MARE

The Interreg IVB North Sea Region Programme

Managing Adaptive REsponses to changing flood risk

Annex 2 – Learning and action alliances in relation to urban water and flood risk management - WP1 output No.1

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Compiled by

Richard Ashley
John Blanksby

Pennine Water Group, University of Sheffield

FV: 130115

Summary

This report is meant to provide the background to and initial guidance on establishing and running the Learning and Action Alliances for MARE. It is a discussion document and subject to revision following wide dissemination to the MARE partners and beyond. It will provide a starting point for the partners to begin to think about and set up problem-centric LAA to deal with the challenges faced by urbanisation, climate change, public expectations and current policy and practice as regards flood risk management.

It is also expected that this report will be of use to associated INTERREG projects, such as FloodResilienCities and SKINT.

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1 Introduction – the challenge

Current challenges to sustaining and enhancing the quality of human living include: economic conditions; expectations and lifestyles; and external environmental drivers. Up until quite recently, the latter has been considered to perhaps be the most significant of these for future problems, as climates appear to be changing and our ability to predict the future impacts from this has become doubtful (e.g. Stern, 2006; EEA, 2007; Milly et al, 2008). Economic expectations have led to increases in population globally and in Europe, considerable pressures on living space and dwellings. There has been expanding urbanisation and a growing need for more dwellings. This need has led to housing and other developments in areas of flood risk, especially in the last decades in Western Europe; and more recently in other parts of Europe. For example, by the mid 2020s increased numbers of houses are expected in Yorkshire. With some 52,000 for the City of Bradford District and 77,000 for the City of Leeds, representing increases of some 20% – 25% on 2006 figures (City of Bradford Metropolitan District Council et al, 2008). Many of these new dwellings may have to be built in or around flood risk areas. Yet storms and floods are even now the most frequent and costly extreme weather events occurring in Europe, with floods causing around €15bn of economic damage in 2002 (CEA, 2007) and this is expected to rise due to climate change.

The future risks from climate change and urbanisation at the rates expected have been reviewed in the Bradford study and it has been shown that by 2085 there will be an increase in the number of flooding vulnerable locations (fluvial and pluvial) by approximately 40%; an increase in the surface water flow volume by around 100%; and an increase in the frequency of surface water flooding at vulnerable locations by around 200%. These figures have been based on the best available predictions for climate change in England and also on the standard socio-economic scenarios utilised by the UK Government (e.g. Evans et al, 2008). As regards pollutant discharges from urban runoff associated with this, loads to receiving watercourses were shown to increase by at least 50%; significant given the requirements of the Water Framework Directive by 2015. Devising ways to mitigate or adapt to these problems will be a challenge for the future that includes changes to lifestyles, resource allocation and use and the building of capacity to respond in both people and infrastructure. This is particularly acute, given the economic crisis, limiting our ability to respond.

Complex organisational systems both within and external to organisations require effective cooperation and collaboration between the organisations and also the individuals therein. The project referred to above required close collaboration between the primary organisations involved in flood risk management in this part of England in order to develop a clearer understanding of the problems. Nonetheless the complexity of responsibilities is prodigious in England (Ashley et al, 2008) and seemingly continually changing (see Appendix 1), most recently in terms of new legislation[1] and procedures[2].

The problems facing us now and in the future have been defined as 'wicked problems'. Lach et al, (2005) provide an illustration as to how this applies in the water resources area. Wicked problems are: "*problems*

[1] Flood and Water Management Bill, 2009. Draft. 21st April.
[2] Defra (2009). Surface Water Management Plan. Technical Guidance. Living Draft v1. February

that have multiple and conflicting criteria for defining solutions, solutions that create problems for others, and no rules for determining when problems can be said to be solved" (Rittel and Webber, 1973). "*Sometimes, just identifying a wicked problem turns into a major task and working on such problems requires cycling through the phases of problem definition, information gathering, solution, and outcome. It can be said that we don't really 'solve' wicked problems; rather we 'design' more or less effective solutions based on how we define the problem*" (Pacanowsky, 1995). Wicked problems always occur in a social context; the wickedness of the problem reflects the diversity of those involved in the issue (Lach et al, 2005). Wicked problems in complex systems lead to fragmentation where key stakeholders consider themselves to be separated rather than united and in a situation in which knowledge and information is scattered. Fragmentation also represents the different views from different stakeholders that all feel that their view is the most correct and their problems are most urgent and need to be addressed as a priority – and that their view on the problem and solution is preferable (Verhagen et al, 2008).

These wicked problems are inherent in the need to address the new challenges of climate change; for which there is a lack of precedents and stationarity (our previous data cannot help us much in probabilistic projections of the future) (Milly et al, 2008). This requires a new approach to developing responses to these challenges. At the very least decision makers and professional advisers need to be sure that they are up to date with knowledge as it develops in this area, e.g. about climate change predictions by the IPCC. All stakeholders will need to continually reappraise the performance of services and infrastructure and respond to changing risks. "*Without active stakeholder involvement an adaptive management process is unlikely to be effective*" (Williams et al, 2007).

'Active learning' can develop the capacity by different stakeholder groups to both accept a different view on risk and performance and also to be able to utilise different types of response and at different times of implementation. At the same time, it can save costs on adapting to future changes (Ingham et al, 2007). In the context of future flood risk, this means that decision makers and other concerned actors need to become as well informed as possible in order to implement responses – whether mitigation or adaptation – that are appropriate at the right time. These need to be 'no-regret' in that these responses should be potentially reversible – or abandonable – if they are found to be inappropriate or ineffective or inefficient in the light of future knowledge. Such an approach is challenging especially to the professionals engaged in flood risk management. For them the possession of 'good knowledge' about future environmental drivers (e.g. data about historical rainfall telling us about future conditions) and the effectiveness of responses (e.g. experience in designing and building flood related infrastructure) has been fundamental to the delivery of 'sustainable' infrastructure in the past. Crucially, the question is: should we go ahead with implementing a response to an increasing flood risk at a certain time, or defer any action until we have more knowledge? Doing nothing now may result in a gradually increasing and unacceptable risk. Decisions here require good knowledge about what is known and what is uncertain and a shared appreciation of the challenges and the ways in which these may be tackled.

The challenge in developing capacity is both individual and corporate, in that each of the actors who are affected by flood risk or are effecting

responses thereto, has freedom of action, but can only respond according to their capacity to do so (individually and within their organisation). Hence, independently of the prevailing economic strictures, often individual freedom of action is constrained by the institutional, social or cultural boundaries within which the actors are embedded.

Responses to changing flood risk require combinations of innovative technological and non-technical measures (Thorne et al, 2008; Pasche et al, 2008). This requires that we overcome the 'stationary' design and operational assumptions and the continuing 'traditional' investments underpinning the large technical systems that are constructed in response to the observed historically and only slowly changing external drivers (Milly et al, 2008). 'Stationarity' of these drivers[3] has provided the inevitable conditions for 'technological entrapment' (Walker, 2000) or 'lock-in' to perpetuating the use of these perceived 'common-sense' approaches (how we have always done it – we know it works) (Palmer, 2000). Common-sense approaches are often perpetuated by transforming novel ideas into things an organisation is more comfortable with and where internal and external policy is "*made on the wires; that is, in the (immediate) responses to specific problems arising in the field*" (Weiss, 1980) – i.e. often in isolation by an individual institutional stakeholder. Despite there being a clear recognition in the expert water community of a need for change to address these challenges (e.g. Pahl-Wostl, 2008), entrapment, lock-in and institutional common-sense have collectively resulted in tremendous and potentially insurmountable barriers to change, often preventing alternative and more resilient approaches from being implemented for the way in which urban water systems are managed.

In summary the challenge is:

- About the need to address increasingly 'wicked' and complex problems in a non-stationary world
- Not simply about managing water systems differently by e.g. adopting innovative technologies and breaking entrapped ways of doing things
- About non-technical issues and aspects related to individual and institutional capacity
- About creating, maintaining and looking out for changes in knowledge and sharing this
- About 'doing it differently' not only 'doing different things' in order to have more and a longer lasting impact on policy and practice.

2 Learning Alliances

Breaking the entrapment outlined in Section 1, and opening the way for true innovation requires cultural change in both the organisations and the individuals involved. Learning Alliances can help to do this (Batchelor & Butterworth, 2008):

- A learning alliance is a group of individuals or organisations with a shared interest in innovation and the scaling-up of innovation, in a topic of mutual interest.

[3] *"The idea that natural systems fluctuate within an unchanging envelope of variability—is a foundational concept that permeates training and practice in water-resource engineering. It implies that any variable (e.g., annual flood peak) has a time-invariant probability density function (pdf), whose properties can be estimated from the instrument record. Under stationarity, pdf estimation errors are acknowledged, but have been assumed to be reducible."*

These ideas have been around for some time but only relatively recently have they been taken up in an attempt to deliver better water and sanitation services as part of the EU 6th Environment Framework project SWITCH[4]. In SWITCH, Learning Alliances (LAs) are seen as a better way of integrating the work of the researchers with the needs of the key stakeholders in a number of case study cities around the world (Butterworth et al, 2008). SWITCH also states that the "*key challenge to impact is not in devising new technologies but in bringing about appropriate institutional change within the relevant innovation system*" (Verhagen et al, 2008):

- A Learning Alliance is a series of interlinked stakeholder platforms from a given innovation system that seeks to realise widespread impact through the up-scaling of an innovatory approach.
- Through working on the agreed underlying problems, and contesting and evolving together potential solutions, it is anticipated that mechanisms for addressing institutional constraints and enhancing institutional learning will be generated.

The value of better working together to tackle the wicked problems outlined in Section 1 above has been highlighted in the SWITCH project, where examples are reported by Verhagen et al (2008)[5]. A study of the way in which water resources have been better managed in three large US river basins (Lach et al, 2005), revealed a strong original stakeholder preference for strategies that consolidate resources and 'over-build' systems in order to provide reliable, low-cost, and 'safe' water services often with 'factors of safety' (i.e. technological lock-in). As challenges to these strategies have emerged and as problems have shifted from 'tame' to 'wicked' (complex, contradictory, interdependent), the organisations have had to develop strategies that spread the risks through better cooperation. When traditional (common-sense) strategies fail, some of the organisations involved have moved to local and adaptive negotiation with affected parties. The three management approaches have demonstrated a general trend away from infrastructure-intensive strategies (technological lock-in) to social interaction-intensive strategies. Instead of the traditional way of managing the uncertainty of physical structures (design and operation) and organised routines, the key agencies are now beginning to ''manage'' ambiguous relationships with the various partners who have conflicting demands and needs.

This is a clear illustration of a move away from institutional fragmentation towards cooperation. The answer to fragmentation – and the start of dealing with complexity and wicked problems – is in creating this coherence, or shared vision in terms of understanding the problem. Creating coherence and developing joint understanding and a shared vision is what Learning Alliances in urban water aim to do. Learning Alliances enable 'scientists' and 'practitioners' to come together to work jointly together in processes where an increasing and changing understanding of the problem leads to the emergence of potential solutions and more effective innovation.

In the LA it is important to effect an innovative environment (usually by removing barriers); to facilitate the 'scaling-up' of responses (in both space and time) – this is sustainability, and to recognise that many new technologies are already available - what is needed is to bring about

[4] SWITCH - Managing Water for the City of the Future, http://www.switchurbanwater.eu/la_switch.php

[5] For membership of the UK LA in SWITCH, see: http://switchbirmingham.wordpress.com/la/stakeholders/ and for reports see : http://switchbirmingham.wordpress.com/reports/

appropriate institutional change (this may simply be internal culture) (Verhagen et al, 2008).

It is clear that LAs are central to the whole process of sustainable living and delivering sustainable water management as illustrated in Figure 1, which combines essential elements of LAs with the integrated sustainability assessment process. The 1-4 stages shown in Figure 1 are those defined as the principal components of 'integrated sustainability assessment', from the EU MATISSE project (Weaver & Rotmans, 2006). It is apparent that the LA has a central role in delivering responses to wicked problems by providing a means for collective understanding (legitimisation) of the problem and its' context; providing a shared vision for where the desired outcome needs to get to; devising responses and testing the effectiveness (sustainability) of these. Ultimately, the approach should become mainstreamed into political and policy arenas. Key to the effective operation of the LAs is the role of leaders or champions (e.g. Taylor, 2008; 2008a), who are involved at every stage (not shown in Figure 1 for clarity). This is flagged up as the need to support champions in the SWITCH reports (Moriarty et al, 2005).

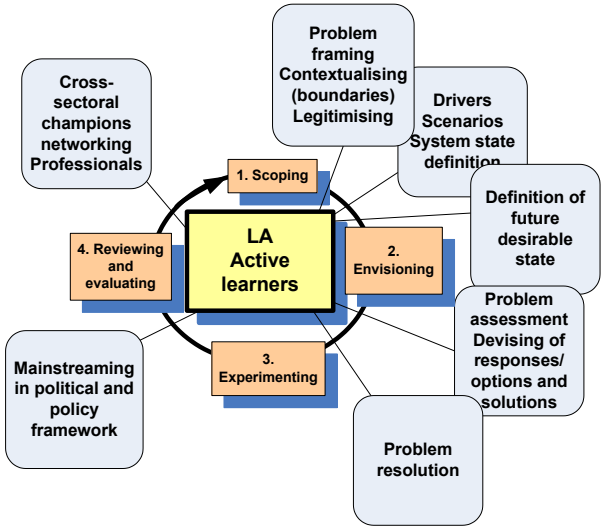

Figure 1. The centrality of LAs to the wicked problem solving process

Some key principles underlying the LA approach are given from the experience in the SWITCH project below.

1. Learning Alliances should be formed around real, potentially wicked problems, and an initial group of stakeholders committed to change. Learning Alliance members will share a common desire to address an underlying problem, for example, to improve urban water management. They will also share or develop common approaches – visions, strategies and tools – on how this can be achieved. Not all stakeholders will (actively) participate from the very beginning but might decide to join later. Each platform will group together a range of stakeholders who capture diversity and bring together complementary skills and experiences.

2. The more representative the alliance is, the better it will capture the institutional complexities that constitute the realities of the system. Representation needs to be ensured horizontally – that is stakeholders working for instance the city level – and vertically – that is stakeholders working at community, city, and national level. Good stakeholder analysis is critical to ensure representation.

3. Emphasis is switched from researchers devising new technologies – doing different things – to improving how the multiple stakeholders in the innovation system work – doing things differently – and will lead to interventions having greater impact;

4. Innovations that are generated locally, taking all the relevant stakeholders into account, are more likely to lead to appropriate, integrated and sustainable solutions, to promote flexible and adaptive working practices, and to foster and strengthen the development capacity of local organisations and communities;

5. New understanding of knowledge and learning should be promoted, and the emergence of learning organizations. Whereas information can be generated and disseminated, knowledge is viewed as a complex, transformative process, arising less from any accumulated stock of information, and more from intra- and inter-organizational processes in which experimentation – action research – and communication feature strongly.

Verhagen et al (2008)

3 Establishing Learning and Action Alliances in MARE

Despite the lessons from SWITCH and from other projects addressing wicked problems and sustainability of urban water systems and flood risk management, the UK partners involved in the MARE proposal were concerned that the proposed LA should be more than a knowledge sharing exercise and would also provide a base mechanism for action. As a consequence, the Learning Alliance concept has been adapted in MARE into a Learning and Action Alliance (LAA)[6]. The history of the adaptation of the concept as it unfolded in Yorkshire is outlined in Appendix 2. The vision for the LAA, beyond just MARE, is also being applied to two other INTERREG IV projects: FloodResilienCity and SKINT. This is to develop platforms for cooperation (known as Learning and Action Alliances) between the different stakeholders involved in flood risk management (and other water system management where this is relevant). It is envisaged that LAAs will be established in each partner area in MARE to

[6] This was first proposed by Stephen Smith of Rotherham Metropolitan Borough Council

focus on the local wicked problems. In certain areas these local LAA may be part of a wider LAA network or nested 'umbrella LAA', as in Yorkshire (see Appendix 1).

The characteristics of the SWITCH LAs have been adapted from Verhagen et al (2008) and the SWITCH briefing notes[7] in terms of the LAA vision for MARE in Table 1.

The process can also be adapted from the experience in SWITCH as below.

1. Identify the complex, wicked problem(s) to be addressed by the specific area
2. Establish who the stakeholders are using stakeholder analysis
3. Develop from the stakeholder group a shared vision and assessment of the problem(s) including scenarios and some form of Driver-Pressure-Stakeholder-Impact-Response framework
4. Develop a shared vision of where the stakeholder group would like to get to
5. Formulate options to respond and to deliver the vision
6. Apply one or more of the responses (virtually or for real)
7. Monitor and evaluate the effectiveness of the response(s) – taking into account that long term (sustainable) performance cannot be observed directly
8. Draw wider lessons from the performance evaluation and use these to change policy, practice and cultures
9. Continue to monitor and evaluate at regular intervals for sustainability assessment

Although this reads as if it were a linear process it may include internal feedback loops and cross-linkages, and is, at the least, a cyclical activity as illustrated in Figure 1. In addition, the orchestrators of the process – the leaders and champions of the LAA process and also the promoters of the changes in practice will need to be given support (develop the capacity).

[7] http://www.switchurbanwater.eu/outputs/results.php?wp_select=17&pubtype_select=1&op2_select=AND&pt=Learning%20Alliance%20Briefing%20Notes&m=0,6,1,1 (accessed 2/2/09)

Table 1 LAA characteristics adapted from Verhagen et al (2008)

SWITCH LA characteristics	Application to MARE LAA	Comments
1. Allocate realistic resources	Each LAA requires at least one facilitator to bring people together and one champion who drives it. Ideally requiring 2 people. There needs to be regular and focused stakeholder workshops.	It will be necessary to set up leadership training to assist with this.
2. Identify and involve stakeholders (especially those normally excluded but strongly affected by decisions made)	This may require considerable effort by the champion/facilitator to identify and engage key stakeholders. In MARE the policy makers and executive level are important here.	Requires stakeholder analysis early-on and may need to include the public
3. Flexible and realistic time planning	To develop a common shared vision and objectives and effective communication takes time. Progress will appear slow in the 1st year.	No one should expect quick results from the LAA
4. Communicate results effectively (LA is a platform for experiential learning)	Learning by doing, experimenting, reviewing and feeding back is at the heart of INTERREG projects and require effective reporting and other means of communication.	This needs to be more open than the way we have traditionally done this in the past
5. Focus on learning for change	As above, action research is important and at the heart of the case study work. Change here also means applicability beyond the partner undertaking the action research (i.e in a particular LAA) into the other LAAs and wider community.	New knowledge needs to be identified and shared
6. Invest in formalised facilitation and documentation	This is essential both for meetings and also to ensure the process is effective in providing information and supporting learning. The documentation role may need to be different from the facilitator's.	This may require professional support for some LAA
7. Create incentives for involvement	This is needed to ensure interest. Participants need to see that there is something new on offer. Also, in an ideal situation, the LAA should actually have a decision making role. At the least, the LAA should provide a platform on which additional funding can be bid for.	This should be provided as early in the process as possible
8. Avoid separation of science and process (LAAs are NOT dissemination opportunities)	There are opportunities here to present innovations from new science, but this should not be done in traditional ways – rather it should be via scientific engagement in the problems and linkages for novel responses.	Usually it is the scientists who need to learn this lesson. The MARE design reviews should be a part of this process.
9. Identify and build on existing structures	Where there are existing stakeholder platforms these should be utilised as far as practicable, but not used as surrogates as they will have separate agendas from the LAA	There is a need to demonstrate to stakeholders why they need yet another forum and why it is different
10. Don't be afraid of conflict as it is inherent to change	It should be recognised that many stakeholders will be in positions of power and reluctant to concede these. The LAA should be able to find ways to accommodate this in new ways of working together.	This is inevitable and is why LAA are needed
11. Don't underestimate time needed and resistance to change	The reason why current approaches have been used is that they have worked well in the past – in general water systems have been managed in ways that ensure acceptable health and welfare. Hence there is an understandable reluctance to change. The LAA has a responsibility to help identify where traditional practices are still appropriate but where they can no longer deliver the resilience required for future challenges. This is not a quick job and will require demonstrable examples of the value of change.	This is usually a major part of the project being undertaken
12. Monitor the outcomes of the processes	This is essential if the LAA is to be justifiable in terms of value for people's time and other resources	This may also need support from professionals

4 Next steps

In MARE we are all learning together how best to develop the project. The Learning Alliance concept has been identified as a particularly useful vehicle to address the wicked problems we now face and we can learn a lot from the experience gained in the SWITCH project using LA for delivering integrated water management. This document is the start of the process of establishing and using Learning and Action Alliances. Further guidance is required and this will be provided by the experience gained in trying to establish the LAA in Yorkshire and by visiting and getting feedback from the other partner LAA. In the next few months guidance will need to be provided for identifying and supporting leadership and champions and for the operation of LAA in MARE. It is intended to interact directly with the main players in SWITCH to gain access to their experience.

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Appendix 1: Note on the development of the Yorkshire and Humber Flood and Water Management Learning and Action Alliance

There has been a functioning 'alliance' in the City of Bradford Metropolitan District (CBMD) since an Inquiry report on flooding and water management in the Region in 2005[8]. This is the Bradford District Water Management Advisory steering Group (BDWMAG)[9]. However, the purpose of the steering group has been to develop integrated partnership working in water management within the Bradford Metropolitan District in order to achieve: "Accurate assessments of the risk, nature and scale of flooding; A reduction in the risk of all types of flooding incidents; Mitigation of the effects of flooding incidents." With the new initiatives recently from the UK Government in response to the Pitt inquiry into flooding in 2007[10], it has become even more pressing to broaden the scope and partnership of the group into a regional-wide Learning Alliance. At the same time, new initiatives in the River Don valley corridor, to deliver the Water Framework Directive(e.g.[11]) and also to address the flooding that occurred there in 2007[12] have provided impetus to a parallel south Yorkshire based Learning Alliance (LA) around the Don catchment.

The initial impetus for a LA in the River Don catchment came from the MARE proposal, but the LA principles had already been identified in the North West Europe FloodResilienCity (FRC)[13] proposal that was funded in March 2008 and includes the CBMD. A need for a local UK partnership had also been identified in the SKINT[14] proposal to help in requirements analysis and the development and testing of tools.

Hence the need for a regional alliance was identified across and in conjunction with each of these initiatives.

The regional alliance will also be linked to the embryonic LANDFoRM network under development through CIRIA (http://www.ciria.org/landform/) and through this to other regional alliances which are expected to emerge during 2009. It was also recognised that a permanent regional alliance within a national network would provide the best means of sustaining the legacy of FRC, SKINT and MARE and that this would be a major factor in the securing of regional, national and hence European support for the projects.

The build up to the formation of the regional group started in June 2008. The support for the Don catchment alliance was evident and so the next step was to engender support in the West Yorkshire area by linking this to the BDWMAG. The Defra, Making Space for Water River Aire and west

[8] Ashley R M., Melling D. (2005). Review to consider the future of water management and the associated problems of flooding in the Bradford District. City of Bradford Metropolitan District Council. [http://www.bradford.gov.uk/the_environment/environmental_protection/water_management/Water_management_summit.htm].

[9] http://www.bradford.gov.uk/the_environment/environmental_protection/water_management/Advisory_steering_group.htm

[10] e.g. establishment of responsibility by local authorities for local Surface Water Management Plans [http://www.defra.gov.uk/environ/fcd/floods07.htm]

[11] http://www.ursula.ac.uk/

[12] Environment Agency (2007). Review of 2007 summer floods. December.

[13] Website to be established

[14] Website to be established

Garforth integrated urban drainage pilot projects[15] had just reached completion and there was a perceived need to take things forward from the members of the project teams including the cities of Bradford and Leeds, the Environment Agency, Yorkshire Water and the PWG. A meeting of personnel from this grouping and of personnel from Sheffield and Rotherham was held at the end of June 2008.

After this initial meeting a document was developed through a series of feedback cycles. At the same time separate meetings were held by the groupings in South and West Yorkshire to consider what their objectives were. *These meetings unearthed an underlying tension about whether the alliance should be consolidated at regional level first or whether it should focus on local, more specific issues and draw them together. This tension still exists and may well persist and needs to be managed, as an alliance will only exist when its individual members have need to remain in it. There is nothing new in this and it is a problem in many "voluntary" bodies, and nurturing the positive aspects of the alliance, the things which bring people together is an important activity for those maintaining and sustaining the alliance.*

These meetings were held on 14th July 2008 in South Yorkshire and 22nd July 2008 in West Yorkshire and this was followed immediately on 23rd July by the whole group (or as many as could attend. The need to address pluvial and other sources of flooding through Surface Water Management Plans (mainly in Flood Zone 1[16], defined as at low risk from fluvial flooding) was identified as were the needs of those managing the development along rivers subject to fluvial flooding (Flood Zones 2 and 3 – increasingly severe flood risk). The latter required inter organisational action and so the term learning alliance was modified to Learning and Action Alliance. Note that PPS25 deals only with new development, although it also includes the impacts from new developments in terms of increasing flood risk on existing developed areas.

A consensus was arrived at and the regional alliance largely as described in the document in Appendix 2 was conceived. This document was circulated to the Regional Development Agency (Yorkshire Forward), the Environment Agency, CIRIA[17] and others who provided letters of support for both MARE and SKINT and the UK activities of both projects were based on contributions from members of the alliance.

Another meeting was held on 16th September 2008 in the run up to the submission of the MARE and SKINT applications. At this meeting it was decided that the launch of the alliance would take place in January 2009, irrespective of the results of the MARE and SKINT applications.

It should be recognised here that the UK activities in FRC, MARE and SKINT were written from the belief that local authority involvement in flood risk management would increase significantly as proposed by the UK Government. This was based on the involvement of the PWG, CBMDC and others in the ongoing process of 'Making Space for Water' and so there would be a need for the alliance whether or not the bids were successful.

[15] http://www.defra.gov.uk/environ/fcd/policy/strategy/ha2.htm (accessed 02/02/09)
[16] As defined in Planning Policy Statement No. 25 [http://www.communities.gov.uk/publications/planningandbuilding/pps25ria]
[17] http://www.ciria.org/landform/

At informal meetings it was agreed that the Inaugural meeting should be held at Wakefield on January 28th 2009. In the meantime a meeting of CIRIA's LANDFoRM[10] was held in Sheffield on 26th November.

Both MARE and SKINT were funded, each with budgets to support meetings and provide administrative assistance throughout the initial years of the alliance. With funding available from FRC, the alliance was assured of the wherewithal to function.

On 17th December 2008 the Government's response to the Pitt Review on the summer floods of 2007, placed new responsibilities on Local Authorities[3]. Letters were sent out from Government to the leadership of local authorities, bringing the objectives of the alliance to centre stage. Details of the inaugural LA meeting were circulated to chief executives and the meeting was held with an attendance of over sixty five people. The message will be taken back into organisations and this is being supported by notes of the meetings and updates setting out a way forward.

We are now entering a period where on one hand we have to develop the organisation of the alliance and its sub groups, and on the other hand get on with the task of learning and taking action. FRC, MARE and SKINT provide the vehicles for the latter in the short term, whilst other areas of activity emerge. FRC will look at developing and integrating organisational capacity for the new local authority role. MARE will look at issues associated with fluvial flooding in Flood Zones 2 and 3 and SKINT will address pluvial flooding and other sources in Flood Zone 1.

The tensions about how the alliance should progress still exist. However these can be managed. The important thing is to recognise that individuals will have different perspectives and that they will be genuinely held. Therefore we need to maintain the alliance. We have to recognise that if it is not worth maintaining it is not worth doing. However, it is also important not to get so involved that we lose perspective. We have to remember what the aims and objectives are and what is important to new members who haven't been thinking about and living with these issues for the last five years. Unless we do that we will not be presenting something with which they can associate.

Appendix 2: Yorkshire Land and Water Management Learning and Action Alliance

Introduction

There is currently no structure or format for the various agencies involved in water management to address catchment-wide water management issues or set out solutions to balance development and water risk issues. With the new proposals for EA and local authority responsibilities now on the table, it is intended that this forum will provide the means of addressing local flood risk and water management (FRWM) issues.

UK experience in the new discipline of land and water management is limited so there is a need to come together to share that which is available. The gains in learning, knowledge and experience will be enhanced by sharing experiences with UK partners in other regions and with European partners as they put their own alliances into operation.

Background

Last June's flooding in the River Don catchment demonstrated how the powers of nature can disrupt major parts of our urban and rural environments. However, flooding is not just confined to river corridors and flood plains. A recent study[18] of urban areas away from flood plains has shown that if climate change affects rainfall as predicted and development continues as it has done for the last thirty years then by 2085 there will be:

- Increases in the number of vulnerable locations by approximately 40%
- Increases in the surface water flow volume by around 100%
- Increases in the frequency of surface water flooding at vulnerable locations by around 200%:

Flooding over recent years and predictions from detailed modelling studies are driving Government thinking, and recommendations of studies such as the Pitt review, to re-engage local authorities in flood risk management. The cost of enhancing all piped urban drainage systems or of providing flood defences for all is prohibitive yet although last year's floods in the River Don catchment were low frequency events, they could happen anywhere, at any time. Consequently, there is a need to adapt urban design to improve the management of water on urban surfaces without incurring any additional cost to that which is spent already; no organisations are better placed than local authorities to do this.

Thus the challenges for local authorities are:

- To recognise that they must manage the task, and
- To acquire the skills and competencies that will allow them to do so

Because flood risk and water management (FRWM) should become part of every day land management activity, there is a need to make FRWM business as usual for the many people who are already competent in a wide range of land management activities, rather than to employ a large number of drainage specialists whose experience is in management of water in pipes and river channels. A small number of traditional drainage

[18] Making space for water, Urban flood risk and integrated drainage, River Aire (City of Bradford Metropolitan Council), http://www.defra.gov.uk/environ/fcd/policy/strategy/ha2aire.htm

specialists will be required, but the greatest need is for planners, highway engineers, landscape architects and other urban professionals who understand their role in FRWM.

FRWM is a new way of working for local authorities and these urban professionals; there is no set guidance about how to go about it, nor should there be as each task must take into account local circumstances. Hence there is an overwhelming need to work together in 'Learning and Action Alliances'[19] which have been developed as a way of sharing experiences and knowledge with others at regional; national and transnational scale. These alliances will also help smaller authorities which do not have the resources work alone.

Transnational links are particularly important because they enable the sharing of experience and knowledge between different FRWM cultures which have developed to meet the specific needs of their own regions. This provides the opportunity to adapt to a much wider range of options than would otherwise be considered if only a local perspective was taken.

Above all the alliances will help to develop the confidence needed to make the changes required. They can help to produce supportive relationships rather than continue along the current path that is both inappropriate and ineffective.

Role of an alliance

The following list provides examples of what the role of an alliance could be:

- To be a Catchment-wide forum for coordinating the actions of stakeholders to reduce flood risk and improve water management capacity.
- To share knowledge of local management solutions eg SUDS etc .
- To shared knowledge and approaches to development decisions involving or affecting the water environment
- To provide links to a Regional Learning Exchange
- To provide links to current and emerging Research
- To provide links to European partners who have knowledge and experiences to share
- To enable political engagement and influence
- To influence EA Regional Policy
- To influence National UK policy
- To influence European Policy
- To link to the Emergency Multi -Agency Panels

Aims

To provide a regional forum for supporting local authorities in their new and emerging role in land and water management by sharing knowledge and experience.

Objectives

At any particular time, the objectives of the alliance will be driven by the immediate needs of the partners. Initially these are:

- Assisting in the development of common approaches between stakeholders participating in flood risk and water management
- Developing approaches for sharing information and integrating planning activity across local authority boundaries.
- Improving the knowledge and experience base for the production of surface water management plans.

[19] SWITCH - Managing Water for the City of the Future, http://www.switchurbanwater.eu/

- Developing and enhancing methodologies to carry out strategic land availability assessments as part of the local development framework process.
- Supporting regeneration initiatives by developing a knowledge and experience base for innovative approaches to integrated land and water management.

A more comprehensive illustration of the potential activities of the alliance is given in Figure 1 which shows how groups of members might each work on cross cutting issues and then share their learning with the whole alliance.

Figure 1: Illustration of potential activities and groupings

		Catchment based groups	Interest based groups	Functional groups	Research led groups
Cross cutting themes	**Local development frameworks**	**Share**		**Develop**	**Share**
	Development control				
	Building control				
	Urban flow pathways				
	Highways				
	Landscape				
	Rainwater harvesting	**Share**	**Develop**	**Share**	
	Asset maintenance				
	Civil contingencies				
	Groundwater management				
	Receiving water quality				
	Modelling	**Share**			**Develop**
	GIS				
	Inter organisational procedures				
	Governance				
	Regeneration and renaissance	**Develop**	**Share**		

Collaborative groupings of members

Membership

Alliance membership is open to organisations and groups with an interest in FRWM and which are aligned with the aim and objectives of the alliance.

Organisation

Currently, the alliance has no dedicated funding stream at present, so, for the short term at least, it will need to be resourced by means of the efforts of individual members or groups of members addressing their own learning needs where they are concomitant with the objectives of the alliance. The alliance will provide a forum for the members to identify

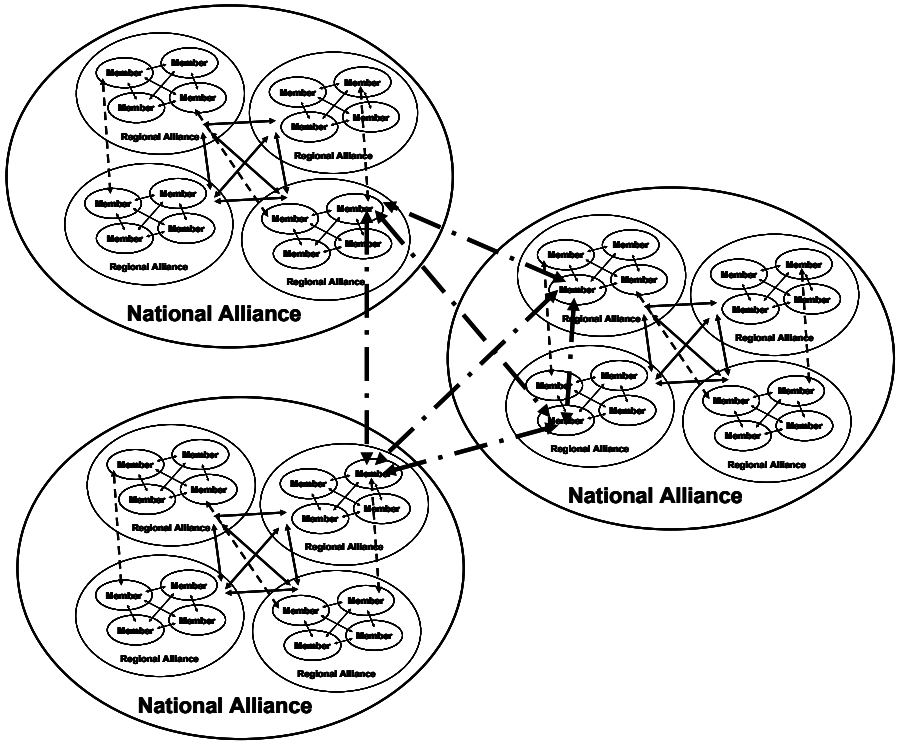
common needs, trial methodologies and processes developed by members, and disseminate the results of research and development projects. Thus the alliance will provide support to members who are seeking external funding to help to fill gaps in knowledge and experience.

The alliance will be multi disciplinary and it is recognised that there are many existing regional groups which already provide for the different professional disciplines that will contribute to the new approach to land and water management. There is no desire to duplicate or replace these groups, but the alliance will provide a means for them to come together to share knowledge to identify the gaps that need to be filled and to devise the means of doing this.

It is envisaged that as the alliance develops, a more formal structure will be required. However the structure will have to reflect the voluntary nature of the alliance and the need for flexibility in order to gain external funding for activities. An illustration of how the alliance members can work together and work with other regional alliances, and national and international partners is given in Figure 2. which shows how local, regional, national and transnational alliances can work together for the common good. The arrows show communication and information streams and how partners in different countries can share information through the network, and through these networks to a wider range of partners, even though they might not communicate directly. The alliances will link in to regional, national and European bodies at appropriate points thus enabling:

- Learning Alliance transfer
- Action on the ground through shared experience, knowledge exchange and best practice review
- Local Policy influencing Regional Policy in turn influencing National Policy and European Policy
- The alliances will also help to facilitate the cascading of policy to local scale

Figure 2: Illustration of interactions between alliances and members



Activities

The following are examples of activities that are being undertaken by organisations involved in the establishment of the alliance. Each of them contributes to the aim and current objectives of the alliance. One of the first activities of the alliance will be to draw up a list of other projects and proposals that are of relevance. This will include details of recently completed projects which are of relevance. The Pennine Water Group at the University of Sheffield will facilitate this process by providing pages on its web site.

City of Bradford MDC and University of Sheffield are working with partners in Germany, Netherlands, Belgium, France and Ireland in a project FloodResilienCity which has the following aim and objectives:

Aim:

To integrate the increasing demand for more houses and other buildings with the increasing need for more and better flood risk management measures in North West European cities.

Objectives:

1. Awareness: To enhance the awareness and engagement in all aspects of flood risk and the means of managing it at:
    - the Policy level (politicians/decision makers),
    - among the Professionals (of the involved authorities and elsewhere) and
    - at the Public level (people, companies, developers, insurance companies).
2. Avoidance: To limit flood damage and ease recovery by planning and adapting buildings, infrastructure, surfaces and economic activities and building capacity in individuals and institutions to become more resilient
3. Alleviation: To reduce flood risk by implementing physical, technical, non-structural and procedural measures for the management of water systems.
4. Assistance: To provide support to recovery processes and to engage and build capacity in communities, and others prior to, during and after flood events
5. Strategy & Capacity: To develop the capacity to engage in the processes above to adapt to and manage flood risk by integrating the activities associated with objectives 1 – 4.

The project will result in significant developments in organisational infrastructure and procedures associated with Flood Risk Management and the UK partners will be engaging with other regional stakeholders to take account of their needs so as to assist in the development of common approaches between stakeholders participating in flood risk and water management.

Sheffield City Council, Rotherham MBC and University of Sheffield are working with partners in Germany, Netherlands and Norway to develop a proposal for a project called MARE: Managing Adaptive REsponses to changing water and flood risk in the North Sea region. Its aims and objectives are as follows:

Aim:

To create validated, transferable tools and management processes for the sustainable management of floods in urban areas in the NSR.

Objectives:

1: to develop platforms for cooperation (Learning and Action Alliances) between the different stakeholders involved in FRM

2: to define and demonstrate local community flood risk adaptation processes and policies applicable throughout the North SeaRegion

3: to enable wider implementation and dissemination of the processes and policies through the Learning and Action Alliances

This project in particular focuses on developing approaches for sharing information and integrating planning activity across local authority boundaries

University of Sheffield and City of Bradford MDC are working with the University of Abertay and partners in Germany, Netherlands and Norway to develop a proposal for a project called SKINT water management Skills Integration and New Technologies in water management. Its aims and objectives are as follows:

Aim:

To contribute to the reduction of flood risk and improvement of water quality by increasing the technical capacity of spatial planners, water managers and other urban professionals, thus enabling them to enter into multi disciplinary collaborations using new adaptable and sustainable technologies.

Objectives:

- To facilitate the involvement of water managers and spatial planners in a multidisciplinary process by improving communication.
- To create and apply an international knowledge base of excellent processes and practices of water management integrated with urban land use (i.e. Interreg IIIB results)
- To integrate water management in urban land use processes to facilitate the implementation of technical water solutions.
- To provide information to professionals to convince decision makers of the need to choose for sustainable solutions
- To share our findings from SKINT with the future water and urban land use professionals in ways specified by those professionals
- To provide specially developed training programmes for future water and urban land use professionals

This project proposal is of particular relevance to: improving the knowledge and experience base for the production of surface water management plans, developing and enhancing methodologies to carry out strategic land availability assessments as part of the local development framework process., and supporting regeneration initiatives by developing a knowledge and experience base for innovative approaches to integrated land and water management.

LANDFoRM

Construction Industry Research and Information Association (CIRIA) are promoting a newly formed network with the aim of increasing knowledge and communication of good practice methods between local planning authorities on flood risk management and sustainable drainage issues. The **L**ocal **A**uthority **N**etwork on **D**rainage and **Flo**od **R**isk **M**anagement exists as a portal for dissemination and communication among local planning authorities to promote new policies and regulations including Making Space for Water and PPS25. It is possible that LANDFoRM could form a key link in the formation of a national network and the

relationship between LANDFoRM and the Yorkshire Alliance is being explored.

Other alliances

The University of Abertay Dundee, is working with Scottish Water, SEPA and municipalities in Scotland and Dwr Cymru Welsh Water is working with University of Sheffield to set up *de facto* regional alliances in Scotland and Wales which present the opportunity to form a national network along the lines identified in this document. The collaboration with European partners also provides the potential to form a transnational alliance.