**PhD Draft Chapters**

1. Romania Empirical paper: Contracts for supplying Farm Animal Genetic Resources (FAnGR) conservation services in Romania

The chapter explores the barriers to participate in rare breed conservation programmes for farmers in small scale semi-subsistence systems in Romania. We use a choice experiment (CE) to determine attributes of a conservation contract which may be less or more desirable from a farmer perspective whilst also measuring WTA conservation subsides. The former are used to inform design of optimal contracts whilst the latter are contrasted with subsidy payment rates (Euro/head livestock/year) proposed by the EU for keeping rare breeds. We address suitable targeting of farmers for such contracts through assessment of socioeconomic variables and how this may influence probability of contractual enrolment among farmers.

Completeness: 90%

Expected completion date: October 2017

1. Institutions review paper: Valuing rare livestock breeds and farm animal genetic diversity: preferences, institutions and prospects

The chapter focuses on the distinction between ‘rare breeds’ and FAnGR more generally. Highlighting the links between FAnGR and the sustainable intensification (SI) agenda, we discuss the prioritisation of efficiency objectives in the food system (and associated supply chains) over culture and heritage values. Drawing on the latter, we link this example to the case of rare breeds which may possess attributes of value not linked to production efficiency.

Completeness: 90%

Expected completion date: October 2017

1. Zambia PGR Empirical paper: Economic costs for in-situ conservation of Crop Wild Relatives (CWR) in Zambia: An application of Competitive Tender (CT)

The chapter identifies the lack of robust economic estimates concerning the costs surrounding in-situ CWR conservation. Using a Linear Programming (LP) model we select farmers for conservation services based on a number of different objective functions relative to various decision variables. We discuss the cost implications of using different Area management options (AMOs) for conservation services and how the ‘mix’ of these might lead to fundamentally different conservation outcomes (i.e. species and diversity). The article moves to discuss the aggregated resources (and costs) required should a national in-situ CWR conservation strategy be implemented in Zambia. The article concludes with a summary of economic considerations for in-situ PES type programmes.

Completeness: 30%

Expected completion date: January 2018

1. UK NBAR multi-criteria decision analysis (MCDA): Developing a prioritisation metric for conserving cattle native breeds at risk (NBAR) in the UK

Prioritisation measures and indicators currently developed to inform FAnGR conservation planning are too data intensive and specific. Consequently, there has been low/no uptake of these indicators by governments or NGO’s to inform their conservation efforts. We use MCDA (applied to 29 UK cattle NBAR) to determine potential prioritisation of rare breeds for conservation purposes relative to budget constraints. The approach considers a holistic set of criteria (diversity; utility and endangerment) to guide conservation planning and ultimately deliver better public value from conservation spend (i.e. maximise benefits relative to cost). The article discusses this prioritisation framework with reference to Brexit and the opportunities this brings to implement new approaches to the distribution of economics incentives for conservation.

Completeness: 20%

Expected completion date: April 2018