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RELATING
SYSTEMS
THINKING
AND
DESIGN
7th
SYMPOSIUM

CHALLENGING
COMPLEXITY BY
SYSTEMIC DESIGN
TOWARDS
SUSTAINABILITY

TURIN
23-28.10.2018

Chiara L. Remondino
Barbara Stabellini
Paolo Tamborrini

EXHIBITION
**VISUALIZING
COMPLEX SYSTEMS**



**POLITECNICO
DI TORINO**

Department of
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Rice sector

System and new opportunities

Authors: **A. Aulisio, E. V. Bruno, L. Tong, C. Battistoni, S. Barbero**

University / Organization:
Politecnico di Torino, Italy

Keywords: **Systemic Design, Systemic Thinking, Industrial Process, Rice Transformation**

This analysis, performed in Piedmont region (Italy), shows in detail the process of rice transformation and the characteristics of every outputs. There are many opportunities for the realization of a project that involves several players in the analyzed area (Vercelli - Italy), because the “waste” produced during the processing of rice reaches high percentages (about 40%) compared to the total raw material entering the supply chain.

The analysis focuses on a company that already implements some good practices, for example a network contract that involves farmers and entrepreneurs, in order to carry on the Vercelli rice tradition, but with a vision to the future. This contract also allows for a well-organized control of the rice supply chain, from cultivation to final products.

Currently, the outputs deriving from this transformation are resold and reused, but not exploited, as they are outputs very rich in nutrients and chemical-physical characteristics exploitable for uses in sectors where they would acquire greater value (bioplastics, green building, food etc...). These are therefore quality outputs and as such they need a process designed in order to continue to accumulate value.

The research underlines all the possible uses and opportunities that the supply chain can offer, giving rise to both economic and environmental benefits and increasing the connections in the territory in what can be defined as a systemic vision.

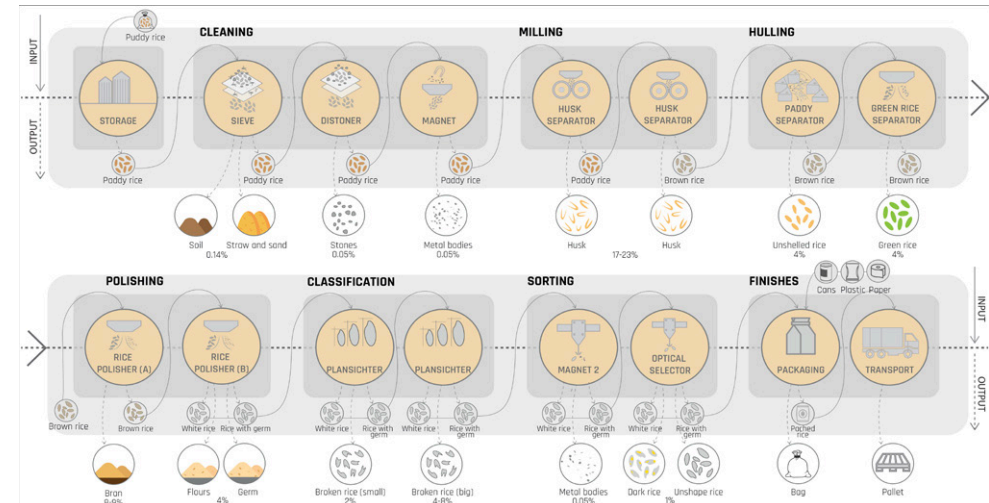


Fig. 1 Transformation of puddy rice and production of outputs

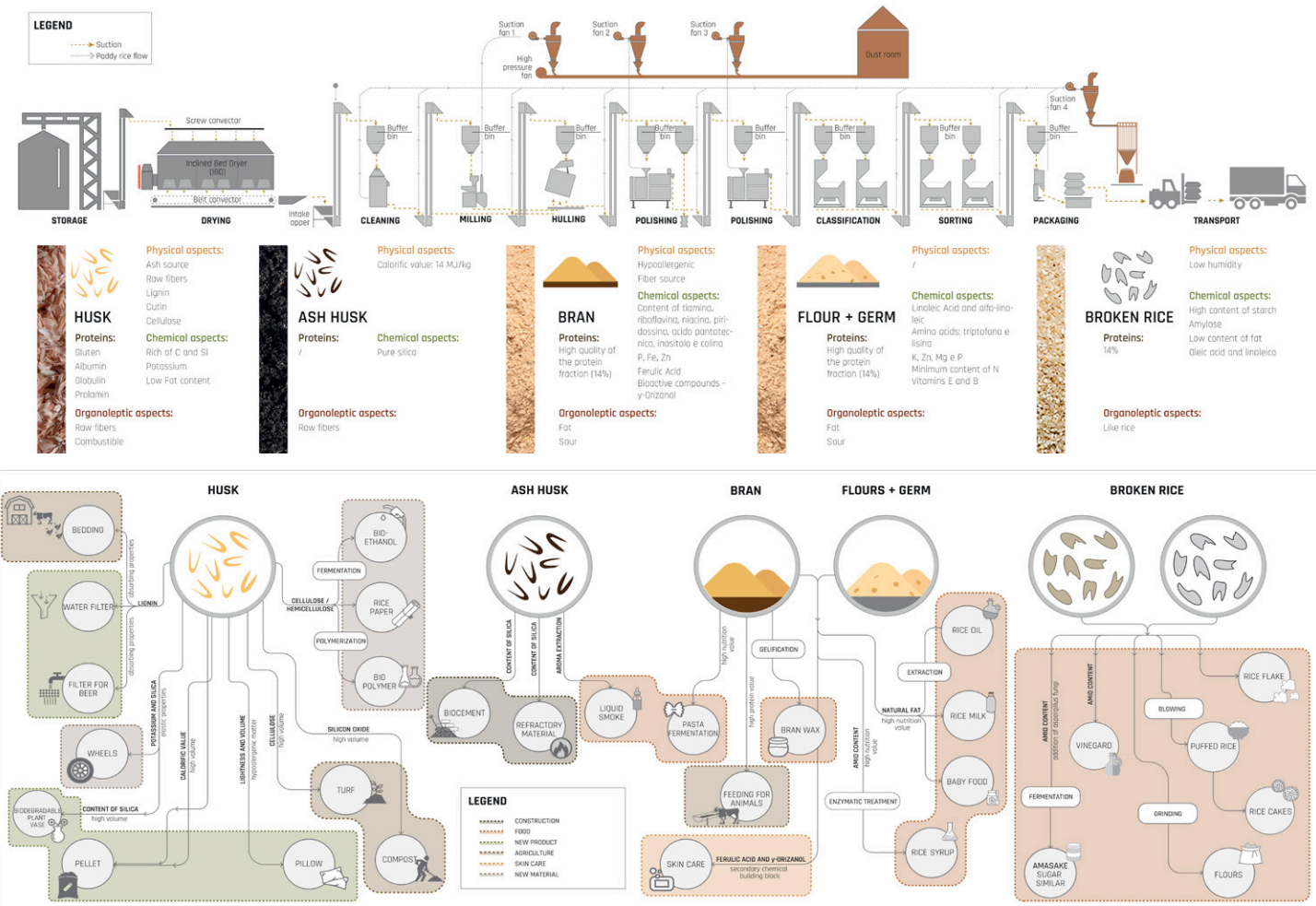


Fig. 2 Supply chain and properties of each outputs.
 Opportunities of each outputs

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