

## 2021 KT Walsh Scholarship (MAIS) Project Summary

### 1. Project Title and Associated Programme

<b>KT Programme</b>	Agricultural Catchments Programme
<b>Project title</b>	An intervention study to increase the area sown in catch crops as a mitigation strategy in a catchment with high stream water concentrations of nitrate N.

### 2. Project background

The Agricultural Catchments Programme has six catchments ranging in size from 4 – 30 km<sup>2</sup>. These have been continually monitored since 2008 and were selected to represent intensively managed agricultural land on different physical settings and dominating land use. In this period, the lowest organic N loading was found in the Castledockerell catchment where it is predominated by tillage land use. However, it has the highest NO<sub>3</sub>-N concentration in the stream water of all the catchments and this is not improving. Therefore, the physical setting overrides the source pressure (Jordan *et al.*, 2012; Mellander *et al.*, 2012; Shore *et al.*, 2016). Overwinter catch crops are more effective at reducing N leaching compared to natural regeneration (Premrov *et al.*, 2014). However, approximately 25-30% of the stubble area in Castledockrell is sown, later than ideal in September, with a catch crop annually. Intervention studies have been shown to increase the adoption of technologies in a farming population through a mixed methodology approach (Garvey *et al.*, 2018; Pierce, 2020).

### 3. Project aims and objectives

The overarching aim is to increase the area of catch crops sown in a catchment predominated by tillage land use with a high NO<sub>3</sub>-N concentration in the stream water.

The research objectives are as follows:

1. Investigate the catchment farmer's attitudes and perceptions of using catch crops.
2. To identify the extension methods/support levels which result in the highest level of technology adoption, in this case, adoption of catch crops on tillage farms.
3. To identify farmer attitudes or personality traits which influence the effectiveness of an extension method and to assess whether specific extension methods are more suitable for a particular farmer demographic.
4. To produce guidelines to improve extension services, to support increased adoption of catch crops and identify ways the information gathered during this study can be applied to extension services for other technologies.

