

It's helpful to understand how the commons, market, and state manage resources differently, and not just for those who consider themselves primarily as a commons. For businesses or governmental organizations who want to engage in and use the commons, knowing how the commons operates will help them understand how best to do so. Participating in and using the commons the same way you do the market or state is not a strategy for success.

The Four Aspects of a Resource

As part of her Nobel Prize-winning work, Elinor Ostrom developed a framework for analyzing how natural resources are managed in a commons.⁶ Her framework considered things like the biophysical characteristics of common resources, the community's actors and the interactions that take place between them, rules-in-use, and outcomes. That framework has been simplified and generalized to apply to the commons, the market, and the state for this chapter.

To compare and contrast the ways in which the commons, market, and state work, let's consider four aspects of resource manage-

ment: resource characteristics, the people involved and the process they use, the norms and rules they develop to govern use, and finally actual resource use along with outcomes of that use (see Fig. 2).

Characteristics

Resources have particular characteristics or attributes that affect the way they can be used. Some resources are natural; others are human produced. And—significantly for today's commons—resources can be physical or digital, which affects a resource's inherent potential.

Physical resources exist in limited supply. If I have a physical resource and give it to you, I no longer have it. When a resource is removed and used, the supply becomes scarce or depleted. Scarcity can result in competing rivalry for the resource. **Made with Creative Commons** enterprises are usually digitally based but some of our case studies also produce resources in physical form. The costs of producing and distributing a physical good usually require them to engage with the market.

Physical resources are depletable, exclusive, and rivalrous. Digital resources, on the other hand, are nondepletable, nonexclusive, and nonrivalrous. If I share a digital resource with you, we both have the resource. Giving it to you does not mean I no longer have it. Digital resources can be infinitely stored, copied, and distributed without becoming depleted, and at close to zero cost. Abundance rather than scarcity is an inherent characteristic of digital resources.

The nondepletable, nonexclusive, and non-rivalrous nature of digital resources means the rules and norms for managing them can (and ought to) be different from how physical resources are managed. However, this is not always the case. Digital resources are frequently made artificially scarce. Placing digital resources in the commons makes them free and abundant.

Our case studies frequently manage hybrid resources, which start out as digital with the possibility of being made into a physical resource. The digital file of a book can be print-



Fig. 2. Four aspects of resource management.