

PITT DIFFUSION OF RESEARCH

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SUMBER: TEEAL

1. **Surveillant science: challenges for the management of rural environments emerging from the new generation diffuse pollution models**

Source: Journal of Agricultural Economics. 2006. 57 (2). 239-257

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Abstract: Current models of diffuse pollution are characterised by a progressive engagement with remotely-sensed data coupled with more elegant modelling approaches. Central to these new models is the concept of connectivity, which leads to the identification and prioritisation of those landscape units (e.g., fields) where the consequences of land management activities are most readily transmitted to watercourses. The practice of diffuse pollution modelling using such models encounters certain problems. Following Brewer (1999) we argue that interdisciplinarity offers the opportunity to overcome these problems through: (1) its explicit recognition of the framing implicit in model development; (2) an emphasis on context in problem-solving; (3) methodological pluralism; and (4) following from these other factors, the possibility of a different sort of engagement between land managers and modellers. Hence, the case for developing interdisciplinary approaches goes beyond the conventional dictates of problem-led research and points to very different ways of conducting diffuse pollution research, taking on board the full dimensions of interdisciplinarity, with its emphasis on reflexivity, contextuality, substance and engagement. The Sensitive Catchment Integrated Modelling Analysis Platform (SCIMAP) approach is illustrated with a case study of the River Ure in

Descriptors: case-studies. environmental-management. interdisciplinary-research. models. pollution. rivers. rural-environment. water-pollution. water-quality

2. **Diffusion and spillover of new technology: a heterogeneous-agent model for cassava in West Africa**

Source: Agricultural Economics. 2006. 35 (2). 119-129

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Abstract: Understanding what determines the geographic spread of innovations can help guide the funding and implementation of research and extension programmes. Our approach uses household survey data as model parameters, to simulate behaviour across the entire surveyed population and avoid the aggregation bias associated with representative-farm models. Such a "heterogeneous agent" approach allows us to infer the distribution of a technology's impacts across one set of households, and predict the potential for spreading to another set that shares similar characteristics with respect to natural resource endowments and farming systems. We apply the technique to new cassava varieties in West Africa, finding a strongly poverty-alleviating impact, with substantial spillover potential from Nigeria to neighbouring countries (Ghana and Cote d'Ivoire)

Descriptors: agricultural-households. cassava. crop-production. diffusion-of-research. economic-impact. extension. income. innovation-adoption. innovations. new-cultivars. simulation-models. technical-progress. technology-transfer