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Participatory mapping: A tool for participatory policy development in protected areas

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In this PhD-Thesis, we investigate participatory mapping as a tool to facilitate spatial planning. In our approach, recent aerial photos serve as a basis for the mapping. Participants then contribute by drawing areas on top of the orthophotomap. As an example, we investigate the agricultural policy development in the val Müstair, a biosphere reserve in the Swiss mountains. There, the area used for arable farming decreased by over 50% from 1990 to 2010. Literature shows, that arable farming contributes to various ecosystem services, such as cultural heritage, education, knowledge systems, genetic resources, and aesthetic landscapes. At the same time, it draws on those services. In the future, -upon request of the local stakeholders- Swiss agricultural policy subsidizes arable farming in the mountains. We now investigate the question: Which sites would most probably be used for arable farming and, do they fit into the overall management plan of the biosphere reserve?
For our participatory mapping exercise, various stakeholders marked potential arable farming areas on the orthophotomaps. We asked 17 farmers to mark areas likely to be used for arable farming in the near future, and to talk about the importance of arable farming for the landscape, as well as the preservation of plant genetic resources in the area. We thus draw a more complete picture of possible policy measures to increase and the provision of multiple ecosystem services.