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Document Version

Final published version

Citation (APA)

Pigmans, K., Aldewereld, H., Doorn, N., & Dignum, V. (2016). The role of values. In *Proceedings of the 28th Benelux Conference on Artificial Intelligence: BNAIC 2016* (pp. 178-179)

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The role of values

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August 29, 2016

Accepted for the workshop Coordination, Organisations, Institutions and Norms (COIN) 2016, during ECAI 2016.

1 Abstract

Decision-making processes in policy making with multiple-stakeholders can be complex because of the technically advanced systems that are decided upon, e.g. water management systems. But the complexity is often also caused by social dependencies and interests at stake. This can lead to processes in which stakeholders firmly defend their interests, resulting in behavior that is so defensive that it severely blocks the process. For this reason, policy makers are trying to find a different approach.

Research suggest that making values explicit during the process could influence the process by increasing the social acceptance of the outcomes [3, 4, 6]. Still, the role of values in multi-stakeholder decision-making processes has not been described in clear terms. In this research we present a conceptual model as the first step to understand the role of values in these processes. In this model we identify the relevant concepts and their relations.

In the field of normative multi-agent systems, values have been discussed by [1] and [2]. We elaborate on this discussion by describing the explicit use of values in multi-stakeholder decision-making processes for policy making.

Based on [7], we identified the following concepts as part of a multi-stakeholder decision-making process to come to a policy:

- Values: enduring beliefs that certain end-states are personally or socially preferable to an opposite end-state [8], e.g. justice vs injustice.
- Value conceptions: interpretation of the value, the arguments for how the value should be interpreted in practice [5]
- Context: physical and social setting in which one lives or in which something happens or develops, including culture and people and institutions one interacts with.
- Vision: institutional objective
- Collective decision-making process: the process of getting to a decision, which can take decades and can include meetings, discussions, deliberations, one-to-one meetings, newsletters, informative events and compensation negotiations.
- Collective action: action that has been agreed upon by the stakeholders at the end of the decision making process.
- Norms: regulate the behavior of agents by describing the actions they must (or must not) execute in specific situations.
- Agent: represents stakeholders or groups of stakeholders
- Individual action: action taken by the agent based on its personal norms

Relating these concepts to one another to depict the multi-stakeholder process, results in the conceptual model depicted in Figure 1. The conceptual model has both an individual structure, describing the concepts that are relevant for the individual agents, as well as a collective structure representing the collective

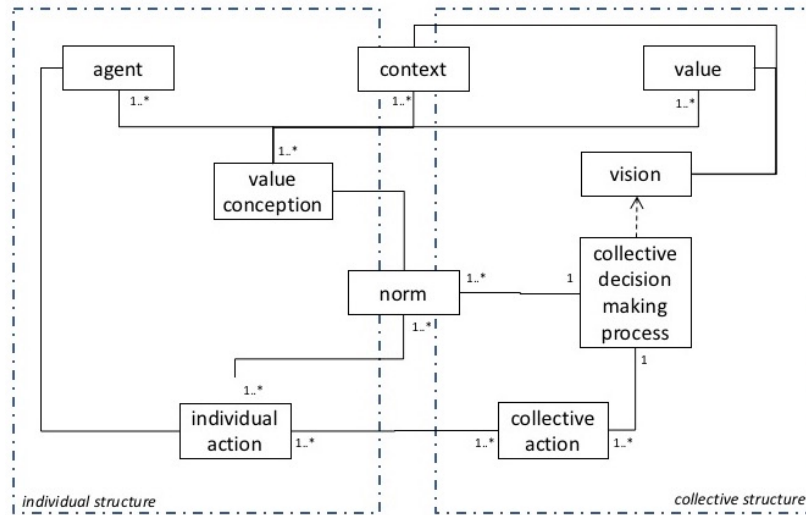


Figure 1: Conceptual model

concepts of the decision-making process. The concepts ‘context’ and ‘norms’ are part of both structures and connect the two structures.

This conceptual model is the first step to identify the relevant concepts and to understand the relation between these concepts. The next step will be to add institutions to the model, including roles that agents have and rules that are relevant. This will support us in developing a formal model of values in multi-stakeholder decision-making processes, which we need in order to be able to reason about such processes.

References

- [1] K. Da Silva Figueiredo and V. Torres da Silva. Identifying conflicts between norms and values. In *Coordination, Organizations, Institutions, and Norms in Agent Systems IX*. Springer International Publishing., 2013.
- [2] F. Dechesne, G. Di Tosto, V. Dignum, and F. Dignum. No smoking here: values, norms and culture in multi-agent systems. *Artificial intelligence and law*, 21:79–107, 2013.
- [3] N. Doorn. Governance experiments in water management: From interests to building blocks. *Science and Engineering Ethics*, 22(3):755–774, 2016.
- [4] L. Glenna. Value-laden technocratic management and environmental conflicts: The case of the new york city watershed controversy. *Science, Technology & Human Values*, 35(1):81–112, 2010.
- [5] M. Jacobs. Sustainable development as a contested concept. In A. Dobson, editor, *Fairness and futurity*. Oxford university press, 1999.
- [6] I. Oosterlaken. Applying value sensitive design (VSD) to wind turbines and wind parks: An exploration. In *Science and Engineering Ethics*, volume 21. Springer, 2015.
- [7] K. Pigmans, N. Doorn, H. Aldewereld, and V. Dignum. Decision-making in water governance: from conflicting interests to shared values. In M.J. Van den Hoven and L. Asveld, editors, *Responsible innovation 4*. Springer, 2017. forthcoming.
- [8] M. Rokeach. *The nature of human values*. New York: Free Press, 1973.