

Making the best of rainy-days



about the author ...

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mixed-messages ...

The start of 2018 witnessed a flurry of environment-related policy pronouncements, including publication of The Government's 25-year *Plan for the Environment*, and consultations on the *National Planning Policy Framework*. A common theme running through these documents reflects the national pre-occupation with floods, with scarcely a mention to be seen about the water-supply side of the rainfall management equation.

Fast-forward to mid-summer, and a few blissful weeks of sunshine draws from *Ofwat* a reminder of the long-standing *Environment Agency* warnings that a combination of changing weather patterns and population growth makes our water-supply situation increasingly fragile, particularly in the drier regions of the UK.

farmers at the forefront ...

Apart from the relatively minor inconvenience of scorched home-lawns, the agricultural sector is likely to be the first to be hit by stresses on water supplies, reflected in steadily increasing investment in farm-level storage of winter rainfall for summer use.

This is where the lack of national strategies and policies really hits home, as storing water in this

way could, given the right policies, also help to alleviate flooding risks; these too are predicted by the Environment Agency to be on the increase.

If farmers simply store the water they need for their own use, then their reservoirs are likely to be full by late autumn, thereafter simply overflowing to leave downstream flood risks unchanged. However, if farmers were encouraged to include additional attenuation capacity in their storage, this could be used to temporarily store water during peak weather events, for subsequent controlled release when the storm has abated.

development, development ...

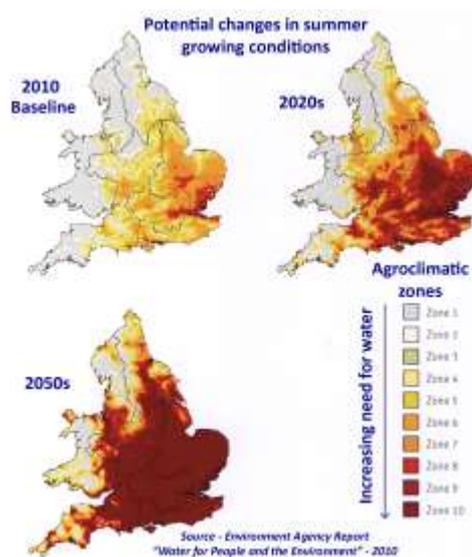
Similar principles apply in urban areas, where developments to provide homes and workplaces for a growing population, increase both flood risks and the strain on already stressed water-supplies. To not take both of these factors into account in national policy is simply bewildering.

The requirement to ensure that construction activities do not increase downstream flood risks is a long-standing requirement of Planning Policies, met by the need to incorporate sustainable drainage schemes (SuDS) on new developments. As matters stand, with the honourable exception of Wales, these schemes are designed and approved

without any consideration being given to the supply-side of the equation.

store, attenuate & re-use ...

This weakness in surface water management policy could be rectified at a stroke by national adoption of the SuDS Standard originally developed by the Environment Agency for UK-wide application. This would then require the foremost measure in SuDS designs to be the storage of rainfall for subsequent non-potable re-



uses such as toilet-flushing, clothes washing machines, and the outside tap.

Such a policy, applied to a typical 3 or 4 bed new house, could be expected to reduce the mains-water consumption of the property by around 40%; very much

greater water-savings are likely for commercial buildings, if they have a large roof and a high demand for non-potable water.

As with a farmer's reservoir, to be effective in helping to mitigate both floods and droughts, the water storage tanks associated with rainwater harvesting systems need to be able to attenuate water during peak weather events. This can be done within the storage capacity of the tank itself, by arranging for it to overflow into communal systems serving smaller properties, by overflowing into a balancing pond, or by a combination of these.

changing mindsets ...

This is the approach already taken by comparable countries such as Germany, where the price of water makes rainwater harvesting a cost-effective option which is therefore widely adopted. UK Government water-pricing policies, aimed at driving down the price of a valuable and scarce natural resource, mean that the same economics do not apply in this country.

Inevitably, therefore, Government policy must be one of the main drivers for wider adoption of the principle that floods and droughts are two sides of same water-management coin, that therefore need to be considered together rather than separately. A good start in that direction would be to re-badge all organisations and office-bearers with "flood" in their title, to make their roles inclusive of both flood and water supply issues. Re-alignment of the UK's SuDS Standard, to make storage and re-use the foremost means of managing surface water on new developments in water-stressed regions, is also essential.



Home-buyers and commercial clients also have a key part to play. If they do not value the use of harvested rainwater as a means to reduce their mains-water consumption, then developers will not install them. The national aim, quite simply, should be to ensure that we make the best use of rainy-days, by managing rainfall in ways that help to avoid both floods and droughts.

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