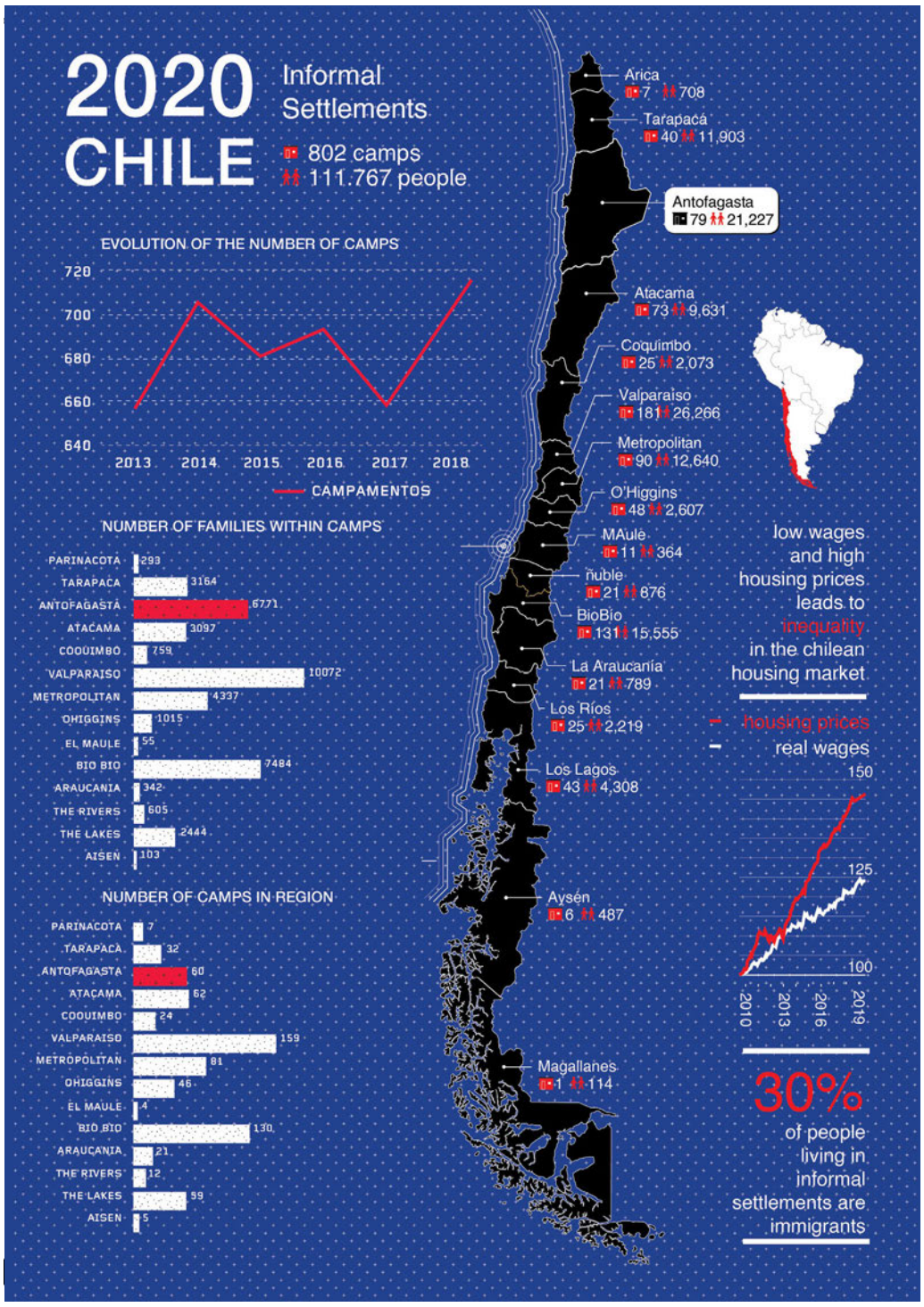
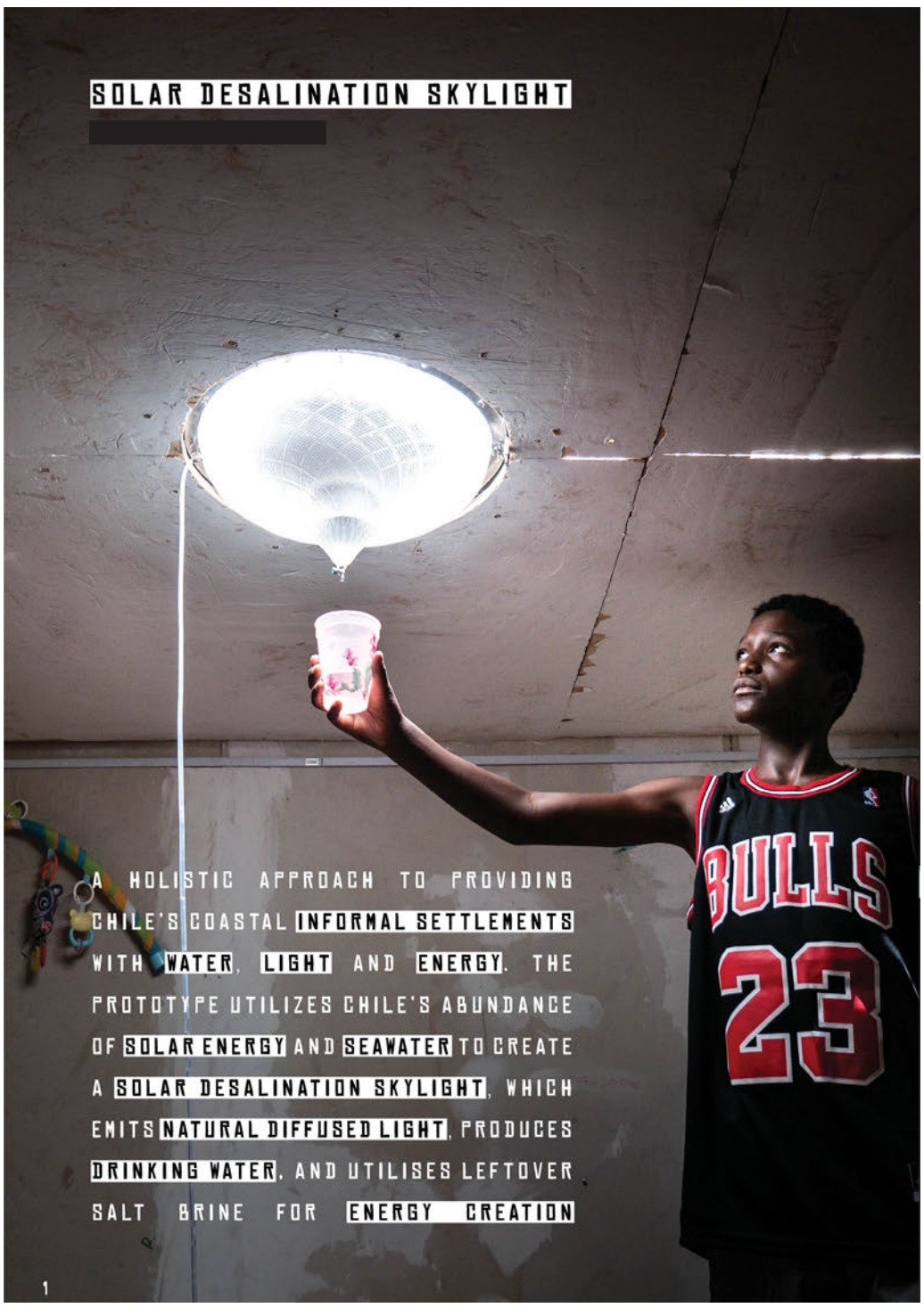
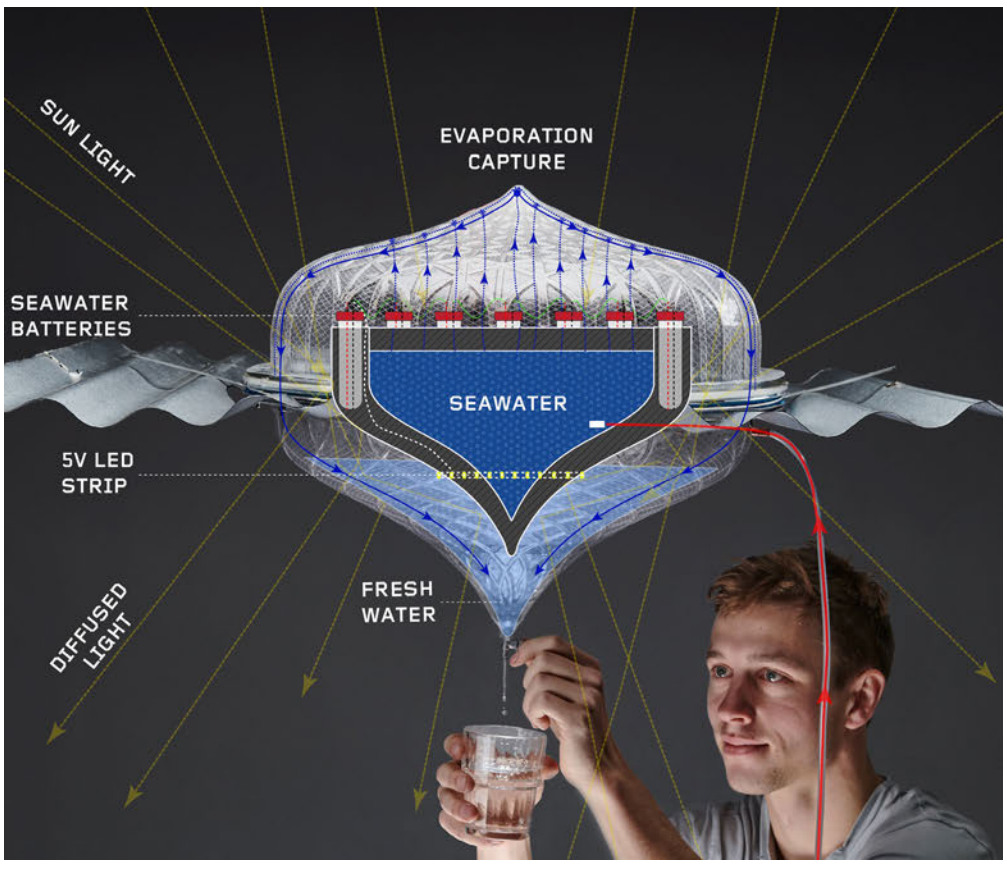


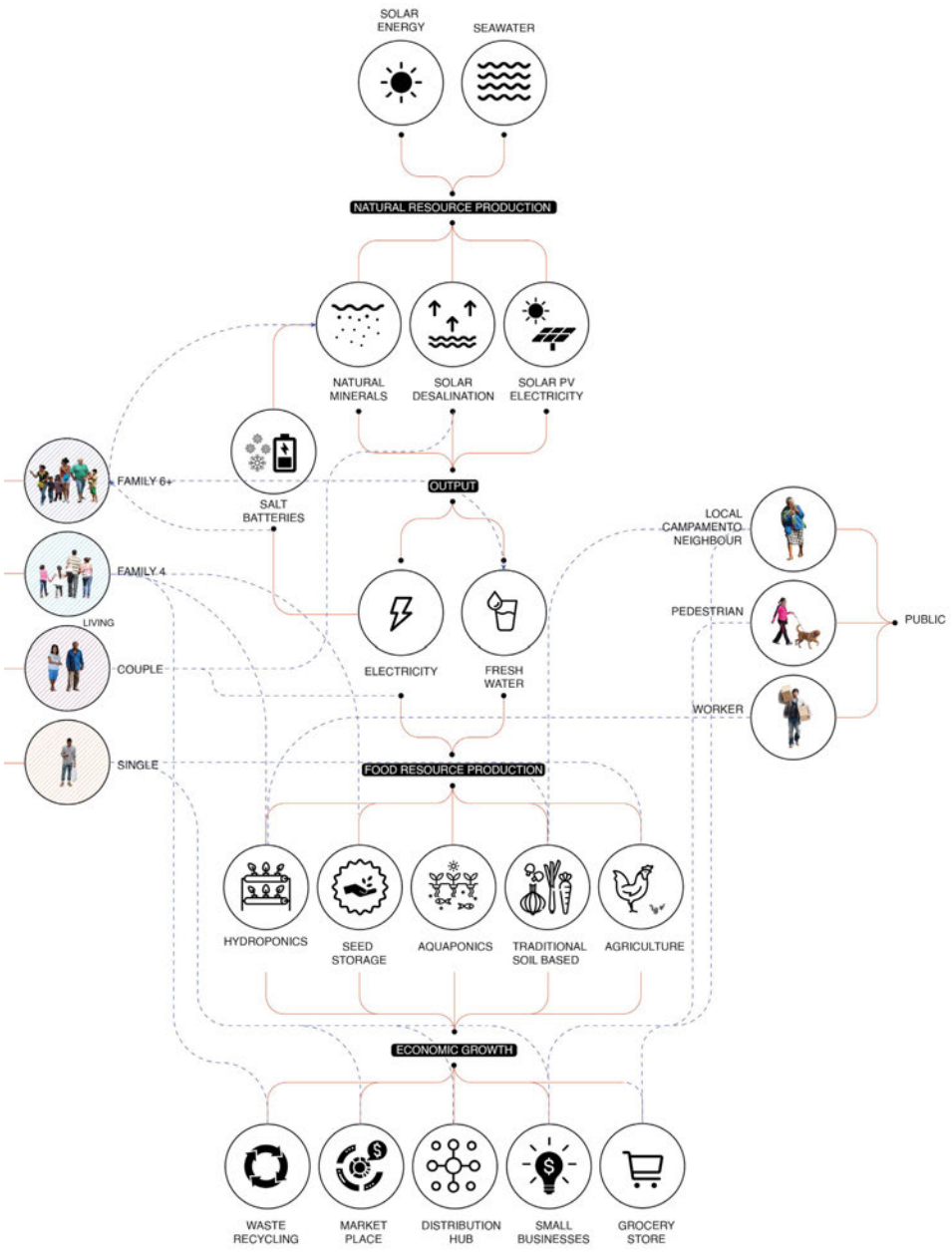
THESIS PROJECT BY HG:
Informality and resource access need to be urgently addressed for the creation of safe, sustainable and prosperous communities. 'Resource Revolution' is a project based in Antofagasta, Chile. The proposal explores how to create a social housing eco-system that empowers communities to become self-sustaining through natural resource production. This proposal is a discovery of resource autonomy, provoking thought of alternative ways of living. It investigates how architecture can play an active role in merging resource production with living.

TECHO-Chile reports that 75.8% of the 110,000 people who live within Chile's informal settlements, do not have access to safe drinking water and electricity. This project explores holistic access solutions at various scales; Solar Desalination skylight prototype (designed and tested by the studnets in collaboration with a comunity) a family housing typology, and whole community eco-system. These solutions take advantage of Chile's extreme environment, by transforming its abundance of seawater and solar energy into consumable resources. This is achieved through passive and low-tech architectural solutions, which implement methods of solar desalination, aquaponics, hydroponics, and salt battery energy storage.

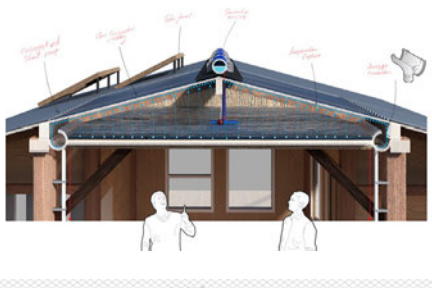




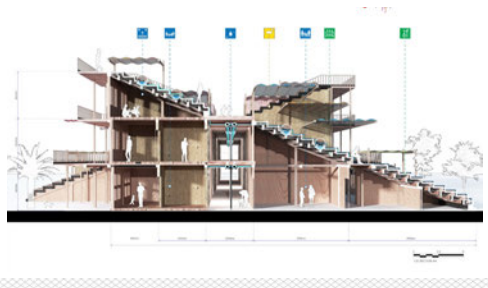
RESOURCE FLOW + STAKEHOLDERS



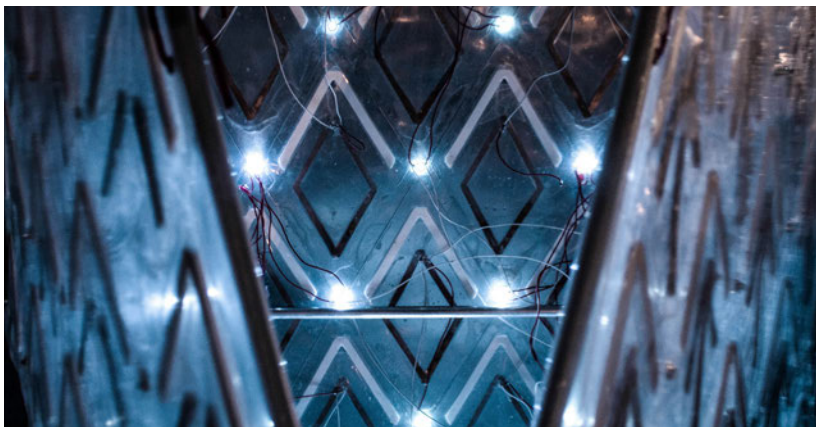
TYPOLOGY ONE: SOLAR DESALINATION ROOF



TYPOLOGY TWO: LIVING WITH HYDROPONICS

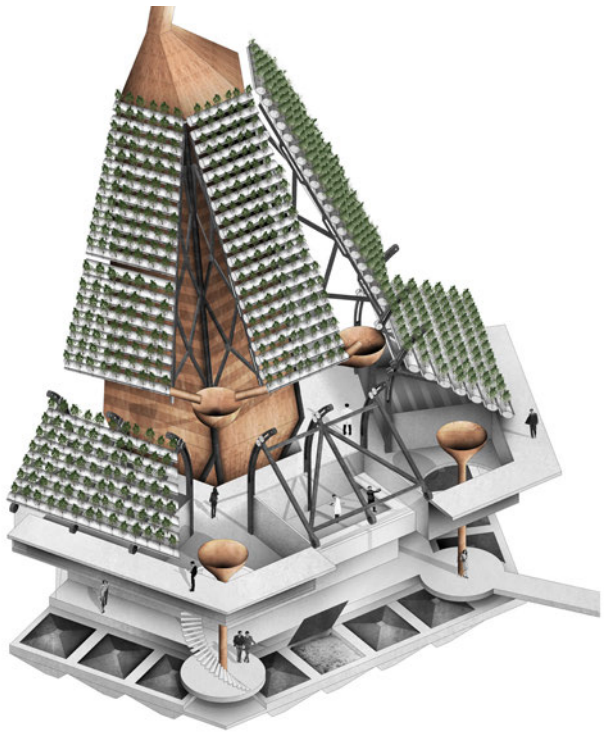


PROJECT BY JN:
In the archipelago of Svalbard, and a mere 10 degrees from the North Pole, the community of Longyearbyen imports every single necessity while a nearby coal mine supplies this town with daily energy, with large environmental impact. This project creates electricity from residue salt and water from snow road clearing. The facade system, made of recycled plastic containing salinized water pockets, reacts with copper and zinc strips generating electricity and lighting the device, suggesting an alternative energy and building system.

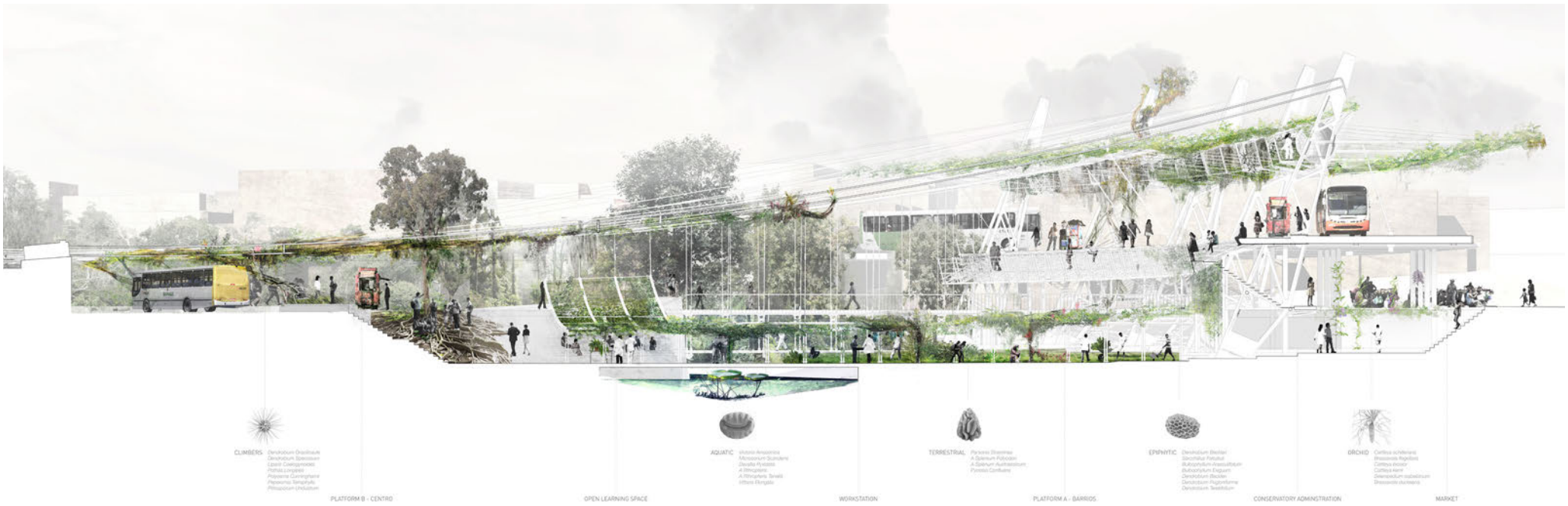


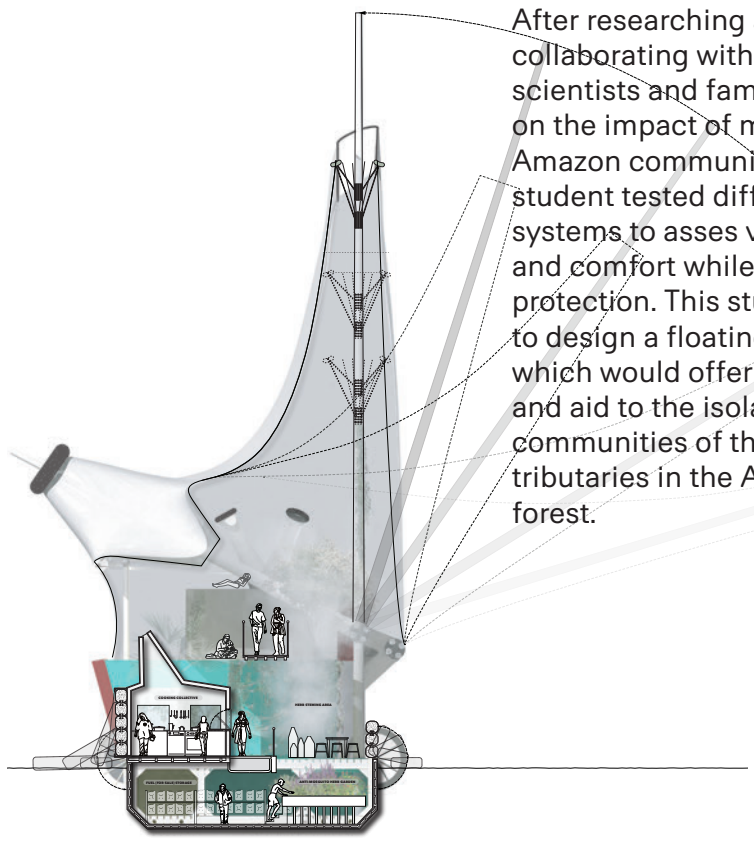
PROJECT BY GG:
Deciding to test his hypothesis on his own habitation, this student dealt with ocean plastics by collecting them with the local community in the coast of Iceland, shredding them at different sizes and assessing their potential as insulation in his self-built shelter in the winter season.
Recycling, and environmental awareness in one single project while studying the potential of residue.

PROJECT BY SA:
Capitalizing on sub-zero temperatures for almost six months in Longyearbyen, this project tests the stretching and freezing of textiles to create semi-permanent structures. The freezing of the textiles rendered the shapes rigid and solid enough to withstand winds and the long winter climate. Yet again an example of turning challenges into assets, used during the second semester for a winter nursery, growing vegetables for the local community.



THESIS PROJECT BY JS:
Aiming to tackle heat island effect in the city of Manaus, in the heart of the Brazilian Amazon, this student tested cooling facades with local flora, managing to lower temperatures by 5 degrees. His thorough study of local biology permitted him to design a central bus station in the city center, where over 75 % of the building materials were living plants, cooling the services and users.





PROJECT BY GB:
After researching and collaborating with local scientists and family groups on the impact of malaria in Amazon communities, this student tested different net systems to asses ventilation and comfort while offering protection. This study led her to design a floating clinic which would offer services and aid to the isolated communities of the many tributaries in the Amazon rain forest.