After a successful crowdfunding campaign that ended this past fall, efforts to develop sustainable approaches to textile and fashion design have led to the development of the Cornell Natural Dye Garden.

With a goal of $8,500, the project raised $10,365 for the garden, which will produce a variety of colors for textiles and have a lower environmental impact than synthetic dyes.

“We know that synthetic dyes cause incredible environmental harm and pollute waterways,” says Denise Green, Assistant Professor of Fiber Science & Design Apparel (FSAD). “Human health is also impacted, particularly for laborers in the textile dyeing industries.”

According to organizers, up to 200,000 tons of synthetic dyes are discharged into waterways around the globe every year, making textile dye plants the second largest polluter of water.

In many developing nations where textiles are produced, workers may not be properly protected from the toxic chemicals used to dye fibers and fabrics, making synthetic dyes hazardous to both environmental and human health, Green says.

By contrast, natural dyes are non-toxic to the environment, though it is recommended by experts to never use a dye plant until users have done their research and know that it is non-poisonous to humans or animals.

Some of these dye plants also have the ability to grow well without herbicides or fungicides. “We believe natural dyes are an opportunity to make a sustainable intervention in the apparel supply chain,” says Green.

In May 2015, Green, in collaboration with fellow FSAD faculty and students, as well as Human Ecology Facilities Services and Cornell Plantations staff, planted a test garden of natural dye plants within garden beds at the northeast corner of the Human Ecology building overlooking Beebe Lake.

“That success led us to the idea to put the garden in a place that’s more accessible for students and more visible in terms of our college life,” says Green.

In Spring 2016, Green and her students moved the garden to a plot located in the courtyard between Martha Van Rensselaer Hall and the Human Ecology Building. The relocation of the garden allows students and faculty to grow a wider array of dye plants to be used in teaching and research.

“The new location is highly visible,” says Green, adding that further plans are in place to add educational signage for the Summer 2017 growing season.

“Signage means that the garden won’t just be beautiful to look at and valuable as a natural dye resource, but it will also be an opportunity to educate students, staff, and the public about the plants we are growing and the range of colors they yield.”

Beyond working on projects, Green hopes that the garden will have deep and long-lasting impacts on FSAD students when they graduate and begin their careers in the manufacturing and fashion industries.

“Our hope is they become conscientious citizens of the world who think about the impact that their design will have on the environment, on human health, and on many people that we don’t often think about when we consume fashion,” she says.

– Stephen D’Angelo