the potential solutions). When applied to coupled socio-environmental systems, DSS typically incorporate a combination of numerical models, a geographic information system, data management, and one or more decision tools (such as optimization, multi-criteria methods, scenario formulation, valuation, Bayesian networks, and rule-based models). The application of decision support to socio-environmental systems entails additional challenges, including bridging epistemologies from varied research traditions; combining quantitative and qualitative methods and data; capturing systemic, non-linear change; and integrating human dimension perspectives (Elsawah et al. 2020).

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Further reading

French & Geldermann 2005; McIntosh et al. 2011.

See also: Decision-oriented optimization models, Models and modeling, Management science.

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Decommodification

The process by which entities or services become immunized from market dependency. Sometimes also called decommoditization. Commons, co-operatives, state forests, and municipal land are examples of (at times partial) decommodified assets that do not follow the logic of the market (Gerber & Gerber 2017). Decommodification tends to diminish the pressure to generate financial profit; it can give more leeway for communities to manage their resources, and it can allow a new balance between short- and long-term objectives. Ecological economist Karl William Kapp (1950) argued in favor of decommodification: for him, a decommodification of the economy—either partial or wide-ranging—can, if properly done, overcome the incapacity of the market to meet basic human needs for all as well as longer-term ecological sustainability.

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Further reading

Bliss & Egler 2020; Vail 2010.

See also: Commodification of nature, Common property, Private property, Ownership, Commons, the, Market, Community forestry.

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Decoupling economic growth

The delinking of economic growth (measured by gross domestic product, GDP) from resource use and/or environmental impacts. Where resource use or environmental impacts increase with GDP, but at a slower rate, the decoupling is said to be relative. Where they reduce even as GDP increases, then decoupling is said to be absolute. The result of decoupling is using less resources per unit of