

Interlinking ecosystem services and Ostrom's framework through orientation in sustainability research

Klara J. Winkler^a and Stefan Partelow^{b,c}

a University of Oldenburg

b Leibniz Center for Tropical Marine Ecology (ZMT)

c Jacobs University

@kj_winkler

klara.johanna.winkler@uni-oldenburg.de

Outline

- Social-ecological systems
- ES cascade & diagnostic SES Framework
- SES research in sustainability science
- Interlinking ES and SESF

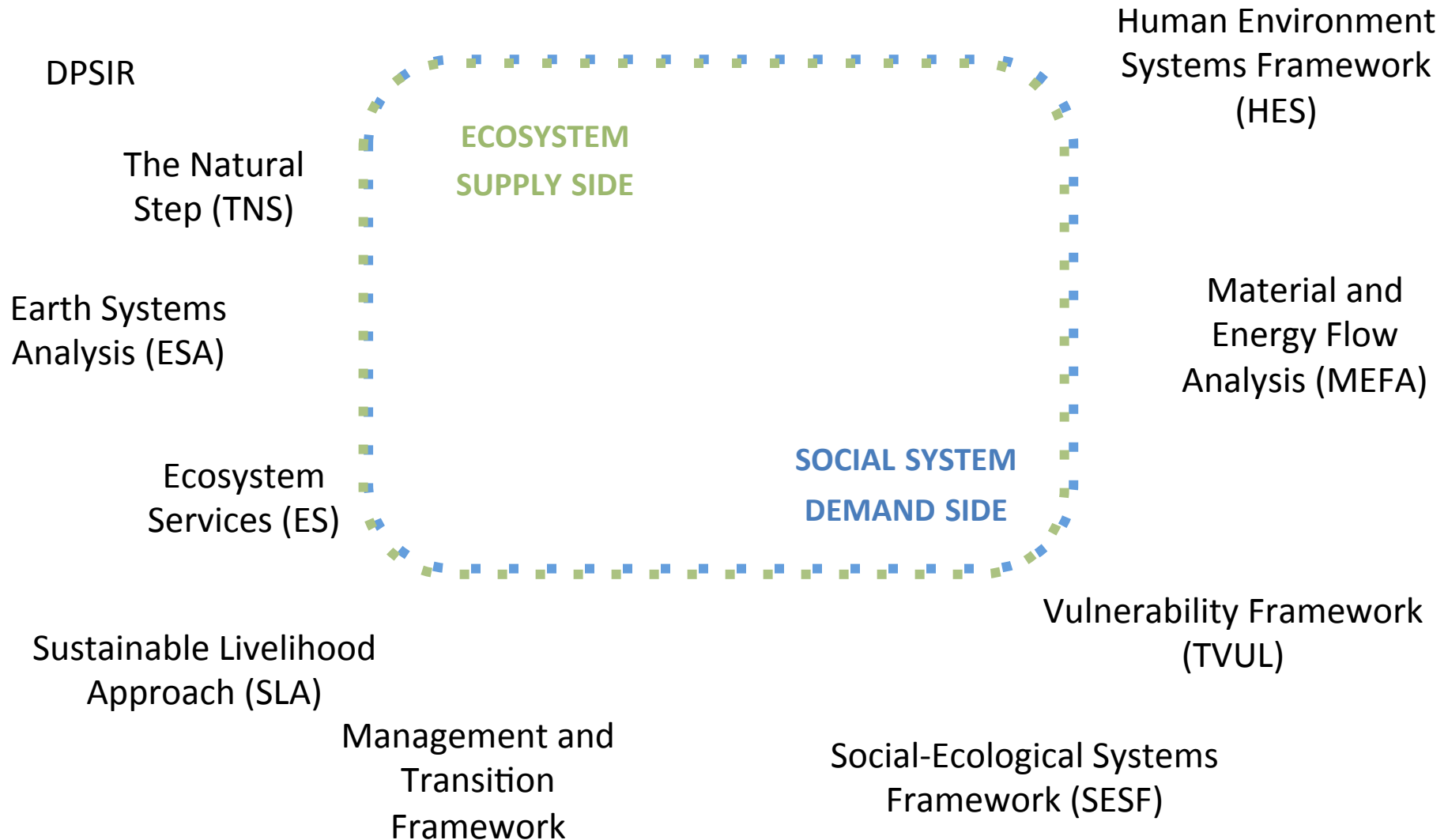
Social – ecological system thinking



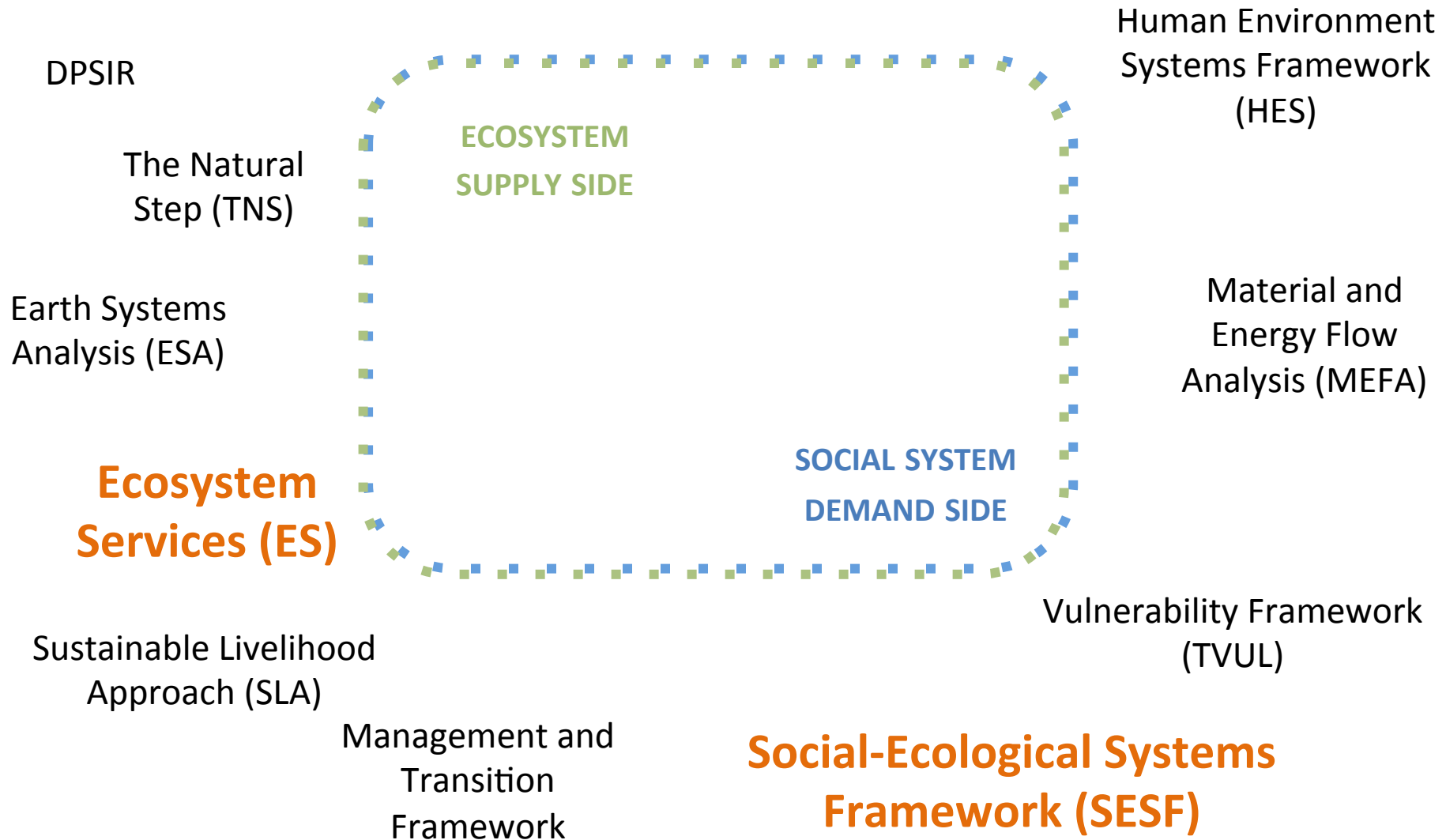
Social – ecological system thinking



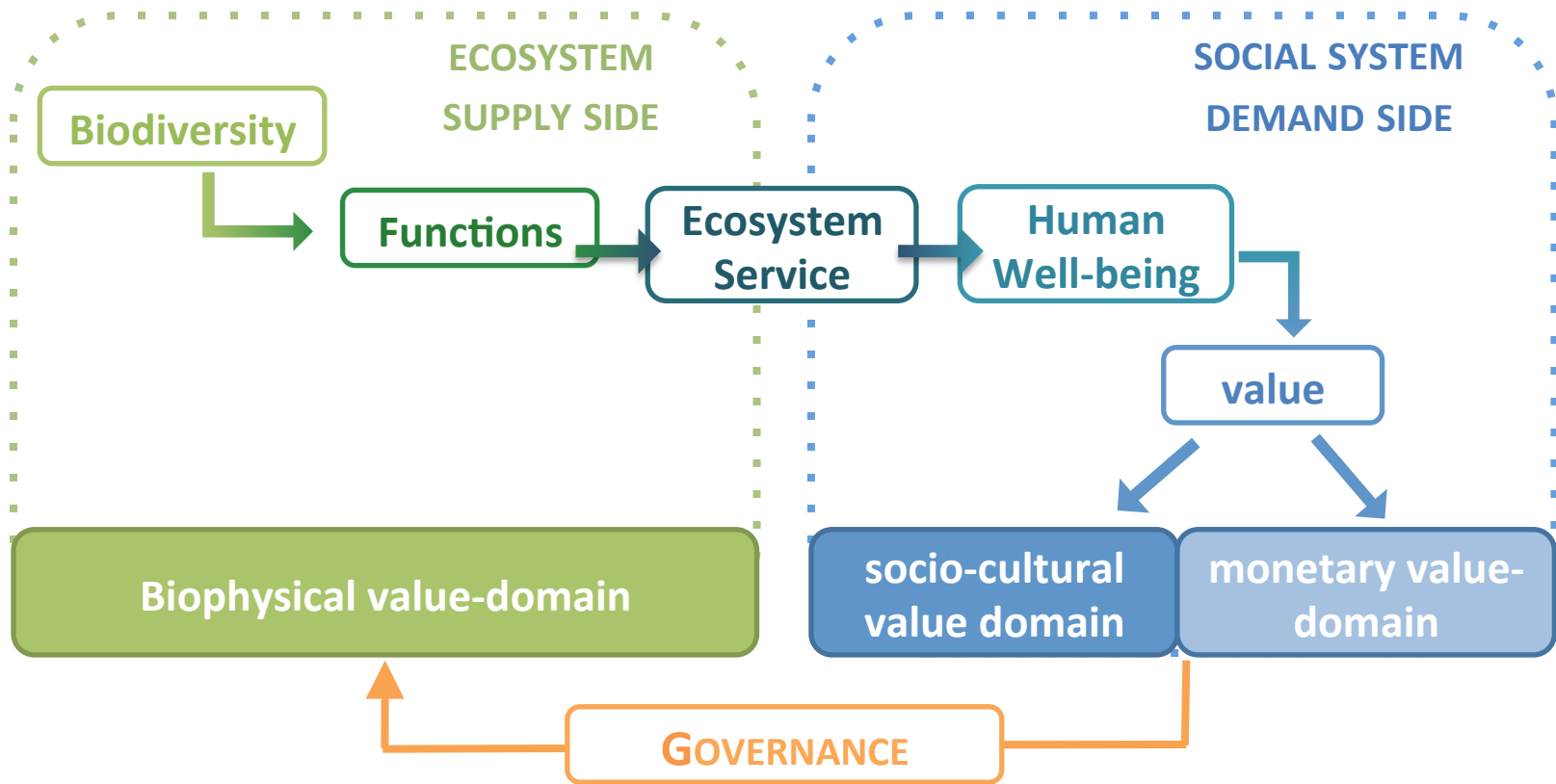
Social – ecological system thinking



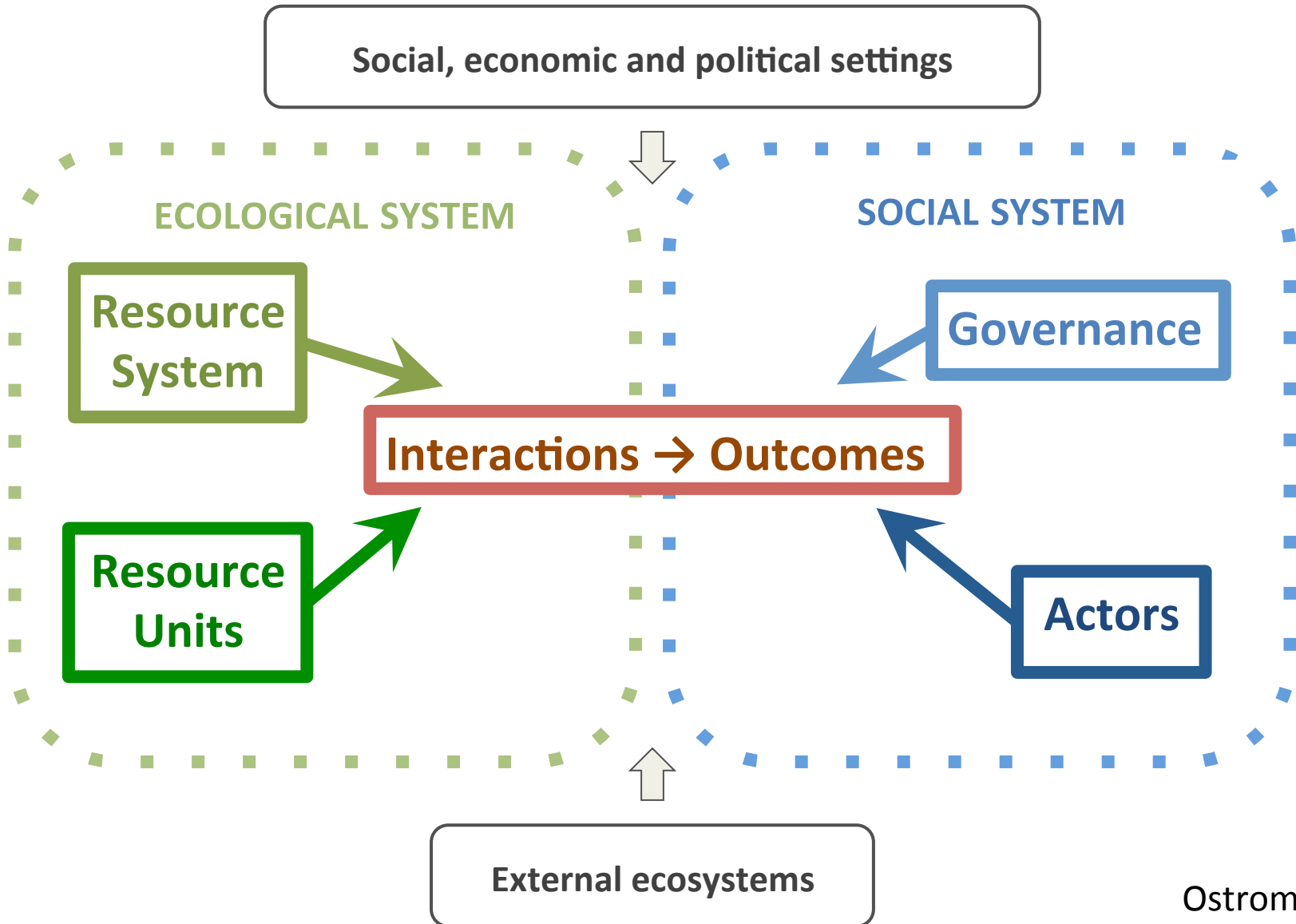
Social – ecological system thinking



ES cascade



Diagnostic SES Framework (SESF)

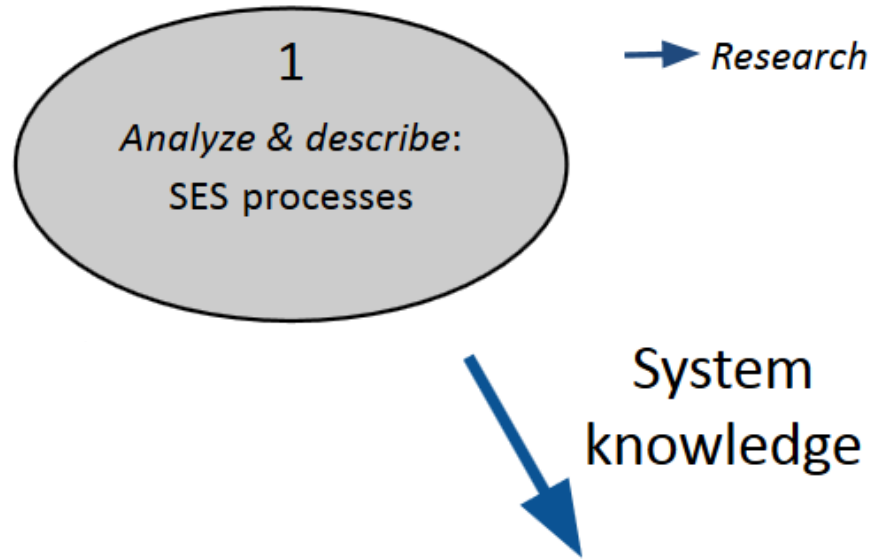


SES research in sustainability science

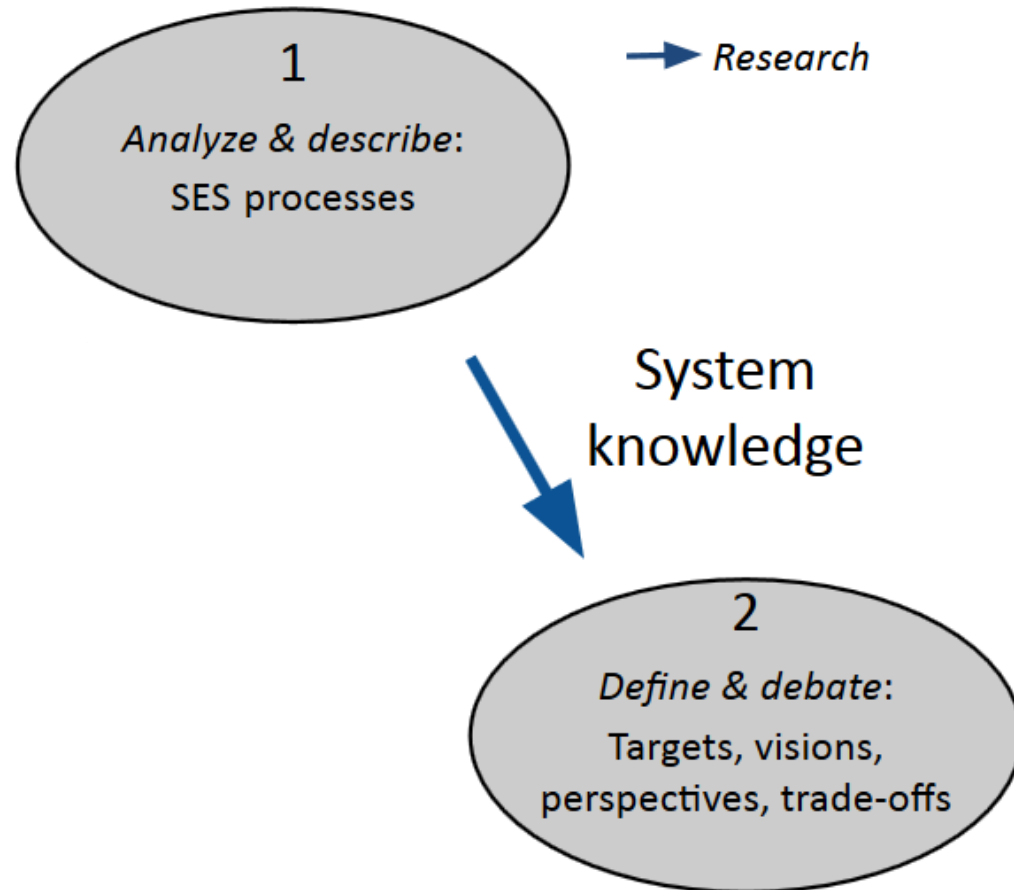
1

Analyze & describe:
SES processes

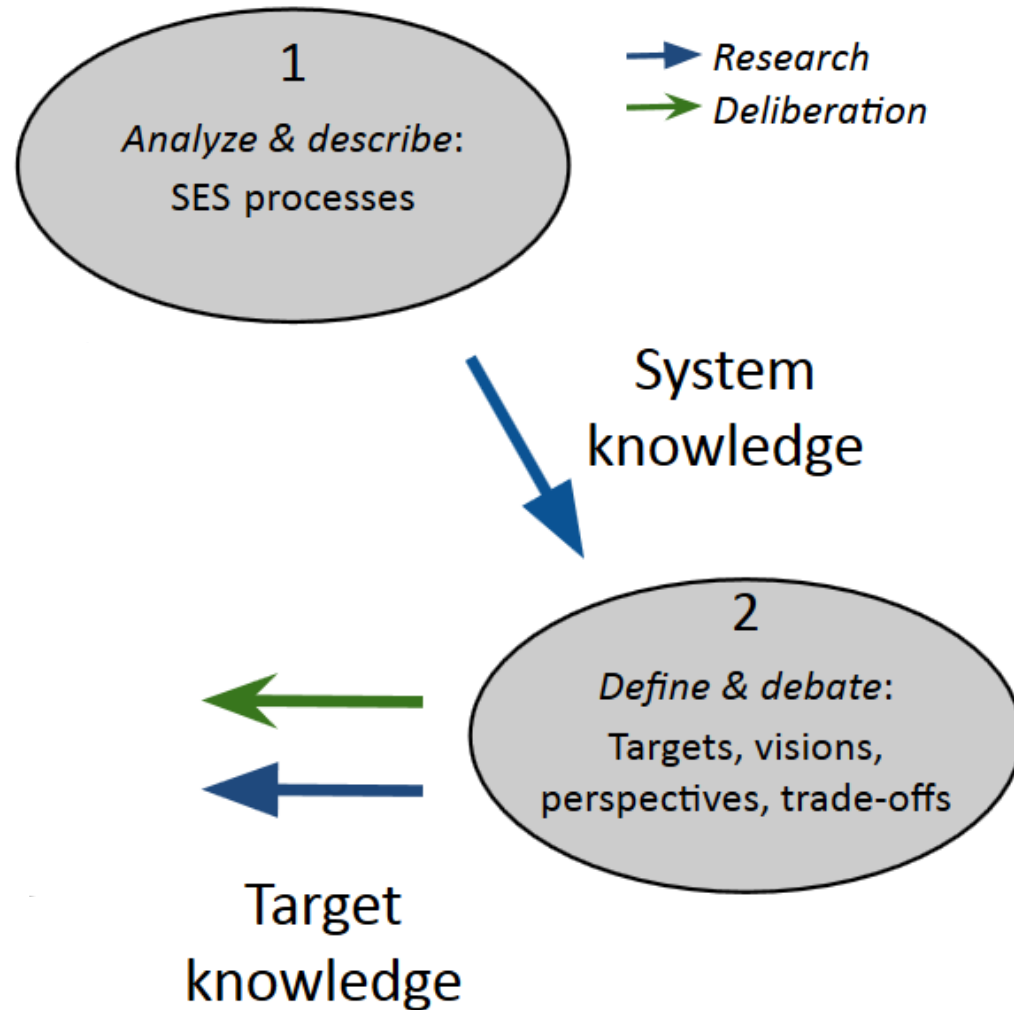
SES research in sustainability science



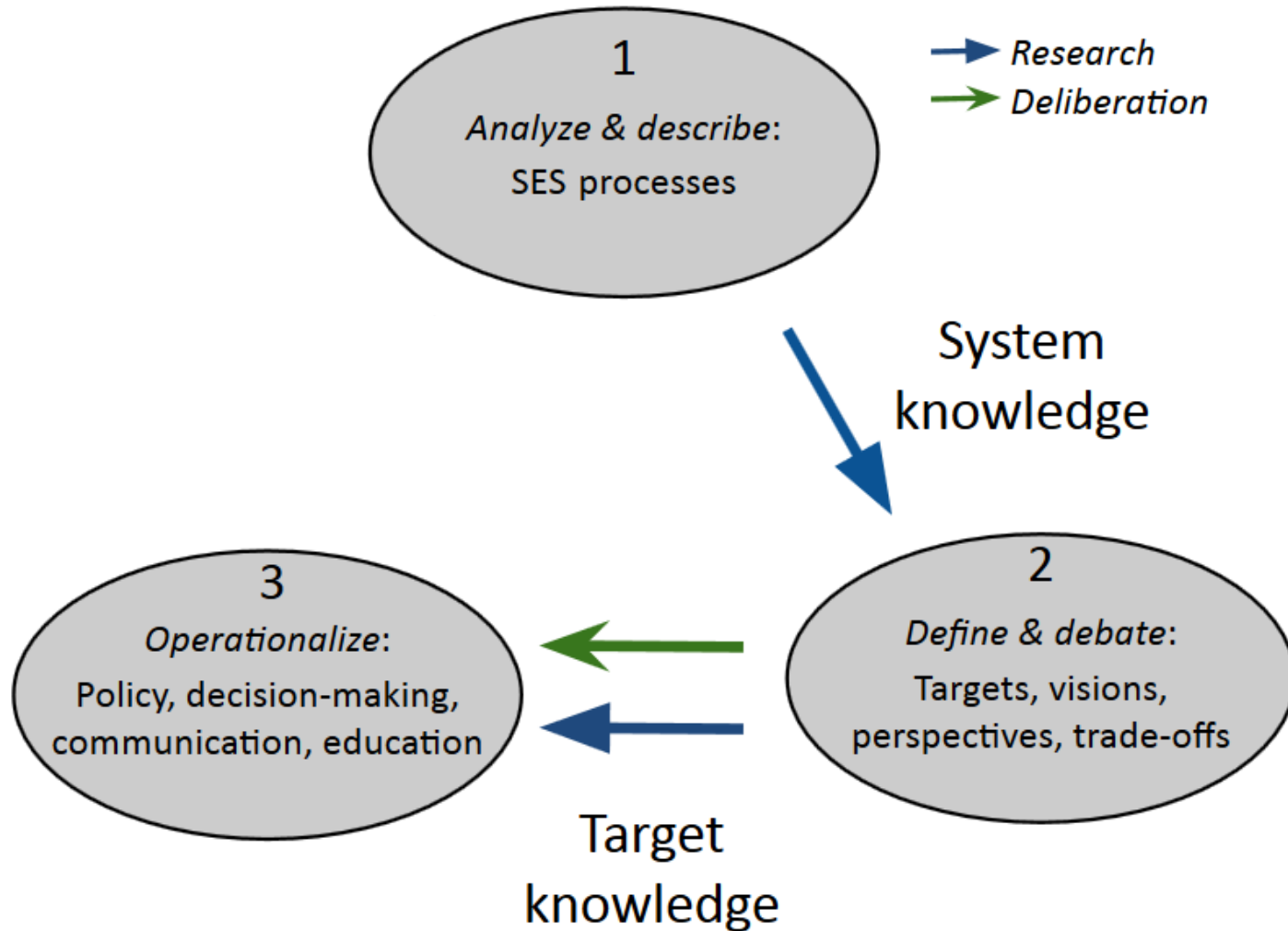
SES research in sustainability science



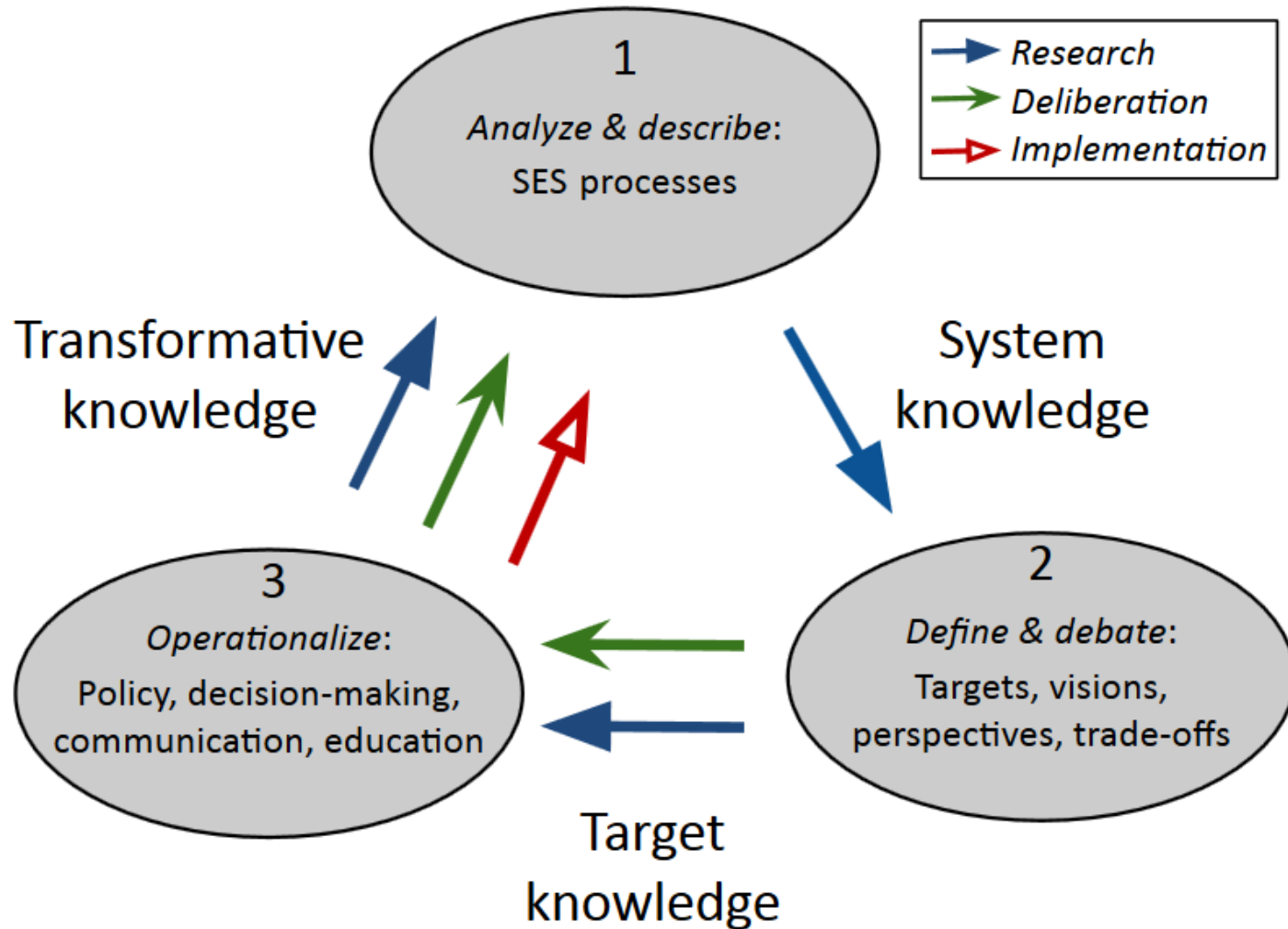
SES research in sustainability science



SES research in sustainability science

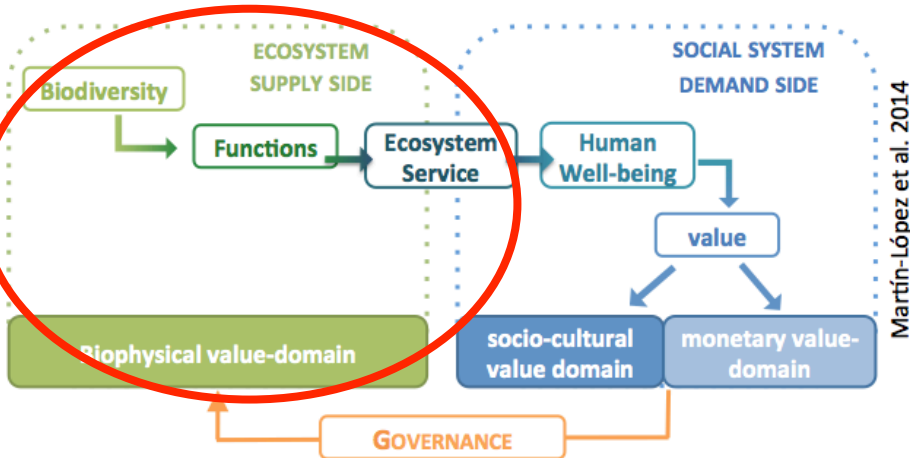


SES research in sustainability science



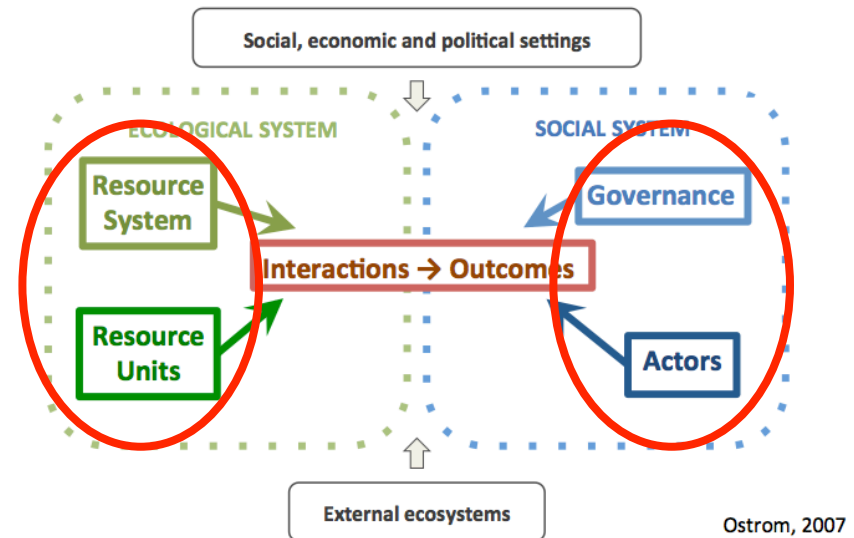
System knowledge

Ecosystem Services



- Understanding of ecosystem/ supply side
- Assessment of ecosystem services (based on ES classification, e.g. CICES)

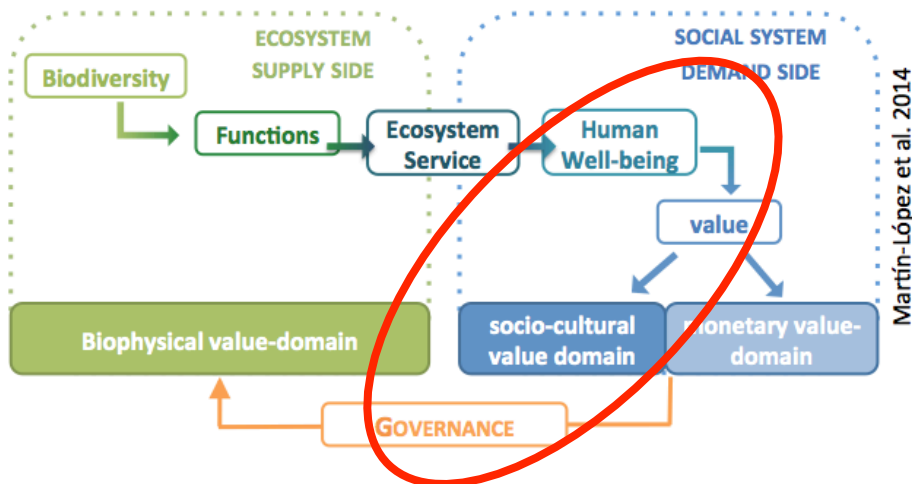
Diagnostic SES Framework



- Description of:
- Resource system
 - Resource units
 - Governance
 - Actors

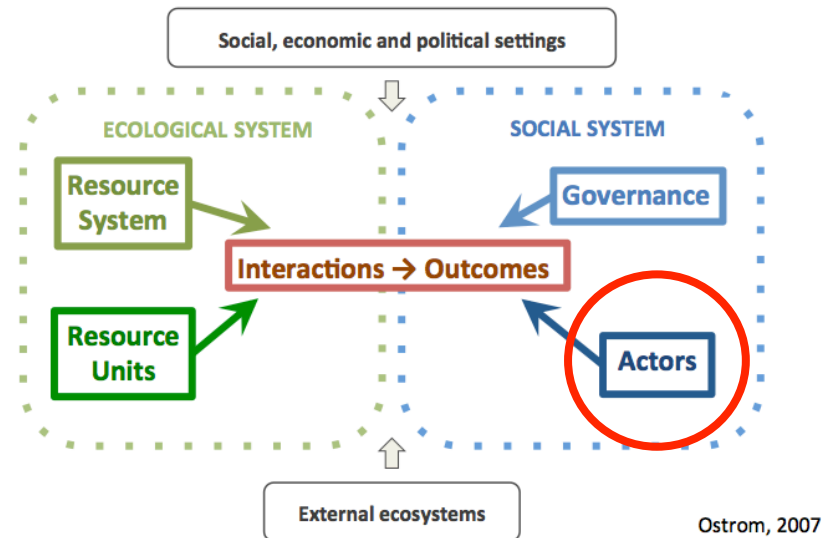
Target knowledge

Ecosystem Services



- identification of perceived ES benefits
- adaptation of governance process through stakeholders' perspectives

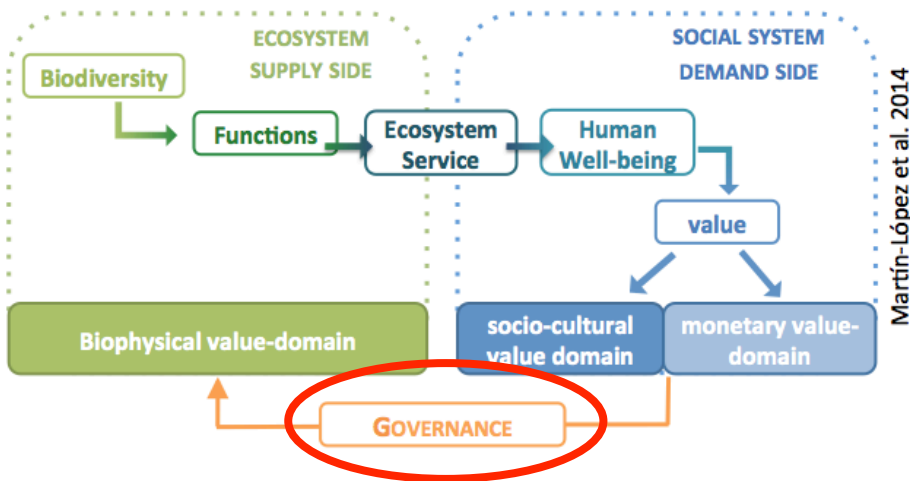
Diagnostic SES Framework



Actors' perspectives, goals & values

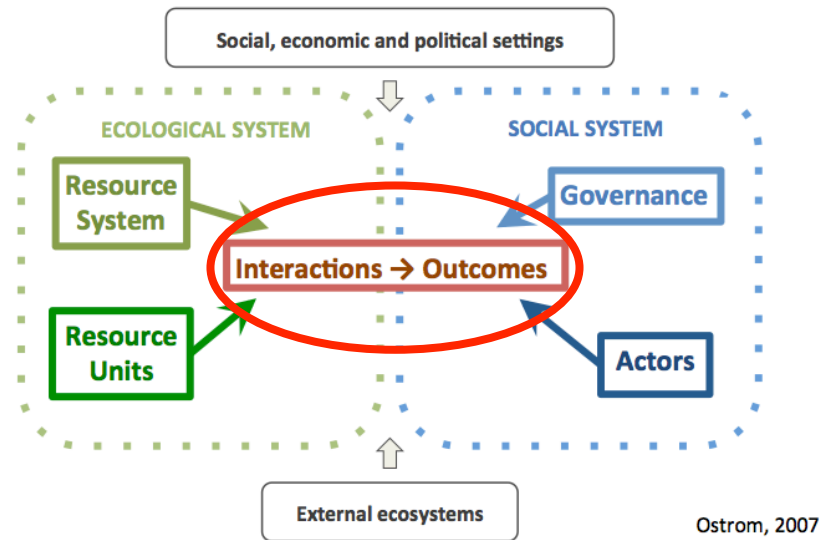
Transformative knowledge

Ecosystem Services



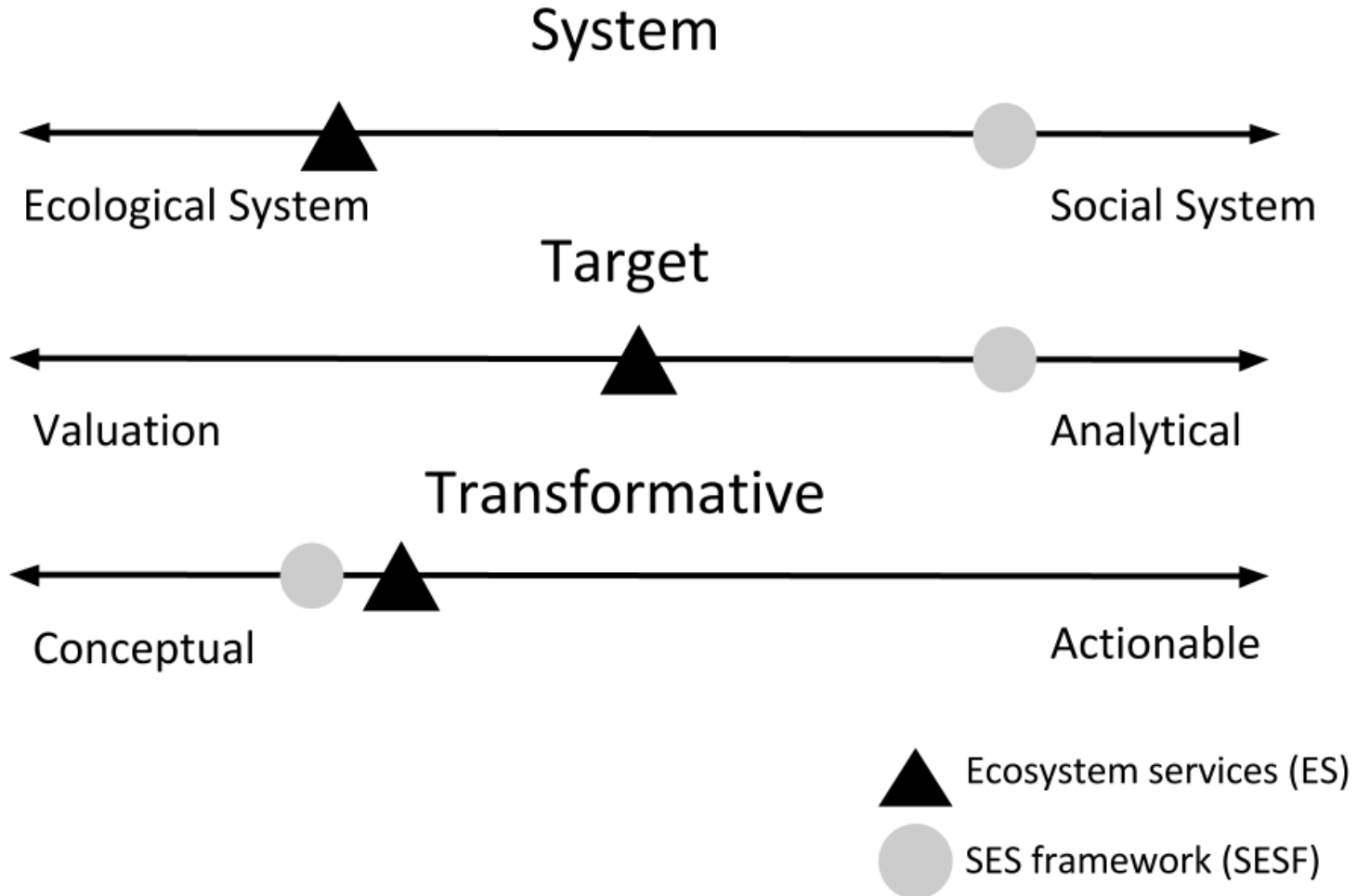
policy pathways, communication paths
between actors

Diagnostic SES Framework



- reconciling trade-offs between different goals & values
- identification of governance pathways
- education

SES knowledge



Compatibility of ES and SESF

What ES can learn from SESF

- incorporate standardized approach to social system
- specify social system & governance stage
 - services-to-ecosystems

What SESF can learn from ES

- expand on ecosystem functioning as fundamental basis for SES
- broaden value domains: not only economic, but also biophysical & socio-cultural

What ES & SESF both can improve

engage more with transformative knowledge application

THANK YOU!

Interlinking ecosystem services and
Ostrom's framework through
orientation in sustainability research

Klara J. Winkler and Stefan Partelow

@kj_winkler

klara.johanna.winkler@uni-oldenburg.de

References

- Binder, C.R., Hinkel, J., Bots, P.W.G., Pahl-Wostl, C., 2013. Comparison of frameworks for analyzing social-ecological systems. *Ecol. Soc.* 18. doi:10.5751/ES-05551-180426
- Martín-López, B., Gómez-Baggethun, E., García-Llorente, M., Montes, C., 2014. Trade-offs across value-domains in ecosystem services assessment. *Ecol. Indic.* 37, 220–228. doi:10.1016/j.ecolind.2013.03.003
- Ostrom, E., 2007. A diagnostic approach for going beyond panaceas. *Proc. Natl. Acad. Sci. U. S. A.* 104, 15181–15187. doi:10.1073/pnas.0702288104