

CVORR

Complex Value Optimisation for Resource Recovery from Waste

CHALLENGE

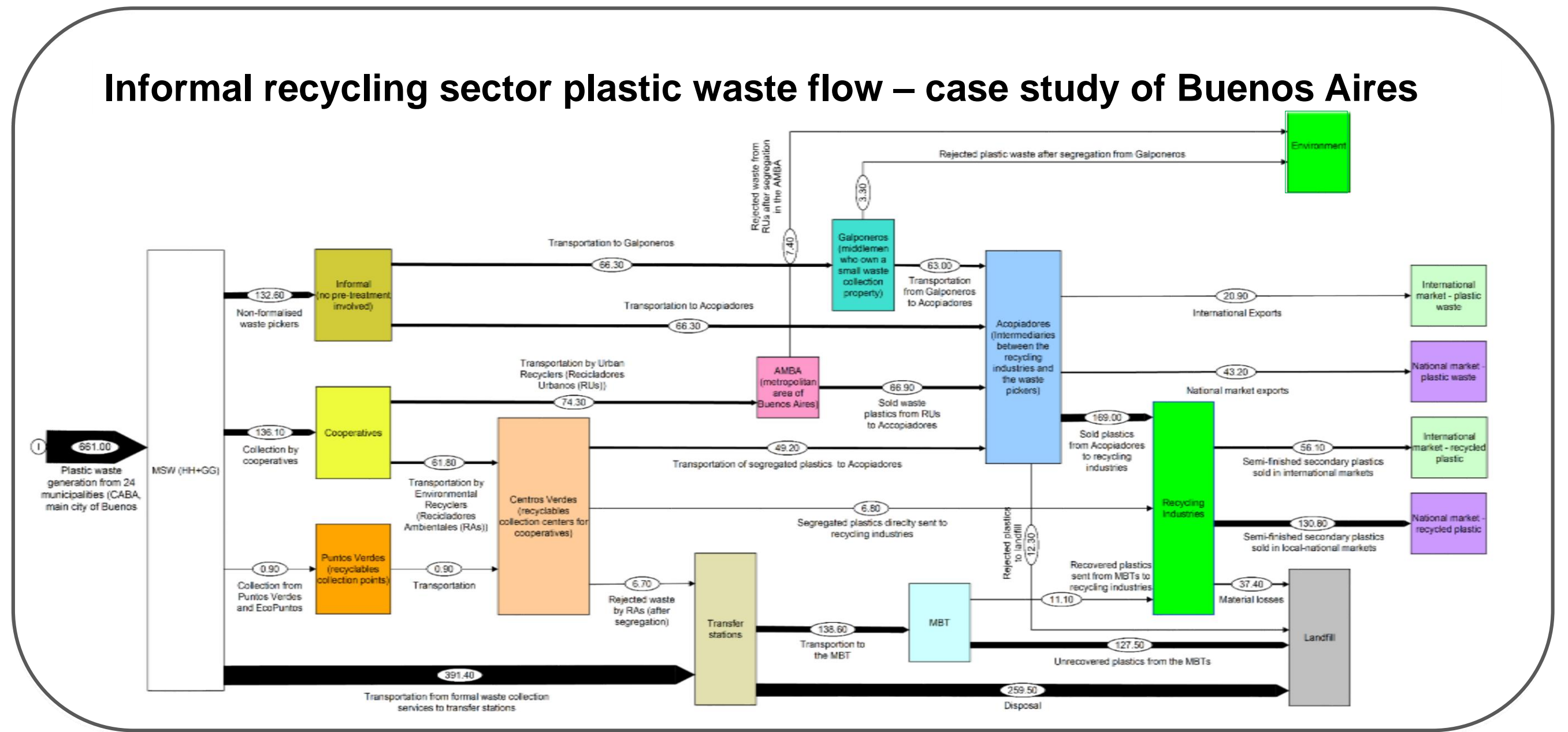
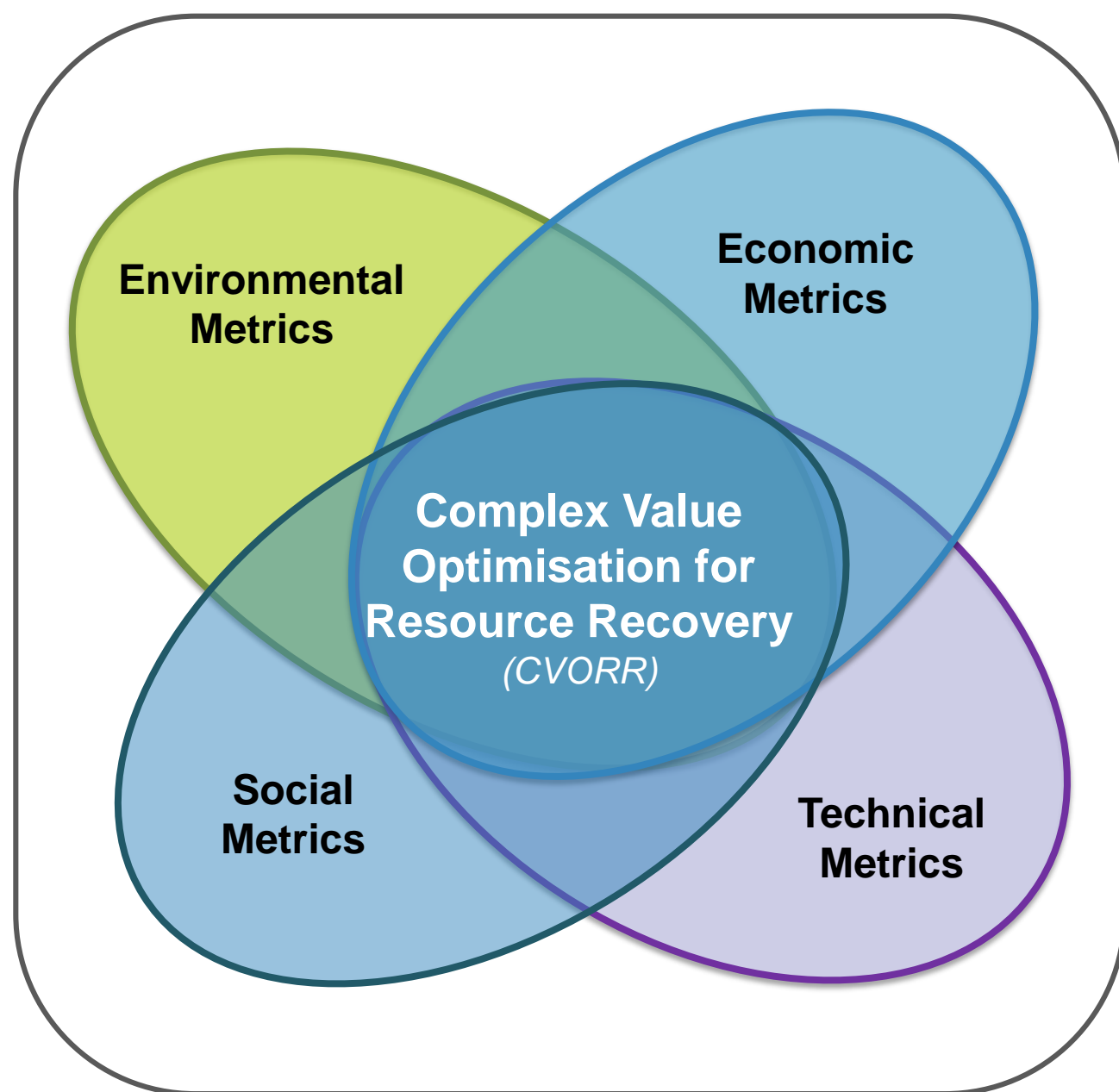
- Redefine value as a complex variable of environmental, economic, social and technical domains.
- Enable optimal circular economy paradigm using whole-systems approach, preventing dissipation of value into waste and maximising resource recovery.

AIM

- Produce novel methodology for systems analysis of resource recovery from waste systems
- Combine micro and macro flow measurements with assessment of multi-dimensional flow value.
- Produce toolkit for analysing resource recovery processes and optimisation of whole system complex value.

IMPACT

- CVORR multi-dimensional analysis can reveal informal recycling sector contribution to the circular economy.
- Helps policy makers make more informed decisions that maximise multidimensional benefits.
- Unveils 'hidden value' currently being dissipated in wider systems, inspiring new business models and opportunities.



DELIVERABLE

- CVORR framework and tool for evidence-based pathway to circular economy developed.
- Key stages in tool application: metrics selection and scenario development; identification of stocks and flows of products, materials and values; assessment and evaluation of embodied value saved and lost.

CASE STUDY

- Buenos Aires, Argentina
- More than 5,000 cartoneros registered in city, with further 5,000 estimated to be unregistered.
 - Cartoneros significantly contribute to plastic waste value chain, collecting 40% of total plastic waste generated by households and businesses.

OUTCOMES

- Development of generic plastics material flow diagram, applicable to all city income contexts, including circular economy in Global South.
- Publications produced for ISWA and Ellen MacArthur Foundation on circular economy of paper and plastics.
- Concept and method circulated through ISWA International Knowledge Exchange Workshops.



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