

Participatory research to find solutions to water management issues in the Lunan catchment



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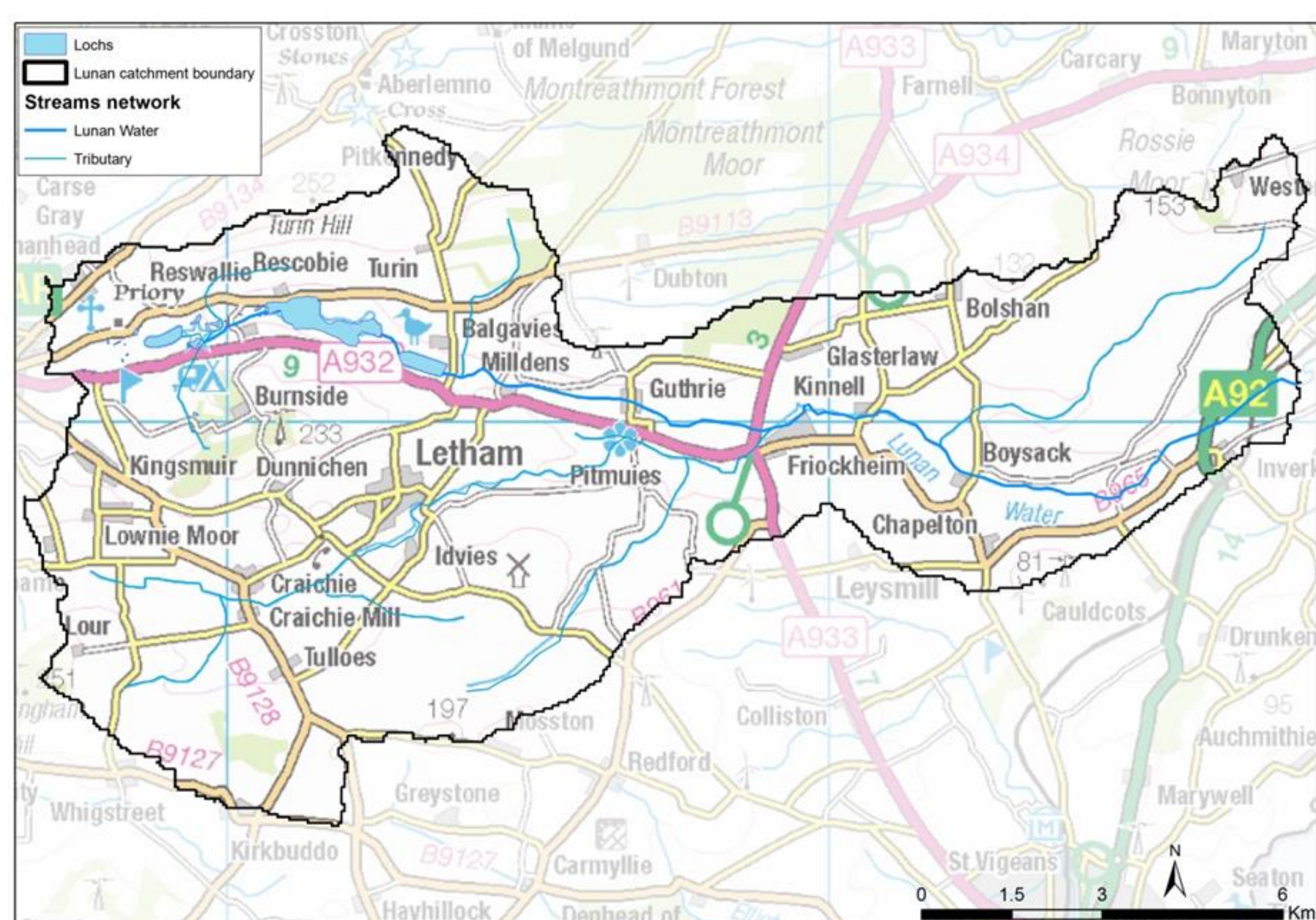
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Why participatory research?

There are a number of water issues affecting the Lunan Water catchment: flooding, water pollution and the risk of low flows which affect farmers' water use for irrigation.

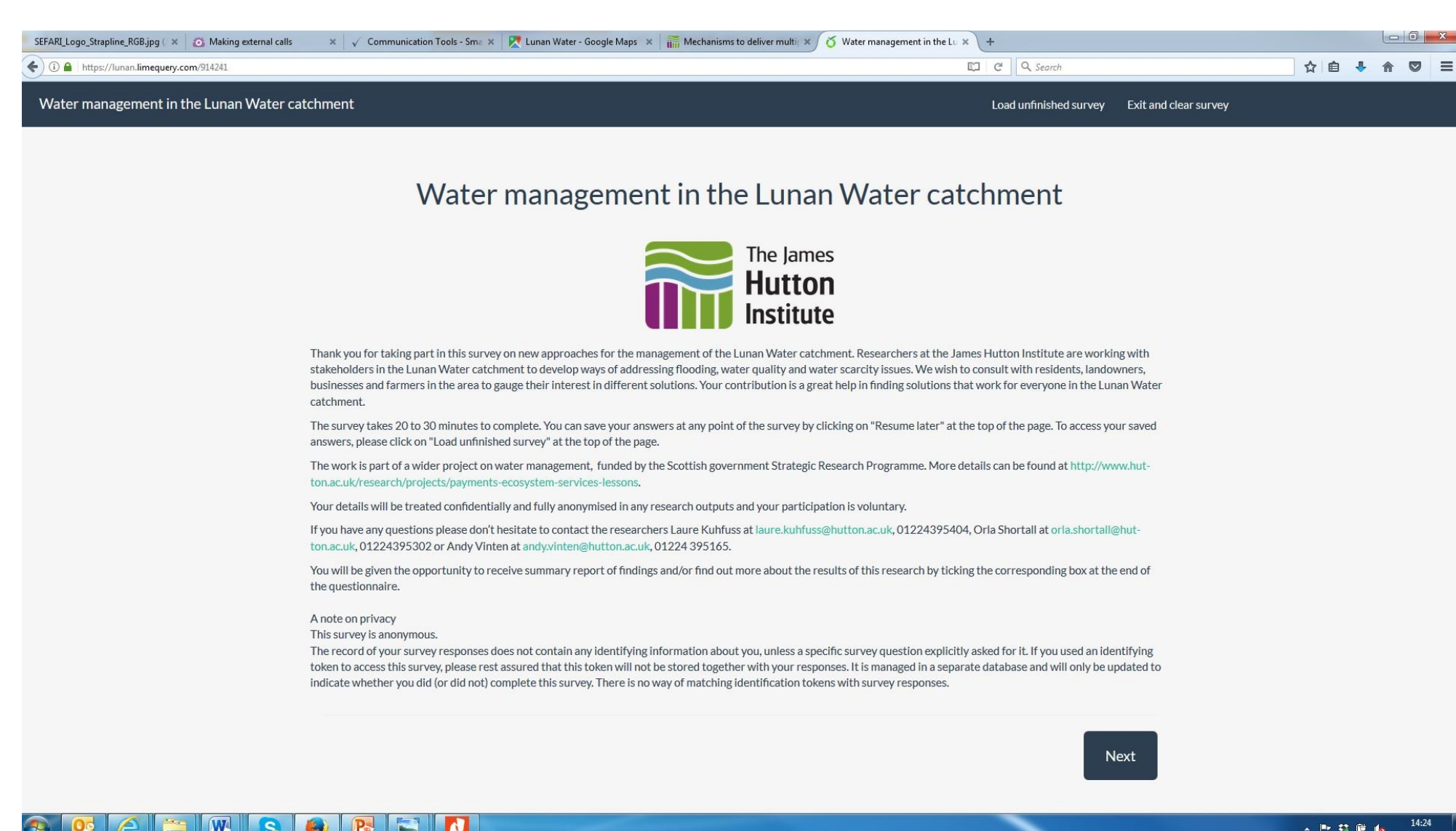
Participatory research means involving local people in the development and management of solutions.



The Lunan Water catchment



An example of a tilting weir



James Hutton Institute survey for Lunan Water catchment residents

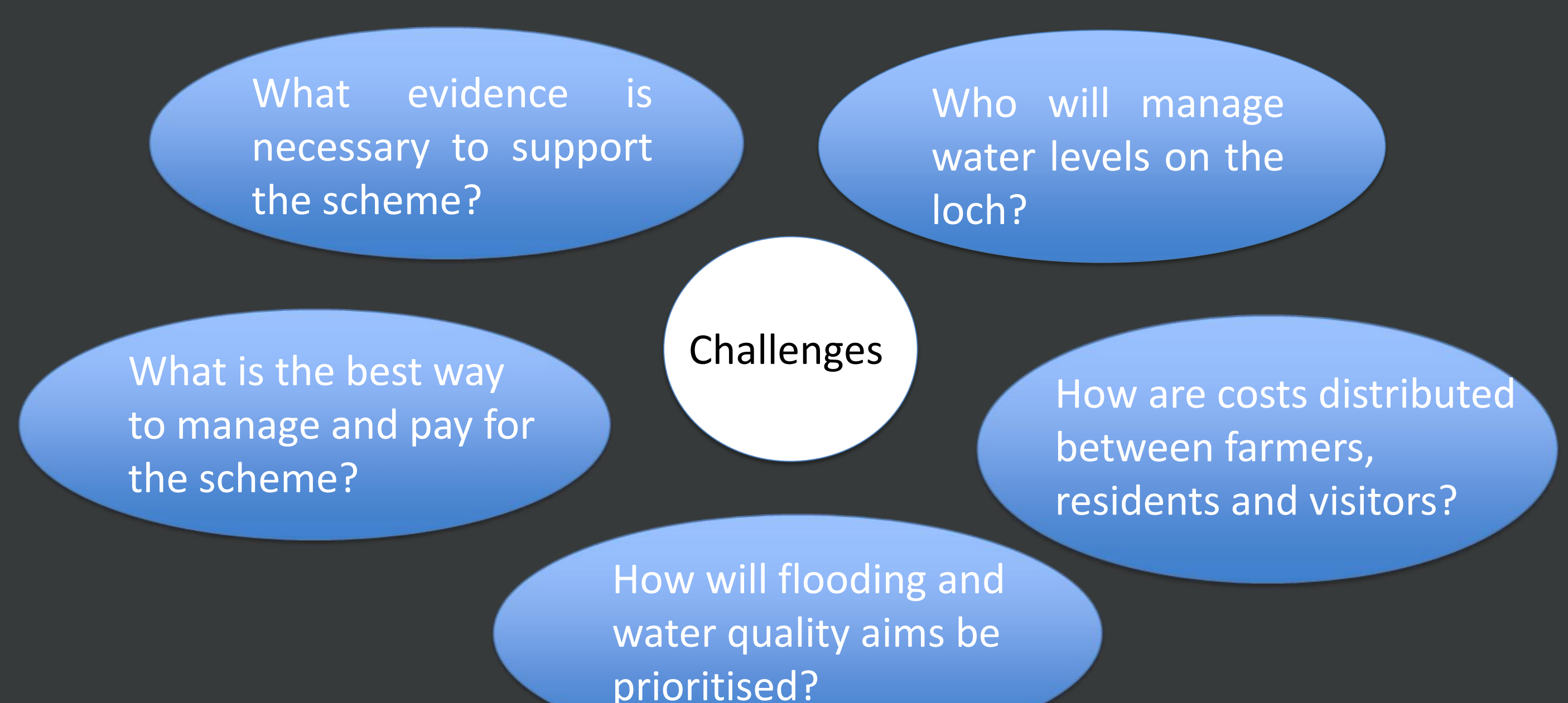
Problem definitions and solutions

Participatory research involves ongoing, informal dialogue with stakeholders as well as interviews and surveys. Interviews in 2014 showed how problems and solutions were defined differently by those involved.

Water issue	Why is it a problem?	Cause 1	Cause 2	Cause 3	Desired solution 1	Desired solution 2
Flooding - farmland, houses, roads.	Damage to houses, crops, farmland, infrastructure.	More rain and more extreme rain events.	Waterways blocked by debris and silt. Less freedom to clear waterways and dredge.	Runoff from fields	More freedom to dredge and clear water ways. Or, more holistic water management rather than piecemeal dredging.	Sediment fences and other measures to reduce loss of sediment.
Loss of topsoil on farms.	Farmers lose a valuable resource – soil. Soil runoff causes pollution and flooding.	Flooding washes soil away.	Potato farming – removal of stones from fields and creation of furrows.	Potato contracting means less of a long term investment in the land.	Careful potato cultivation practices.	Sediment fences to minimise runoff.
Water shortages	Less water available for irrigation in the summer.	Weather variability – dry summers mean lower water levels and more demand for irrigation.	Lack of holding ponds due to expense and lack of available land area.		Collective management - farmers decide among themselves how to allocate irrigation rights.	Creation of water storage ponds/damming water for retention.
Threats to catchment ecology.	Threats to valuable wetland habitats such as Chapel Mires and Fonah bog.	Pollution: eutrophication from fertiliser runoff.	Heavy duty dredging and clearance of waterways damages river ecology.	Fluctuating water levels: flooding and water shortages, damage wetlands.	Sediment fences and reduced fertiliser application.	Light touch, targeted and holistic waterway clearance and dredging.
Not enough data on the catchment.	Makes management of the catchment more difficult.	Abstraction rates not being returned by farmers because they are difficult to calculate, seen as time consuming and unnecessary.			Farmers to return abstraction licences.	Provide farmers with water metres to monitor abstraction rates.

Current research: the Water for All scheme

A project is in discussion to install a tilting weir on a loch in the Lunan Water which can change water levels. A survey has been sent to local residents to assess attitudes towards such a scheme and potential ways to manage it. Challenges in implementing such a scheme include:



Acknowledgements
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