Margaret Street Declaration

the proliferation of catchment solutions to floods and droughts

Do simple measures really hold water?

WHAT? This paper summarises the discussions and general consensus from the Holding Water Workshop (London, 5th Nov 2014). Twenty five attendees representing rural land management, NGOs, research, policy and private sectors explored the principles for better water stewardship working across sectors with an aim to highlight novel and traditional measures for managing flow pathways in the UK and India and encourage future actions.

WHY? Globally, there is an increase in the occurrence of floods and droughts; these issues need to be addressed urgently. There is a great interest in Natural Flood Management through holding and attenuating flows in the UK but similarities of case studies between the UK and India showed that floods and droughts are comparable in cause and solutions. Additionally, drought resilience may bring benefits to rural business in the UK. [i]

HOW? The workshop group highlighted that we have confidence in water holding features providing multiple benefits for catchments, from easing floods to minimising nutrient runoff and soil erosion. There is a need to communicate(but also accept) the uncertainty behind these measures, rank options and try them. Despite a need for evidence driven policy, the accumulated multiple benefits often outweigh uncertainty and cost implications. Here are the vital next steps of how simple catchment solutions can be implemented. [ii]

- ***Allow local communities*** to take responsibility for their local catchments. Through clear guidance and simplified policy we must enable more land owners and farmers to solving their own problems and transfer ideas to others (i.e scale up and establish best practise communities).However, these measures must be built and located correctly
- ***Build effective water holding structures*** demonstrating the importance of good water stewardship. We should move to an implementation phase, perhaps including pilots mediated by a social enterprise or public-private partnerships. This may include encouraging action now that allows new innovative partnerships and governance to develop
- ***Centralise water issues using the catchment as a common management unit*** across multiple benefits outcomes. That way water issues become central. Spread the learning. Feed into collective and local knowledge and promote 'water schools' of good water stewardship

WHO? Policies and tools to harness local knowledge and passion into a commitment for shared ownership of environmental issues are required urgently. Community actions in India using simple, local and traditional water holding features to recharge aquifers and bring productivity back to degraded arid land showed powerful messages for the UK. In the UK it is perceived that we are used to waiting for others to solve flooding and drought problems for us.

However, good water stewardship needs ownership and responsibility of both the problem and of the solutions, with a result that people take action for themselves. Land managers as custodians of the land, must be empowered to lead these actions, as holders of vital knowledge of local conditions (of people, land and water). Good water stewardship needs to be recognised and valued by society. However, there is a need to guide land managers on the correct design and placement of water holding measures.

The policy-regulation path for action needs to be simplified, then self-organisation and motivation can prevail. In many cases farmers within schemes (e.g. Catchment Sensitive Farming) have supported this way of working and these farmers should act as local 'champions' for demonstration and dissemination. Many land managers understand the approach although few translate it into action. The close allies and representative bodies of rural land sectors (farming organisations such as NFU/NFUS and the coordination ability of estates and land management such as Savills) can help.

- ***Design and correctly site features***. We need a model we can use to inform us where to place the measures and what their benefits would be. Also, produce guidance (a handbook, website and networks) that promotes using basic engineering principles to work with natural processes for water holding.
- ***Examples to be upscaled*** to prove the treatment train concepts of a network of small measures. One or two large scale case studies are needed to provide catchment scale evidence (as shown by examples in India).
- ***Facilitator groups can pay a big role.*** Land management, estates, farming representative bodies and catchment partnerships should all be engaged as mediators and enablers for actions on the ground.

The ditch of the future. How to hold water during storms to maximise flood retention, to recharge the aquifer and lower diffuse pollution. Taken from the Defra Demonstration Test catchment Programme (Barber 2014).

http://www.edendtc.org.uk/

For all enquiries, please contact:

Minni Jain/ minni@earthlinskall.com

or leave a comment at :

www.theflowpartnership.org

[i]Many sectors share goals for holding water and a desire for outcomes in addition to flood and drought management such as benefits for soil conservation, water quality and rural businesses; put simply, *"We want to hold water".* Further messages, concepts and actions must engage across sectors using terminology and concepts that are clear and non-technical. The terminology of 'catchment engineering' must be explained in terms of using basic hydraulic principles to design sustainable, low cost features, which accentuate 'natural' processes of water retention. Using simple 'engineering' principles to regulate outflows and optimise water inflows and outflows enhances the actions of these features. Clarity is needed to help communicate issues seemingly counter-intuitive to the interests of some sectors in holding water such as the management of land drainage.

The group accepted and valued the role of productive land but provoked the idea that~5% of landscapes could be taken into water stewardship measures that offset a loss of water holding capacity on farmed land. If water retention measures were sensibly integrated into areas required to be taken into current and future environmental schemes (e.g. CAP post 2015) this would bring concepts of water stewardship into such schemes, as well as improving landscape habitat. There has to be a benefit for land managers and this is achievable using features that increase the efficiency of the farm business; for example lowering fertiliser inputs (associated with lost topsoil), or providing future resilience (i.e. maintaining soil moisture during drought). The consensus of the workshop suggested that every acre of land taken out of production must work for mitigating hydro-climatic extremes and provide further multiple benefits. It was suggested that we 'engineer' solutions working with, not against, natural processes to make this ~5% deliver benefits for society.

[ii]In general, the scientific concepts are understood, readily applied and are usually low cost. There is a need not to let uncertainty in scientific evidence hold up action, but act, review and monitor allowing for modification if measures need to be optimised. What we need is proliferation of small measures so they can be proven at catchment scales and the cost-effectiveness evaluated.

We advocate working from source to sea, coupling water holding measures with others such as improving soil quality (for example, reducing compaction and increasing organic matter contents).

Promoting water holding measures will require clarity of funding schemes and a societal recognition of water stewardship that encourages novel schemes of funding. There are currently different funding schemes and water holding features; the multiple benefits of these measures should be able to draw across funding schemes. However, we are living in difficult economic times therefore holding water promotes 'doing more for less'. There needs to be closer equity of those who pay (where the actions take place) and who benefits (e.g. a flooded settlement downstream). This can be managed with the concept of an extended catchment, whereby services moving across scales (e.g. where food production and flood benefits downstream are viewed as services provided in upper catchments and can be funded by beneficiaries outside of the local area). Public-private tools may help and several templates already exist within the catchment management programs for protecting UK drinking waters. In such examples it is deemed cost-effective for land managers receive water company payments for numerous catchment measures controlling pollutants to back up and prolong the lifespan of ultimate consumer protection at the treatment works (akin to the proposed partnership of upstream water holding features benefitting downstream engineered flood defences). Several novel vehicles for public-private partnerships could be explored such as (i) social enterprises that combine businesses and communities for local benefits (flood protection), and (ii) social impact bonds drawing on wider parties with concepts such as a flood levy.