacher, GreenHub Director, and expert in environmental management discussed solutions to reduce waste generated in the environment in the online Talk show: "Zero waste Schools", November 2019



In the context of the COVID 19 pandemic, the ZHub Programme has adapted to sudden changes, to meeting the diverse learning needs of different project stakeholders.

For each different audience and condition, the ZHub Programme created, interacted and developed the most effective models to achieve the Programme's goals.

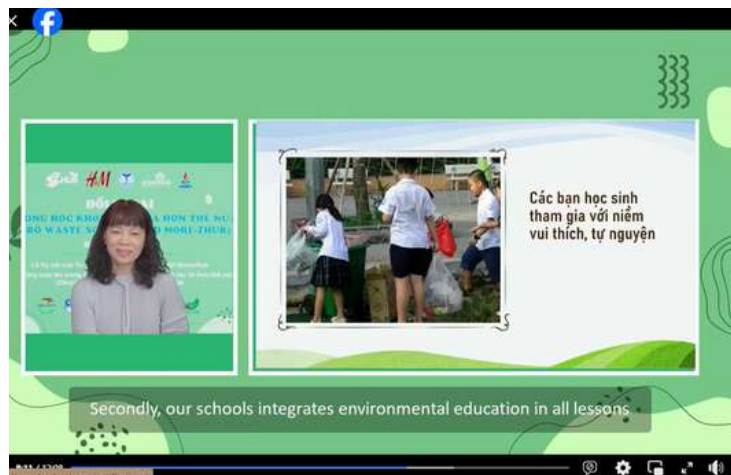


Figure 18: Mrs.Huong, member of Leader Board of ESES share image of ESES students separating waste, in the online Talk show: "Zero waste Schools", November 2019



## III. ZHUB PROGRAMME ACHIEVEMENTS IN 2023

Although the main target audience of the ZHub Programme is students, community resources as families, businesses, governments, and linked organisations also played an important roles both in supporting experiential and learning activities for young people, and being made more aware and involved in waste separation and sorting through their children.

In terms of connecting community resources and youth, the ZHub Programme built a common development framework including 4 activities:

**1**

Applying environmental education and Zero waste topics to each school's curriculum

**2**

Developing and practicing waste reduction models on school campuses

**3**

Creating experiences with environmentally friendly businesses

**4**

Monitoring, evaluating, and developing the Zero waste School model with associated communication activities



The sections below describe activities the ZHub Programme implemented in 2023, based on the knowledge foundation and piloted research from the first 2 years.

# 1. Applying environmental education and Zero waste principles to the Curriculum, with practical experiences

## a) Training on Zero waste for students at Phenikaa University, Hanoi

On January 4, 2023, the ZHub Programme officially signed a cooperation agreement with Phenikaa University, Hanoi, towards building a cooperative relationship as the fourth core school in ZHub's school network in Hanoi.

**A training session for 50 students**

*was held on March 11, 2023 on Zero waste concept and rules*

**After the training session 70% of students**

*showed their willingness to carry out waste reduction activities at school*

The students' suggestions after the class were to implement a waste separation model on campus to increase the efficiency of collecting recyclable waste. As the following, the ZHub Programme coordinated with the school's Board of Directors to set up a waste separation model at the school by 2024.



Figure 19: Students at Phenikaa University proposed their group’s waste classification model on campus, at a GreenHub training session on March 11, 2023

## b) Training on composting skills for 2 core student groups of ESESs and Trung Yen Primary School

The skill of composting organic waste is a necessity for the core student groups of the ESES and Trung Yen Primary School to effectively maintain the practice of composting at the MRF. In 2023, ZHub coordinated with the Board of Directors of these 2 schools to conduct:

### 3 additional training courses

in February, May and September on the skills of composting in customized compost tubes and compost bins<sup>5</sup>

with more than **70** students  
participating in training at ESES and Trung Yen Primary School

At the ESES, a training on the skills of composting in tubes were organised for 40 students. After the training, they learned to understand the meaning and process of composting. These students will be the school's core group to guide the others in composting skills based on what they learned.

In addition, the school's Board of Directors formally integrated composting skills lessons into the official curriculum of the 7th grade Technology course. With this committed action, the Board of Directors of the ESES demonstrated its role as the companion of students to practice the Zero waste School model. They now understand that to sustain the sustainability of the model, it is necessary to educate children fully, provide conditions at school for students to practice their skills, and monitor progress



Figure 20: Students listen to the compost steps from teacher



Figure 21: Students cut organic waste (vegetable) to make compost



Figure 22: Students put organic waste into the composting tube

ESES 7th grade students practice composting at the MRF during their 7th Grade Technology course

[5] Compost pipes are made from PVC pipes, compost bins are made from 120L barrels. Both are structured to have ventilation holes to help oxygen exchange during composting.



In addition, the MRF at the ESES was also "upgraded" as follows

Adding 20 school murals (119 m2 in area total) with the theme “Zero waste and plastic waste”, to provide more knowledge about Zero waste and the path of plastic waste after disposal.

Add lids and doors (to gather compost) to compost tubes so that students can easily collect fertilizer after successful composting, while avoiding odors arising during the composting process.

Paint the compost tubes to attract students more effectively, increasing the interest of the students in each lesson.



Figure 23: The MRF at the ESES before "upgrading"



Figure 24: The MRF at the ESES after "upgrading"



Figure 25: 20 murals with the theme Zero waste and plastic waste were added to the MRF at the ESES

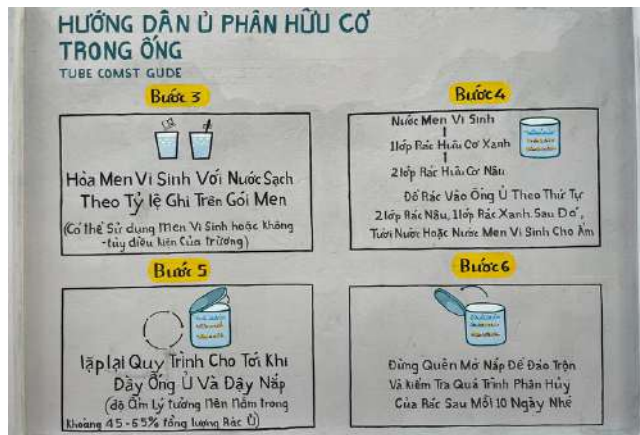


Figure 26: Instructions for composting in tubes - 1 mural of 20 painted murals at MRF at the ESES

Previously, the MRF at the ESES was established in 2022, being the first organic waste composting model in a school in Hanoi. Therefore, our experience was that that there were many features that needed improvement. However, by listening to students and teachers opinions, who directly practiced the school-based composting, the ZHub Programme team coordinated with technical experts to supplement and complete the model to solve the problems and meet the school's needs.



At Trung Yen Primary School, on February 14 and May 15, 2023, 30 students were trained on composting skills in bins. After 2 trainings, an “**Environmental Club**” of 20 pioneering students from grades 4 and 5 was established to manage maintain composting activities in the school, and at the same time, impart composting skills to other students in the school.



Figure 27: Trung Yen Primary School students practice cutting organic waste to make compost at a training session on May 15, 2023



Figure 28: Trung Yen Primary School students practice composting in compost bins at a training session on May 15, 2023

After 1 year of cooperation, Trung Yen Primary School has achieved remarkable results:

**Reduced** **2,000** plastic bags per day  
by replacing plastic bags contains students’ afternoon snack with reusable containers

**Reduced** **2,000** wet tissues per day  
by stop using it as wet tissues in student lunches

**Classified** **different milk cartons**  
and transferred them to separate collectors

**Reduced** **plastic waste, plastic spoons and forks, and styrofoam boxes**  
generated from students' breakfast activities, by encouraging parents to prepare containers or breakfast at home for their children

A significant result is that the Zero waste School model has been handed over to these 2 schools. The core group of students from Trung Yen Primary School and ESES will continue to practice composting at school periodically, with the support of teachers and monitoring by GreenHub. The fertilizer after successful composting is used for plants in the schools.

## c) Guidance Set for waste separation, Zero waste practice and organic waste treatment ('Guidance Set') for teachers at ESES schools

After a series of training sessions and practice activities on waste separation, as well as on composting methods at the MRF area, the ZHub Programme compiled a set of guidance documents and instructions to document as teaching materials for teachers at ESES.

This “**Guidance Set**” includes:

- 4 Instructional Videos on waste separation, practicing "Zero waste", 7 common types of plastic, and composting skills;
- 01 Lecture on plastic waste and its path after disposal;
- 01 Visual “Teaching Board” on 7 common types of plastic and their decomposition time;
- 01 Set of guidelines for using the whole set of materials.



Figure 29: Students interacting with a visual “Teaching Board” created by the ZHub programme - One of the visual teaching tools The **Guidance Set**, used in teaching about waste at ESES

**Guidance Set** was compiled based on the school's request to maintain training for students and teachers even after the agreement with GreenHub ended. Accordingly, the ZHub Programme designed them in a variety of forms such as: presentations, short videos, images, and visual teaching tools, creating favorable conditions for teachers and students to use flexibly during lessons, co-curricular or class meetings.

ZHub Programme-designed learning aids are easily understandable and met the school’s need. After being handed over, the school immediately applied them in environmental lessons.



Figure 30: ESES teachers use waste classification instructional videos provided by ZHub Programme to teach primary school students

ZHub is proud to accompany the ESES's Board of Directors in applying technology to teaching, and supporting the Vietnamese government’s roadmap to wards a the STEM<sup>6</sup> model of education.

[6] STEM education is the international abbreviation for **Science, Technology, Engineering and Mathematics**. **STEM** education is an educational approach that aims to provide students with scientific knowledge and improve their ability to integrate and apply it to real life. (Reference from source: Official dispatch No.3089/BGDĐT-GDTrH - Ministry of Education).

## d) Education through practical experience

ZHub Programme provides experiential activities as a mean of exchanging and growing knowledge in our education structure.

**On March 18, 2023, more than **50** students **3** lecturers from Phenikaa University**

*learned about the concept of a Circular Economy and applied models during a visit to Hop Farm, Hoa Binh city - a farm that applies 5R of Zero waste and circular economy rules in producing*

With their major in science and technology, Phenikaa University students observed the production cycles, worked in groups and offered some valuable insights and analysis on the strength and weakness for the Hop farm circular economy business model. They concluded for example that the wastewater system at the farm needs to be improved, and suggested to connect their university lecturers with expertise in wastewater treatment and environmental chemistry.

In addition, the students came up with a plan to apply Zero waste rules to build a Zero waste School model at their University:

- Establish a waste classification model adapted to the Phenikaa campus;
- Use solar batteries in high buildings on campus to reduce electricity consumption.



Phenikaa University students have strengthened their soft skills such as planning, teamwork, questioning skills, discussion, and problem solving.

In addition, students' creative ideas contributes to improve Hop farm circular economy business model, and developing a sustainable Zero waste School model.



## On June 25, 2023, more than **80** students **6** lecturers from APD University

visited Bat Trang ceramic craft villages on June 25, 2023

The tour was organised by the GreenHub ZHub Programme in collaboration with the School's Board of Directors and the Center of Vietnamese Essence Craft Villages.

Of the 80 participating students, 85% were female. This impressed and stimulated Ms. Ha Thi Vinh, Founder of Center of Vietnamese Essence Craft Villages who addressed the students to say “This shows us the growing interest and role of us (women) in business at this time”.

The students also appreciated the advanced ceramic production technology, in which electric kilns are used to replace coal one, with lower heat radiation.



*Figure 31: APD students observe one of the modern ceramic production stages during the field visit to Bat Trang ceramic craft villages in Hanoi on June 25, 2023*

Through their experience in comparing the outmoded and modern ceramic production systems, APD students grasped the positive and negative connections between economic development and environmental conservation. This will encourage APD students to better assess projects at school and in business in the future.



## 2. Community activities and communications toward youth awareness raising and behaviour change about environmental protection

Young people from primary school to university are the main targets of the ZHub Programme. Therefore, associated outreach community impact activities were continuously organised on many different levels, and adapted to their education level.

### a) Competitions, school-level, university-level events

**The Experience Camp 2023** **1,000** students and teachers from Primary and Secondary Schools of ESES participated

The Experience Camp 2023 was an event held on April 7, this was the second time the experience camp for ESES students and showed a clear improvement in the preparation and organisation process, especially in-depth content on waste classification



Figure 32: ESES students compete in a waste separation game in The Experience Camp 2023 held on April 7, 2023

Participating in the ZHub Programme with the slogan "ESES committed to waste separation at source", the school's Board of Directors demonstrated efforts to educate students about the benefits and rules of waste separation. Daily education and practise of waste separation model in schools resulted in significantly increased efficiency. This was shown in The Experience Camp 2023 when participating student demonstrated their waste separation skill very effectively.

### The contest "Designing Wall - Newspapers: Zero waste School"

The contest created a space for them to express their feelings and desires for a Zero waste School model. At the same time, the children also successfully spread the Zero waste lifestyle and the spirit of reducing single-use plastic. Especially when the winning products were displayed at the Talk show "Plastic!" – a Talk show were co-organised by GreenHub and the Goethe-Institut<sup>7</sup>.



Figure 33: ESES students presented their class's wall newspaper products at the Talk show "Plastic!"

**9,000** interactions

on ZHub's Facebook page

**570** students from High School of ESES participated

[7] The Goethe-Institut in Hanoi, VietNam is a charity registered in Germany and supported by the German government. The Institute provides cultural, linguistic and educational activities, including public scientific knowledge. The Goethe-Institut and GreenHub are partners in the 2023 Science Film Festival on environmental themes.

### Workshop “Waste is Potential”

The workshop was held on September 6, 2023, for students of Phenikaa University. It attracted 702 applications, much higher than the originally expected participation (50 students).

At the Workshop, students participated in the challenge of classifying 7 common types of plastic through visual teaching aids, including matching their characteristics and decomposition time. After the experiential activity, the students that that it takes hundreds of years for some plastics to decompose, even to the size of microplastics. This has a major and long-term impact on the living environment and public health. The students also came up with some ideas and alternatives to single-use plastic that can be discuss to apply in the future.



**702** applications from Phenikaa University students

Figure 34: Phenikaa University students classify 7 common types of plastic workshop "Waste is Potential" held on September 6, 2023

### The contest "BINNOVATION - Creating a Recycled Material Trash Bin"

The contest was held to identify creative designs for a waste bin model from recycled waste for use on campus



**14** student teams at Phenikaa University participated

The competition revealed students' perspectives on the potential of recyclable waste and encouraged students to apply a scientific approach to solve waste problems. Young people studying at Phenikaa University continually surprised the organisers with their creative waste bin models. It is expected that potential waste bin models will be applied and replicated to separate waste at Phenikaa University in 2024.

Figure 35: Some competition products of Phenikaa University students in the contest "BINNOVATION - Creating a Recycled Material Trash Bin" on November 1, 2023

## b) Community - oriented events

### **Discussion session “Building community awareness towards sustainable consumption”**

On July 21, 2023, the ZHub Programme had the opportunity to participate in the discussion session: "Building community awareness towards sustainable consumption". The discussion session was organised in the conference "Green consumption, healthy living", by VTC digital television and the Viet Nam Competition Commission (Ministry of Industry and Trade).

ZHub provided expert contributions in building awareness and improving healthy habits for the community, towards creating a positive impact on the environment. Advice offered to the public included:

- Support of families, local authorities and people living in the same environment for children is essential for young people to maintain positive habits;
- Every the smallest action such as using personal water bottles, limiting plastic cutlery as straws, spoons, plastic cups, etc. contributes to the process of forming good habits, protecting health and the environment;
- The principle of Refuse, Reduce (in the set of 5 Zero waste rules) should be applied to eco-friendly products. Consumers need to consider carefully before using these types of products, because the production process also consumes limited natural resources in the making.



Figure 36: Mrs. Tran Thi Hoa - Director of GreenHub shares her experience in change development for positive community habits at the discussion session "Building community awareness towards sustainable consumption" on July 21, 2023

To illustrate these concepts, to communicate about environmentally friendly products, ZHub leaders brought communication products used in the Programme such as notebooks made from kraft paper - a type that does not use bleaching chemicals.



Figure 37: Participant in the workshop "Green consumption, healthy living together" were interested in Kraft paper material in ZHub notebooks



## The “Mid-Autumn Festival”

Annual holiday seasons are also a time when the amount of waste increases compared to the rest of the year. Therefore, on the occasion of the “**Mid-Autumn Festival**”, September 22, 2023, the ZHub Programme coordinated with the Vietnam Union of Science and Technology Associations (VUSTA<sup>8</sup>) to bring to children a fun Mid-Autumn Festival night with environmental knowledge.



Figure 38: Young people excitedly answered questions about the environment on the Mid-Autumn Festival night of September 22 at VUSTA



Figure 39: Young people participated in a passing game together on the Mid-Autumn Festival night of September 22 at VUSTA

[8] Vietnam Union of Science and Technology Associations (VUSTA) is a non-public Science and Technology organization, representing Vietnamese Science and Technology intellectuals, and is a network of Science and Technology organizations. The largest non-public technology in Vietnam.

**“ZHub GreenUp” Event**

**59** students from **35** schools in Hanoi city participated

Event organised by ZHub on December 3, 2023, with the purpose of building a core group of teenagers who share a passion for learning environmental knowledge, a knowledge-sharing session on waste separation took place with 59 students from 35 schools in Hanoi city

Thong Nhat Park, Hanoi, was chosen as the venue for the activity because the space is suitable for the number of participants, in addition, this is an ideal and safe area for young people to collect and separate waste the public has not disposed properly.

Participants were first trained on the differences between waste types, the ability to recover and recycle them, and waste separation and quantifying techniques - a necessary skill to monitor and evaluate the impact of waste on the environment.



*Figure 40: Students from 35 schools in Hanoi are instructed to use the waste classification tool at the ZHub GreenUp activity, at Thong Nhat Park, Hanoi, December 3, 2023*

After that, the students practiced collecting waste that was improperly disposed of in the park, and used their GreenHub training to separate and quantify the amount of waste collected.

After 2 hours, the students separated 5.8Kg of waste with high recyclable value and collected a total of 27.9 Kg of waste within Thong Nhat Park.



*Figure 41, 42: Students separate and quantify (audit) the composition of waste in the ZHub GreenUp activity, at Thong Nhat Park, Hanoi, December 3, 2023*

In addition, the teenagers participating in the activity shared with each other the actions to reduce plastic waste that they are practicing at home such as bringing their own water bottles, food containers, and cloth bags when going out, use bicycles to replace other means of transport when possible, and separate waste with high recycling value. These actions motivate the ZHub Programme to expand our impact.



Hoang Ngoc Linh, a student at the High School for the Gifted Students in Social Sciences and Humanities, Hanoi, shared: ***"The event gave me the experience of working in a diverse group, creating opportunities to connect with other people in different ages, contribute to protecting environment, as well as spreading these activities to everyone."***

Each individual participating in ZHub GreenUp activities can bring "green" values closer to their wider community and networks.

Combining online media channels with enthusiastic youth is also an effective tool to spread environmental values and knowledge to wider audiences.





## Online contest "Capture the Green Moment"

In August 2023, ZHub organised the **"Capture the Green Moment" contest** on the Facebook platform, recording their own actions in carrying out environmental protection challenges

Within the framework of the competition, on August 18, 2023, the ZHub programme coordinated with experts in the field of sustainable business - Dr. Bui Thanh Hoang, and experts in the field of education - Dr. Vu Thi Minh Luan, Mrs. Nguyen Thi Khanh Tra and Mrs. Do Dieu Linh, organised a Talk show **"Understanding yourself - Renovating the environment"**. The talk show addressed the impact of single-use plastic usage on the environment and discussing actions to reduce waste. It attracted **54 participants** on the Zoom platform and more than **1,000 viewers on livestream**.



attracted **180** participate more than **180** submissions

Figure 43: Students respond to the Zero waste practices and proposed in the Talk show "Understanding yourself - Renovating the environment" August 18, 2023

With the goal of creating a colorful digital playground, connecting teenagers in all parts of the country, the contest brought useful experiences to young people. Through the Contest, they could highlight their creativity, exchange knowledge and perspectives on the environment.

More specifically, students also asked questions about methods of handling waste after use such as left-over cooking oil, old clothes, batteries, and received advice from experts on how to separate, collect, and connect to the appropriate collection agency.

Our conclusion is that not only do young people care about environmental issues, they also want to connect with communities that have similar interest. Ms. Le Nguyen Quynh Chau, student at Nguyen Trai High School, Hoi An City, head of the "Nguyen Trai Green Garden" Club is concerned about and asked **"how can my School Club can participate in environmental protection programme/activities"** - during the Talk show. Responding to Quynh Chau, the experts at the Talk show offered a number of activities that students can themselves organise in school such as environmental topic competitions, implementing waste separation, launching movements to reduce single-use plastic items, etc. In addition, Ms. Do Dieu Linh affirmed that: **"science and technology organizations like GreenHub can provides chances for young people who care about the environment"**.

## IV. CHALLENGES OF THE ZHUB PROGRAMME IMPLEMENTATION

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1

### Time and Resource limits

The school is the main institutional partner that directly carries out activities with the ZHub Programme. Therefore, the standard defined operating hours of schools are a challenge for balancing human resources and ZHub Programme implementation time.

During summer vacation, almost all students do not go to school. Similarly, in September and October every year, all schools hold opening ceremonies and many activities for students. In addition, Vietnamese Teachers' Day on November 20, Mid-Autumn Festival on August 15 of the lunar calendar, etc. are all “rush” times when ZHub needs to cooperate with partner schools to organise commemorative activities integrating environmental knowledge.

2

### Changing behavior in the community

Another difficulty in the process of changing the Zero waste practice habits of teenagers is the society-wide habit of not separating waste. Not separating waste has been formed in the minds of students from an early age. Actions to limit the use of single-use plastic items such as straws, plastic spoons and forks, etc., depend on support from family and friends, because single-use plastics are cheap, easy to buy and common.

For example, elementary school students often have their parents buy breakfast in foam boxes or plastic bags, so changing behavior and limiting plastic waste requires the participation of parents. However, parents often have limited time and find it more difficult to change their habits than teenagers.

## Methods of solving difficulties in implementing Programme activities

3

### a) Adaptation to school schedules

During the 3-month summer break, although students do not go to school, they can still interact and review Zero waste knowledge through online events on ZHub's media channels. The contest “**Capturing the Green Moment**” and the Talk show “**Understanding Yourself – Renovating the Environment**” held in August 2023 are examples.

Students can participate online at home, with simple actions to compete and record such as 7 days of using personal water bottles, 7 days of sorting recyclable waste, etc. Young people have the opportunity to form positive habits for themselves, while interacting with each other and sharing useful knowledge about the environment.

The incentive for the waste-reduce actions are the reusable products: personal water bottle, reusable cloth bags... These gifts encourage contest's participants to establish habits of reducing single-use plastic.

For activities that all schools holds such as Vietnamese Teachers' Day, Mid-Autumn Festival, etc., ZHub develop general activity framework, and can be co-organized with school activities to save preparation time and resources.

For example, the workshop “**Waste is Potential**” was co-organised with the opening ceremony for the new-year students at Phenikaa University. This cooperation even helps the workshop attract more students to participate, thereby increasing its spread.

Similarly, the contest “**Wall newspaper design: Zero waste school theme**” at ESES in November 2023 was integrated into the school's Vietnamese Teachers' Day celebration activities. All organisation steps of the competition, are directly deployed by the School Leadership Board to all classes, with technical support from ZHub. This greatly supports the ZHub Programme staff in organisational work.

The ZHub Programme has therefore begun to turn constraints on time and resources into advantages. Enhancing the role of schools in each coordinated activity also helps schools be more enlightened, proactive and responsible in communication and reducing waste on school grounds. Online activities during summer vacation also help expand participants, eliminating limits on age or living environment. In addition, forming a community that loves the environment and with members supporting each other in practicing Zero waste.



## b) Research behavior change methods for the community

With student behaviors that have been formed for a long time, it is necessary to create impact from many sides and involve parents, teachers, and friends - the people that students come into contact with every day. At the same time, educational methods also need to be diverse to connect with individuals that have different perceptions, attitudes, priorities etc, easy to understand and maintained over a long period of time.

In the case of the ESES, to create a habit of waste separation for all primary school students, the school in collaboration with ZHub has:

Activity	Impact in the community
<p><b>Organised</b> training on Zero waste and waste classification for students. At the same time, incorporate the above content into teaching in class lessons.</p>	<p>This highlights the importance to students, and supports students to grasp the knowledge and benefits of waste classification.</p>
<p><b>Used</b> diverse teaching materials such as videos, presentations, visual aids, and waste classification instructions.</p>	<p>This supports students to effectively remember classification rules and the materials are permanently available for teachers and students.</p>
<p><b>Combined</b> classroom education with a site visit to an environmentally friendly production model, e.g. the school's Board of Directors and teachers visit to Hop Farm, Hoa Binh city.</p>	<p>This effectively conveys the concept of Zero waste to the Board of Directors, teachers and school staff and challenges students to identify issues and solutions.</p>
<p><b>Issued</b> a Zero waste School regulation, which requires students and teachers to classify Waste in hallways, classrooms and kitchens.</p>	<p>The visible and equal contribution of the Board of Directors creates conditions for students to maintain the habit of sorting waste every day.</p>

In addition, communication activities in diverse forms such as organising the contest “**Wall newspaper design: Zero waste school theme**”, the Experience camp 2023 also contribute to strengthening and consolidating knowledge, so spreading the spirit of “green” living.

In the case of Trung Yen Primary School, the commitment journey to reduce plastic waste includes the following activities:

**Issue** regulations to limit the use of single-use plastic items in schools

**Completely replace plastic bags** containing afternoon snack with reusable containers, and **stop using wet tissue** at students lunch - implemented by the School Leadership Board

**Parents prepare breakfast** for their child at home, or bring a personal container – supported by the student's parents

Thus, not only do students limit the use of single-use plastic items, parents and the Board of Directors of Trung Yen Primary School also join hands to create a plastic-free environment in the local community – practicing Zero waste at home and in school.

**Practice Zero waste activities in a community with the similar interests are key factors to maintain positive habits in youth. The ZHub Programme is proud to take advantage of the connections between individuals and communities to achieve the goal of Zero waste for the community.**

# V. PLAN TO EXPAND PARTNERSHIP AND IMPROVE THE IMPACT OF THE ZHUB PROGRAMME

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## 1. Monitor, evaluate, and develop Zero waste School models

The results of the ZHub Programme partly come from listening to feedback from students and teachers and continuously perfecting the Zero waste School model to suit their needs.

The process of building and improving the MRF at ESES is also a lesson for the second MRF at Trung Yen Primary School (built 1 year after the MRF at ESES) . The Programme received a lot of positive feedback from students and the Board of Directors of Trung Yen Primary School to improve the aesthetics as well as the operational efficiency of the model.

Partners from organisations as businesses, government agencies, experts from environmental management and education have contributed to creating a colorful journey of experiences for youth with the ZHub programme. In 2023, ZHub has continued to maintain cooperation with Hop Farm, Hoa Binh city, and expanded connections with WWF-Vietnam, Goethe-Institut, Vietnamese Craft Village Essence Center, and VUSTA, to expand impact toward youth and the community. These different partners from government agencies, businesses, organisation, etc., bring expertise, and a necessary diverse perspectives to build activities suitable for the needs of youth.

With experience, and efforts to constantly learn and improve, the ZHub program will continue to dedicate to positively change the Vietnamese youth behaviours towards a Zero waste lifestyle, preparing young people with solid knowledge, attitudes and motivation to protect the environment and health.





## 2. Proposed activities of the ZHub Programme in 2024

According to the cooperation network expansion plan agreed between GreenHub and H&M, we will keep 4 core Zero waste School models in Ha Noi monitored and expand partnerships to 3 more cities.

### a) Plans to monitor 4 core Zero waste School models

ZHub assists these schools sustain Zero waste School models by:

- **Organise quarterly training** on Zero waste topic or composting skill;
- **Support renovation and repair techniques for MRF** equipment if needed;
- **Research and develop teaching materials** that can improve teaching quality, applying for all schools and Universities.

These activities provide new students and teachers knowledge to understand the Zero waste model applied at school and join hand to sustain it.



## b) Plan to expand partnerships to 3 new cities

GreenHub will also expand the Programme to 3 schools in new cities in the South, Central and North of Vietnam. The schools are being chosen carefully, because like Hanoi, these are the main urban centers in Vietnam and include a variety of educational facilities. This allows the ZHub network to analyze differences in location (schools in coastal cities, medium cities, largest cities in Vietnam) and corresponding school conditions.

**In the first quarter of 2024**, ZHub will sign the Momenrandum of Understanding with The University of Da Nang - University of Science and Education. This is an University with the in the Central coastal region of Vietnam with strengths in pedagogical education. Therefore, the ZHub Programme will coordinate with schools to conduct research on teaching materials for university-level students, at the same time, build a model to reduce waste at schools that is customized for each school needs.

**For the second quarter of 2024**, ZHub plans to cooperate with Bach Dang Primary School in Ho Chi Minh City to establish a waste classification model at the school. Bach Dang Primary School is located in Tan Binh district, Ho Chi Minh City. Waste separation is a goal the school Board of Directors aims to educate the school's students and teachers in 2024. ZHub will organize training for teachers and students on Zero waste and waste separation rules according to the Environmental Protection Law 2020<sup>9</sup>, and provide facilities for the school to maintain this model.

**For the third and fourth quarter of 2024**, ZHub will identify and coordinate with a new school in Northern Vietnam with necessity in reducing waste in the school area to implement the Zero Waste School model. Also, **an Annual Zero waste School Festival** for schools, Universities, relevant bussinesses and organisations will be initiated at the end of 2024. It will bring out a space to share schools experience in reducing waste and chances to build an ecosystem of organisations, businesses, and governments working together for common environmental benefits.

Along with that, ZHub plans to develop and apply a set of teaching materials for basic knowledge for all schools and universities in the ZHub network. This set of teaching materials is targeted to presents basic knowledge about the environment, and also proposes creative teaching methods for teachers and means to maintain Zero waste habits and lifestyles for students. This save time and resources of ZHub when cooperating with a large number of schools and Universities.

[9] Article 75 of the Law on Environmental Protection 2020 issues that all the domestic waste needs to be separated by the end of 2024.



## VI. SEE MORE OF OUR WORKS

Number	Content	Link
1	ZHub's official Facebook	<a href="https://www.facebook.com/ZHubZeroWasteSchoolsMore">https://www.facebook.com/ZHubZeroWasteSchoolsMore</a>
2	GreenHub's official Facebook	<a href="https://www.facebook.com/GreenHub.org.vn">https://www.facebook.com/GreenHub.org.vn</a>
3	GreenHub's official Website	<a href="https://greenhub.org.vn/">https://greenhub.org.vn/</a>
4	GreenHub's official Youtube	<a href="https://www.youtube.com/@greenhubvietnam3298">https://www.youtube.com/@greenhubvietnam3298</a>
5	Zero Waste school model on VTC 6 channel	<a href="https://www.youtube.com/watch?v=P4WgGP1FdC0&amp;ab_channel=K%C3%8A%NHVTC16">https://www.youtube.com/watch?v=P4WgGP1FdC0&amp;ab_channel=K%C3%8A%NHVTC16</a>
6	A sustainable journey for a Zero Waste school on Environment Magazine	<a href="https://tapchimoitruong.vn/phat-trien-ben-vung-24/hanh-trinh-ben-vung-vi-mot-truong-hoc-khong-rac-29664">https://tapchimoitruong.vn/phat-trien-ben-vung-24/hanh-trinh-ben-vung-vi-mot-truong-hoc-khong-rac-29664</a>
9	Phenikaa aims for a Zero waste university	<a href="https://phenikaa-uni.edu.vn/vi/post/tin-tuc/tin-tuc-thong-bao/phenikaa-huong-toi-truong-dai-hoc-noi-khong-voi-rac-thai">https://phenikaa-uni.edu.vn/vi/post/tin-tuc/tin-tuc-thong-bao/phenikaa-huong-toi-truong-dai-hoc-noi-khong-voi-rac-thai</a>
10	Phenikaa University signed a MOU with GreenHub	<a href="https://giadinh.phenikaa.com/phenikaa-uni-ki-ket-thoa-thuan-hop-tac-voi-trung-tam-ho-tro-phat-trien-xanh-greenhub/">https://giadinh.phenikaa.com/phenikaa-uni-ki-ket-thoa-thuan-hop-tac-voi-trung-tam-ho-tro-phat-trien-xanh-greenhub/</a>
11	Phenikaa students learn practically for experience	<a href="https://phenikaa-uni.edu.vn/vi/post/tin-tuc/sinh-vien-phenikaa-hoc-tap-thuc-te-de-trai-nghiem">https://phenikaa-uni.edu.vn/vi/post/tin-tuc/sinh-vien-phenikaa-hoc-tap-thuc-te-de-trai-nghiem</a>





H&M is the first and main sponsor of ZHub programme - Zero Waste Schools and More

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