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Designing Sustainability for All

C. Anna Catania, Aurora Modica, University of Palermo, Italy Design and agrifood for new sustainable local development

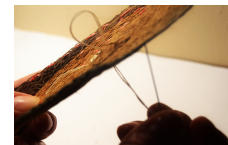
This study is about the relationship between design and the prickly pear of Roccapalumba (Sicily), for to able to start innovative strategies for waste recycling and for a sustainable local economy.

The methodological approach is based on Systemic Design that contributes to the development of a circular economy (output of a system becomes input for another) and among the various outputs it considers:

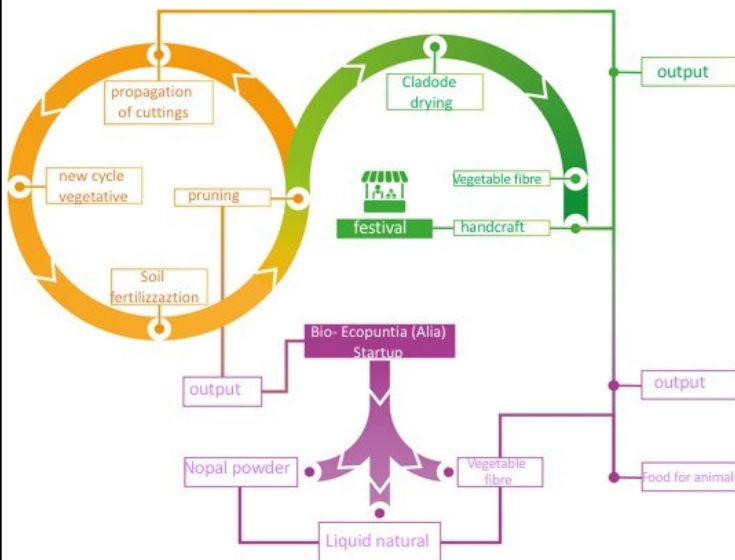
- the flowers for the decoctions and infusions that can be destined to the herbalist's shops;
- the seeds that are an output from fruit is extracted an oil that has nutraceutical properties that is rich in polyunsaturated fatty acids and vitamin E*;
- the mucilage to be applied, such as conservation of cultural heritage, pharmaceuticals, cosmetics, foods and biodegradable polymers;
- the cladodes to obtain a vegetable fiber.



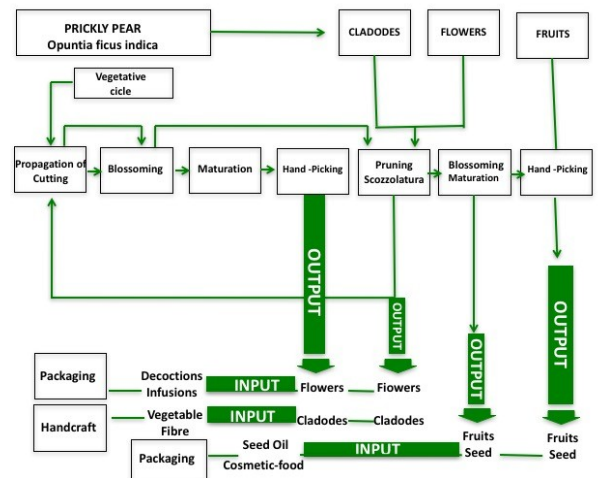
The embroidery was chosen to be used, where necessary, as an element of union for the manufacture and decoration of products, thus bring back a local tradition



The prickly pear fibre was applied to make a basket to carry, expose, and contain the prickly pear. The olive branch was used for the handle and the embroidery to join and decorate the parts that make up the basket.



Then the approach of Systemic Design has allowed to identify new productive chains that have led to the creation of the Bio-Ecopuntia S.R.L. startup, Alia (Pa). From the cladodes the Bio-Ecopuntia S.R.L. startup is able to extract natural elements: nopal powder, the natural liquid, vegetable fibre and the cuticle.



The results show that from output prickly pear there are some potentialities within the project and which could be further developed as input

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*TFI for human nutrition, have been developed, with the collaboration of a research team made of scientist in food and seed oil of chemists, biologists and pharmacists of the University of Palermo, Reggio Calabria and Marche.



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