

## **Petals & Pages: Recycled Petals + Endless Possibilities, the case of Pak Khlong Talat Flower Market, Bangkok, Thailand**

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### **Background**

Pak Khlong Talat Neighborhood is a commercial area with interesting culture in Bangkok and is considered an area that has created dimensions for the city for a long time. When talking about the Pak Khlong Talat, everyone often thinks of a bustling flower market with many types of fresh flowers to choose from for various occasions. However, Pak Khlong Talat was not the flower market in the first place. Before the time of King Rama V, the area at the Pak Khlong pier was a fish market where boatloads of fish from Tha Chin, the current Samut Sakhon area, came to this pier. However, during the reign of King Rama V, this fish market was abolished. Pak Khlong Talat, about 40 years ago, was less bustling than the Tha Tien pier, which was a large market at that time. Groups of traders usually do not stay to exchange goods permanently at the Pak Khlong pier but the traders gather and transfer between Tha Tien and Tha Pak Khlong. Therefore, a small floating market was created in these areas. After the old Chinese language school was demolished and a shophouse building was built in the Pak Khlong Talat, the trading atmosphere is, therefore, stronger. However, the original market area is still confined to the harbor and concentrated along the waterfront, because road transportation is not yet popular. After that, when trade expanded traders began to use the area along the roadside, both in the form of shops and as vendors. During the time of Field Marshal P. Phibunsongkhram, the groups of vendors near the walls of Wat Pho and the Provincial Fresh Market were moved together to Pak Khlong Talat, making this commercial area is even more bustling. Moreover, the construction of the Yodpiman Market building at the foot of Memorial Bridge and the expansion of the market to the opposite side of the road, as a result, the Pak Khlong Talat area covers the area from Pak Khlong Talat Pier to the Memorial Bridge along the banks of the river and the roads that cut parallel to the river. At present, Pak Khlong Talat is a large fresh market, retail and wholesale of vegetables, fruits, and flowers, consisting of 3 markets: Yodpiman Market, Organization Market, and Thai Farmers Promotion Market.

Even though Pak Khlong Talat is currently full of people 24 hours a day, there are also seasons in the flower business that shops often call "Dead Season",

which is when there are no important festivals such as Valentine's Day or Graduation Day. As a result, many times, the unsold flowers end up as waste. Some floral waste can be caused by flowers that need to be pruned to look beautiful and make them suitable for bouquets. All flower waste is often thrown away together with other types of waste such as plastic waste, food waste, paper waste, etc. This causes a problem of waste that cannot be used. Possible development approaches may be more than just solving the problem of waste separation but it is about adding value to flowers that would otherwise become waste, both from the perspective of sellers and outsiders who come to buy flowers in Pak Khlong Talat. Even if those flowers are not beautiful enough to be sold or are left over they still have enough quality to be processed into other products. This project aims to create awareness of waste problems and create awareness of waste separation by adding value to the flower waste.



Figure 1: Waste found in Pak Khlong Talat Neighborhood



Figure 2: Collecting process: (a) flower waste from the store and (b) waste collecting from store.

### Objective

1. To survey and plan a sustainable reduction of flower waste in the Pak Khlong Talat neighborhood.

2. To create value for products from flower shops in the Pak Khlong Talat neighborhood by taking waste within the area to develop it back into the economic system for the neighborhood.
3. To create awareness among people in the community and the public who visit the exhibition to be aware of the possibility of further development from flower waste.
4. To create a participatory design process from real problems in the area for students in design courses.
5. To create a participatory design process using the Pak Khlong Talat area as a prototype.
6. To create an education outreach activities for community members.

### **Process**

1. Collecting: Collecting flower waste from shops in the Pak Khlong area results from cutting flowers to make bouquets or leftover flowers from sales. Most of the waste in the Pak Khlong Talat neighborhood is not separated into different types before being dumped. This causes flower waste to be mixed with plastic waste, paper, and other waste, making it unable to be used for other benefits. Once the waste has been collected, the waste will be separated into flower petals, flower stems, and flower scraps that can be entered into the process of transforming into flower paper.

From collecting and separating waste, it was found that most flower waste tends to be flower stems and petals that have bruised or torn parts. This is because flower stems that are too long need to be cut off to make them suitable for bouquets, and some petals may be damaged during transportation, making them good enough to be sold.

2. Recycling: The sorted flower waste is broken down into small pieces to be mixed with paper waste and water to form paper pulp, in a ratio of flower waste to paper of 40 : 60, therefore the pulp is dense enough to hold together as paper. Then the pulp is dried in a grid mold of the selected size, pressed to make the pulp dense enough, and left to dry.

Experiments were conducted to select the type and proportion of flowers that could best be molded into paper. At first, choosing to use flower stems such as sunflowers, finding that they could not be shaped. This is because the pulp does not form into sheets and has low flexibility, resulting in paper cannot be folded or curved. Therefore, changing to use flower petals such as roses, marigolds, and orchids, are flowers that are widely sold in the Pak Khlong Talat area. As a result, the amount of waste from this type of flower is also very high. When the said flower petals are mixed with paper waste, the paper is able to be shaped.

3. Creating: Take paper flowers to create work that meets the needs of people in the Pak Khlong Talat community. The study began with the waste problem in the community caused by selling flowers and finding ways to reuse flower waste. The work must not cause hardship to people in the community and must be usable and consistent with their way of life. By having students study the context of the area, lifestyle, and problems, therefore, there was a method of creating added value from flower paper by using the meaning of 7 flowers selected from flowers that were sold in the Pak Khlong Talat area. designed into a pattern Both in souvenirs and flower wrapping paper so that people in the community can actually use them.



Figure 3: Product design from students

### Installation

The installation shows changes in flowers, from fresh flowers that can be sold in Pak Khlong Talat to flower waste that may have no value, but it can be transformed into flower paper from the recycling process and can be converted into other products to create value. To create awareness of flower waste and the recycling process for both visitors and people in the community.

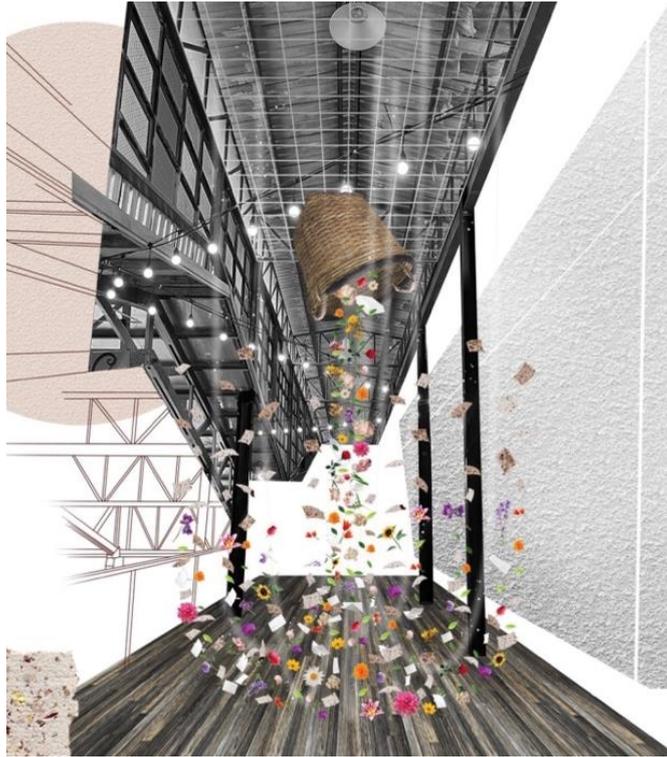


Figure 4: The design of the installation

### **Timeline**

October 2023: Collecting needs of people in the Pak Khlong Talat neighborhood – waste and economic aspects

November 2023: Participatory design with students and community members to find the solution to problems

December 2023: Experimental process for products

January – February 2024: Exhibition and tailored lectures for community members beyond campus

### **Results**

#### **Programmed Project:**

- Community needs analysis
- Education outreach activities
- Product Experimental process
- Exhibition

#### **Ad-Hoc Project:**

- In the experimental process, there are additional needs from the community to add the waterproof feature to the flower paper for the paper to use as flower wrap. Therefore, another experiment was conducted to add waterproofing to it.



Figure 5: Flower paper recycling process: (a) molding process and (b) drying process.

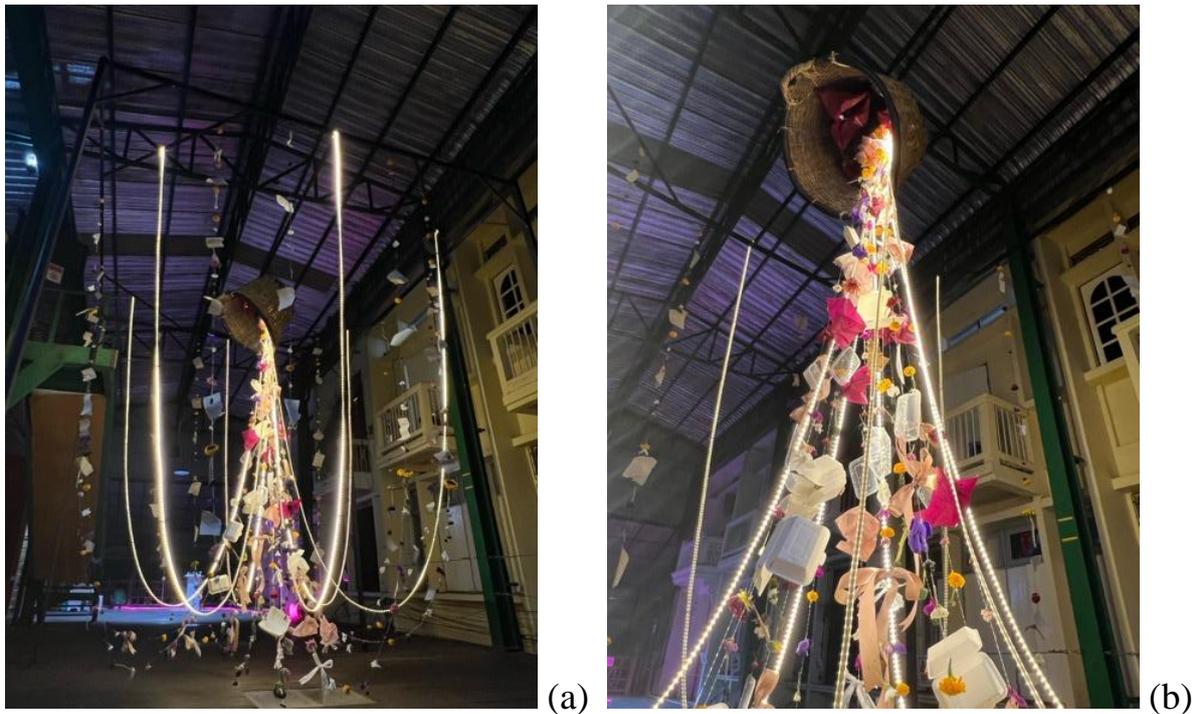


Figure 6: The flower paper installation at Bangkok Design Week 2024: (a) zoom-out and (b) zoom-in.

### Benefits

1. Sustainable plan for reducing flower waste in the Pak Khlong Talat neighborhood.
2. Valued products from flower shops in the Pak Khlong Talat neighborhood from waste within the area and developed them back into the economic system for the neighborhood.

3. Awareness among people in the community and the public who visit the exhibition to be aware of the possibility of further development from flower waste.
4. Collaborative Design process from real problems in the area for students in design courses.
5. Collaborative design process using the Pak Khlong Talat area as a prototype.
6. Education outreach activities for community members.

### **Participatory**

1. Neighborhood: Flower waste is waste that comes from pruning flowers to make bouquets or flowers that are left over from being sold. At present, there is no proper waste separation. This makes it impossible to put waste to use. Adding value through design is another way to raise awareness and create the value of paper waste, leading to waste separation and the use of sustainable upcycling processes in the future.
2. Student: A prototype design made from paper flowers was designed by a first-year architecture student from the School of Architecture and Design, Walailak University as part of the ARC62-123 Basic Design course. The students studied information about the Pak Khlong Talat neighborhood, context, characteristics, products, and flowers that are unique to the area. Then it was designed using the meaning of various flowers as the main concept of the design to add value to designs and add value to flower waste.

### **Reference**

<https://www.bangkokdesignweek.com/en/bkkdw2024/program/70640>

<https://groundcontrolth.com/blogs/bkkdw-2024>

<https://urbancreature.co/one-day-for-bkkdw-2024/>

<https://www.thairath.co.th/lifestyle/travel/2758952>

<https://www.sarakadeelite.com/lite/bkkdw2024-phra-nakhon-pak-khlong/>