The communities of Lobitos and Piedritas are located on the northern coast of Peru. Despite profitable tourism industries in both communities, most notably the surfing attraction of Lobitos, both communities still have high levels of poverty as much of the money made from these tourists does not go to locals or the community. In order to help improve the quality of life of the people of these communities we intend to not only directly address their growing waste issue but also recycle the plastic portion of this waste to benefit the community. Plastic pollution has become a global issue in recent years as the extent to which we have polluted, especially our oceans, has become evident. It is therefore crucial that global action is taken, however without the ability to implement country wide recycling schemes paired with the necessary recycling education to make them successful in regions such as these, innovative engineering and business solutions are needed.

A large portion of waste plastics can be recycled and doing so not only reduces the local issue of the eyesore which is deterring tourists but also removes a danger to wildlife and prevents locals from burning their plastic waste and adding to climate change issues. Previous attempts to implement recycling in the region haven’t been successful but we hope as we will be recycling plastic into products which the community can actively see benefitting them, this will help to create a community ethos more positive towards recycling.

As plastic can be used in a large variety of ways it can be used to address a range of issues these communities are facing. Both regions don’t have consistent access to safe, clean water and while some people can afford rain collection tanks or ways of storing water when there is available, the poorest cannot so we plan to build rain collection tanks to give to these people. We will be increasing the ease of which the community can recycle to ensure this doesn’t become a reason why people stop recycling, we plan to do this by building recycling bins and also general waste bins. Schools in the region need more classroom supplies, many of which can be made using plastic, this will make it easier for the youth of the community to become more educated, allowing more of them to escape poverty. It will also hopefully make them aware of the benefits of recycling from a young age, which will be essential to the longevity of the project. In addition to creating plastic items which can help the community we will also be selling certain products to tourists, allowing us to reinvest more money into helping the community and is a good way for the community to profit more from the tourism.

As well as existing problems which have been identified, one of the benefits of our incredibly versatile solution is it can be used to tackle new issues and be scaled up into new projects and continue to be useful even after all these issues have been addressed and solved. An example of this can come in the form that if this solution had been implemented a year ago no one would have thought to address the now crucial issue of covid-19 transmission, however it would have been easy to start producing face shields using this solution.