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Pauline Bremond, G. Abrami, C. Blanc, F. Grelot

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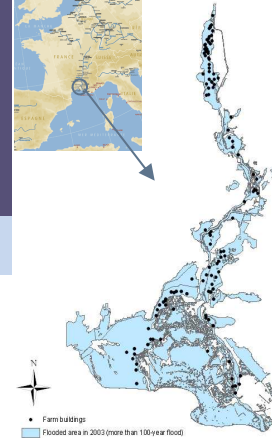
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Modelling vulnerability to flooding: a systemic approach on farms of the Rhône River Delta

Bremond P.*, Abrami G.*, Blanc C.*, Grelot F.*



Rhône River delta: 3 000 farms are potentially exposed to flood risk.

1 Agriculture and flood risk on Rhône River Delta

Equipment elevation



Policies implemented on Rhône River Delta:

- Floodplain restoration
 - Adaptation (vulnerability mitigation)
- Complex effects which concern all farm components and farm recovery

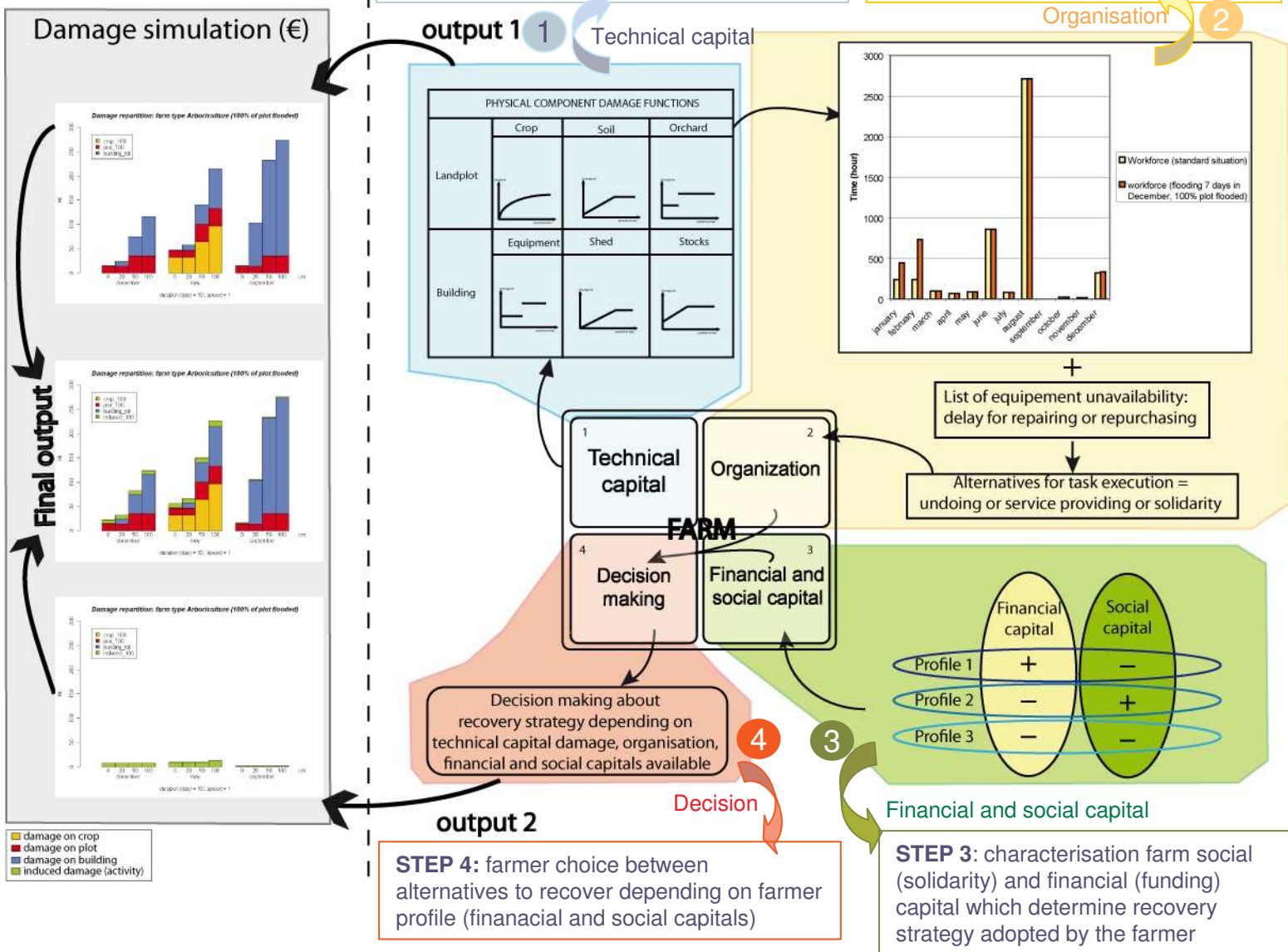
2 Conceptual modelling and damage simulation

STEP 1: characterization of flood damage on farm technical capital (damage functions):

- change of status (normal => damaged)
- simulation of damage (€) =output 1

STEP 2: consequences of on farm organisation

- increase in workforce requirement
- equipment unavailable



3 Applications and conclusions

- Characterization of farm vulnerability for different flood scenarios (damage type that represents the larger share of the total amount, see damage simulation)
- Efficiency appraisal (Cost Benefit Analysis) of measures to mitigate farm vulnerability that are planned on Rhône River Delta: comparison of the cost of implementation and maintenance and the mean annual avoided damage for two farm types

* UMR G-EAU (Montpellier)

Contact: pauline.bremond@cemagref.fr