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## A “web-enabled” sociohydrological model on the system dynamics of a smallholder farmer

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We present a “web-enabled” sociohydrological model that can help us to better understand the system dynamics of a smallholder farmer. It couples the dynamics of the six main assets of a typical smallholder farmer: water storage capacity, capital, livestock, soil fertility, grazing access, and labor. The hydroclimatic variability, which is a main driver and source of uncertainty of the smallholder system, is accounted for at subannual scale. The model incorporates rule-based adaptation mechanisms of smallholders (for example, adjusting expenditures on food and fertilizers and selling livestock) when farmers face adverse sociohydrological conditions, such as low annual rainfall, occurrence of dry spells, or variability of input or commodity prices.

The novelty presented is that the model has been enabled with remote access to the relevant modelled information through the world wide web, making it accessible to anyone with access to the internet without dealing with the complexity of installing or running models on one’s own machine. We present the sociohydrological model along with a first set up of the webserver, which is written in python (Django), to demonstrate how we envision sociohydrology to be brought to the people - literally at their fingertips.