

Scoping Study for Development of a Portal for DRR Lessons

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Introduction

In February of 2015 The Consortium for Capacity building, in collaboration with USAID and the Turkish Met Service convened a group of over 90 inter-disciplinary experts in various aspects of disaster risk reduction (DRR). The objective of this Expert Forum on Lessons Learned about Lessons Learned about Disaster Risk Reduction in a Changing Climate was to discuss obstacles to acting on lessons identified during DRR interventions. Previous studies, including *Working with a Changing Climate not Against It* (Glantz et al 2014), demonstrated that the same lessons emerge repeatedly in DRR project reports, indicating that these lessons are merely identified and not learned and considered in the development of future programs. Each hydromet disaster, regardless of the country it occurs in, generates reports filled with lessons identifies and with recommendations drawn from societal responses to the adverse impacts. But how can we ensure that these lessons are actually used?

Six calls to action came out of the Expert Forum on DRR (see box 1), each addressing different aspects the DRR landscape and how future DRR efforts might be improved. Further dialogue with stakeholders after the event revealed that the first call to action, a lessons identified portal for DRR, generated the greatest enthusiasm and was seen as the area of greatest need.

This particular call to action was intended to address a perceived need to better identify and share lessons drawn from hydro-meteorological events around the world in order to improve learning, and hence preparedness, in the face of climate, water, and weather extremes. An online DRR lessons learned portal would consolidate lessons drawn from previous experiences preparing for, and mitigating the impacts of extreme meteorological and hydrological events. By providing a common platform, it could help individuals, organizations, and decision-makers at various levels in society share and use lessons learned about DRR.

In response to enthusiasm for the portal, this desk review evaluates the possibility of developing and providing an open access web-based space, often called a knowledge portal, for

lessons learned in disaster risk reduction. It summarizes the existing literature on knowledge portals for a variety of applications and examines existing efforts to manage and share knowledge related to DRR, climate change, and development, applying lessons from others' experiences with portals to a portal for DRR. It organizes the results into a DRR-specific SWOC (strengths, weaknesses, opportunities and constraints) assessment.

Box 1: 6 Antalya Calls to Action

Six Calls-to-Action

1. "Lessons Learning" Process: The Need for a "Lessons Identified" Portal

A user-friendly, innovative DRR knowledge portal should be established to focus specifically on collecting, verifying, cataloguing, archiving, transferring and sharing both positive and negative DRR-related lessons identified during previous DRR-related interventions. These lessons can then serve as the bases for more efficient and effective future interventions.

2. Incentives For DRR Learning for Capacity Building (and Pilot Projects)

Governments, development banks, UN, donors and implementing partners are called to improve the sustainability of DRR project outcomes by creating incentives (economic, financial and regulatory) for retaining past capacity building achievements of individuals and institutions. Transitions from pilot projects to longer-term DRR programs should from the beginning consider past successes and failures. They are also called to select, design and implement projects in a spirit of true collaboration with each other as well as with recipients to clarify from the start all participants' expectations of outcomes.

3. Blend and Integrate DRR & CCA (Climate Change Adaptation): Fund "Orange"

DRR and CCA communities are called to meaningfully blend their overlapping DRR-related activities in mutually supportive ways for longer-term sustainability. The phrase

Fund Orange is meant to metaphorically encompass this call: if DRR activities are “red” and CCA activities are “yellow,” then mutually supportive funding would target the blend in their overlap—it would fund the “orange.” Demands on DRR and CCA funding are likely to increase with future increases in global climate uncertainties. The window of opportunity for DRR and CCA to act alone as primary colors is closing.

4. Role for the Next Generation (Youth & Young Professionals)

Governments, development banks, UN, donors and implementing partners are called to increasingly recognize, foster and support the active involvement of youth and young professionals as critical partners, acknowledging their key role in the DRR lessons learning process and as society’s next generation of decision makers.

5. Hydromet Warning Systems

Early Warning Systems (EWSs) developers and operators are called to pay more attention to the systems’ weaker links and to seek and listen to feedback on what works and what does not from the concerned groups and communities further down the end-to-end warning chain. Listening to feedback adds value to EWS use even if only by identifying the limitations of the current science. EWS developers and operators can only benefit by taking into account—at the outset of hydromet system planning—local knowledge about the understanding of local to regional hydromet hazards and vulnerabilities as well as community-identified needs.

6. Governments, Banks, and Donors need to Improve Coordination

To enhance the use and value of limited resources, improved coordination among governments, donors and banks is a must! DRR financing institutions are called to match their interventions with specific end-users’ absorptive capacity so as to foster people- centered development that highlights resilience and reduces vulnerability while building capacity at the community level. Doing so will reduce the risk of unwittingly supporting initiatives that operate at cross-purposes or provide unwanted

or non-useful technological assistance (or both).

Why a Knowledge Portal?

Repeated mistakes, the need to re-learn old lessons, high turn-over and concomitant loss of knowledge, and the desire or need to improve performance are among the reasons for considering a knowledge management (KM) platforms (Barnes & Milton 2015). As outlined in Glantz et al. (2014), these are among the primary challenges associated with learning lessons in the fields of DRR and Climate Change Adaptation (CCA).

According to the business literature (Barnes & Milton 2015), knowledge management strategies can help organizations in achieving the following goals: (1) operation excellence, (2) customer knowledge, (3) innovation, (4) growth and change. In the case of a knowledge for DRR lessons learned, operational excellence is the most relevant goal. In fact, it is in keeping with the need and the desire for the DRR community as a whole to learn its own lessons and subsequently improve practices so that DRR operations are more efficient and effective at building resilience.

What is a knowledge portal?

A knowledge portal is defined as "data organized for a particular purpose" (Drucker 1988 in Deltor 2004: 1) and with a particular audience in mind. According to Jansen et al (n.d), the four functions of a portal are (1) process support; (2) teamwork; (3) document management; (4) personalization. A knowledge portal is therefore a specific strategy for knowledge management and sharing.

A DRR Lessons Portal would be a platform for exposing and sharing information, whether anecdotal stories and experience or concrete data, on issues related to DRR for hydromet hazards around the world. It would provide access to DRR-related lessons, as well as "lessons learned about lessons learned" (Glantz et al. 2014). As some writers have suggested, lessons identified--which are often inappropriately labeled lessons learned--but not shared are in fact "lessons not learned" (Milton, 2010). By more widely disseminating DRR lessons, there is a possibility that more would be used and hence "learned."

Knowledge management is a major area of research and research application, and much has been said about the need to present information user friendly ways (Barnes & Milton 2015). In the case of a DRR portal, it will be important that the information can be easily retrieved by potential users from a wide range of fields of endeavor concerned about different aspects of hydromet DRR.

Barnes & Milton (2015) conceptualize KM according to a 2-axis, 4 quadrant typology (see the following chart). A successful DRR management strategy needs to combine a mix of their suggested strategies, allowing various individuals, groups, organizations and governments to connect to each other directly, search for content, publish and share their own content in a variety of formats as well as languages. Those focusing solely on collect and push (such as a simple search engine allowing people search for information) is less likely to be effective, as there needs to be the means and incentives for people to both contribute and seek out lessons or other kinds of information (Barnes & Milton 2015). Therefore, in order for a the DRR platform to be successful, there must be a balance between supply and demand for information; projects run aground when organizations try to do too much, or too little.

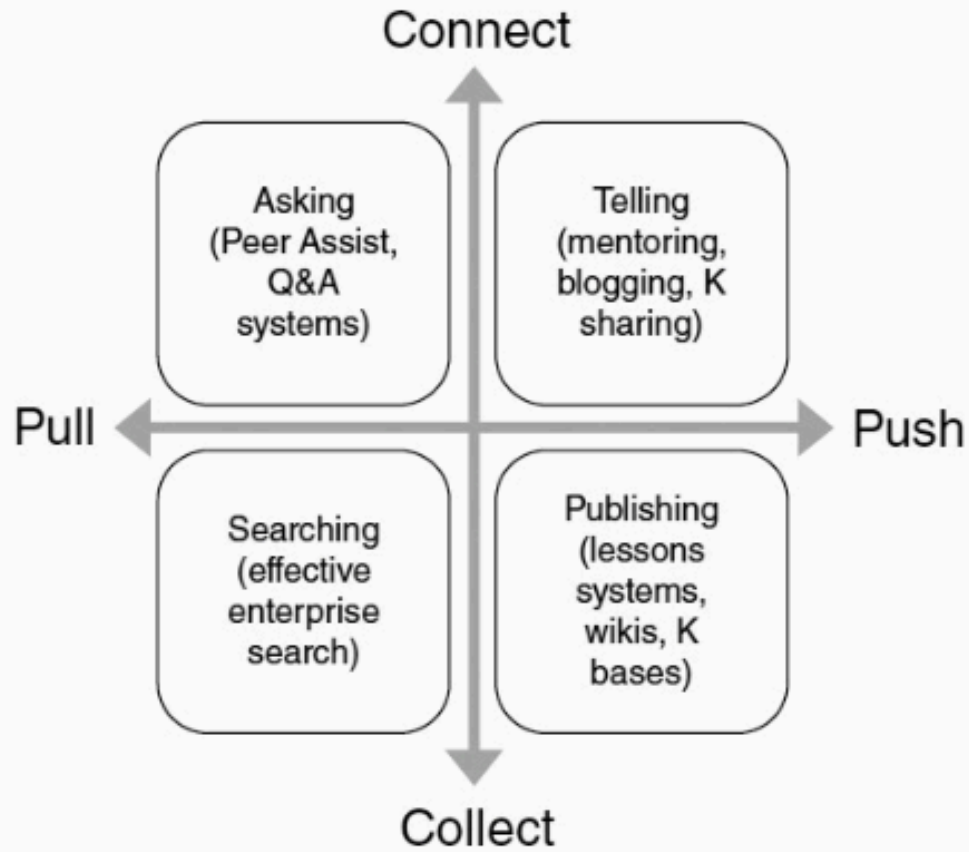


Figure 1.1 Four quadrants of Knowledge Management

As Figure 1.1 shows, the interplay of connect/collect and push/pull defines four quadrants, which can represent four elements of KM which need to be addressed in your strategy and framework.

SWOC Analysis for DRR Portal

Analyses of Strengths, Weaknesses, Opportunities, and Constraints (SWOC) are useful tools for identifying the pros, cons, and key considerations of potential policies and programs. The SWOC presented below is a synthesis of the literature review on knowledge portals for a range of purposes adapted to the DRR context. The table below is followed by a brief elaboration of the primary concerns and considerations about the value of using portals to share information in the context of DRR.

Table 1: SWOC Analysis for Knowledge Portal for DRR

Strengths	Weaknesses	Opportunities	Constraints
Possibility to sort and find information from a variety of sources	Resource intensive to build and maintain; is the benefit achieved worth the cost of maintenance?	Improve action/decision-making	Knowing the audience? The more diverse the needs of users of a KP, the less successful the KP will be in providing knowledge integration.
Knowledge sharing; bring together people and information from many places and organizations	Potentially inefficient	Quality control of lessons/information; improve transparency, quality of info on lessons	How to balance quality control of lessons/information and resources required to maintain the portal?
Single/consolidated access point for lessons and best practices	"Big brother-ish:" Will people share information?	Catalyze and support the emergence of a new community of practice centered on DRR lessons learned	Expertise and resources needed to maintain the portal website etc.
Stimulate knowledge creation, integration & applications	Doesn't address incentives to seek information	Opportunity for virtual meeting place for practitioners and end users	Knowledge Portals are geared at collecting explicit knowledge rather than gathering tacit knowledge and making explicit
Provide functionalities to identify & connect users	The benefits are hard to quantify	Forum for exchanging views on hot topics and lessons learned	
Geographical and hazard specific content	Difficult to generalize from one place to another.	Conduit for e-learning	

Awareness raising for portal users	People discount the value of past information.	Gateway to other online resources	
May provide access to baseline DRR information enabling better monitoring of progress	Language barriers given the wide range of languages relevant to DRR projects around the world	Connect people to the right information quickly and easily	
Case studies provide information for cross-country comparisons			

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Strengths: What Could go Right

As often touted by those studying the use of knowledge portals and other knowledge management systems for business purposes, technological platforms for knowledge management and sharing, if done successfully, have the potential to facilitate the sharing of knowledge and experience within and across organizations. For DRR lessons, a single, searchable, clearly organized portal can serve as a central access point for lessons learned from DRR-related operations across the globe. Knowledge management systems have great potential to allow actors to improve their performance by allowing people to capture and share their knowledge in order to make better decisions because actors will not have to "reinvent the wheel" (Smith & Farquhar 2000; Barnes & Milton, 2015 p 30). Instead, DRR experts can learn from the experiences of other DRR practitioners working on similar issues or in similar contexts who have faced similar situations and challenges. In theory, the ability to access lessons from the past can contribute to the goal--identified in by Glantz et al. (2014), and reiterated by participants in the Expert Forum in Antalya--of increasing the number of lessons actually learned, as opposed to those merely identified, put on a shelf to be forgotten rather than applied to future projects.

Case study lessons provided in an online portal may also provide other benefits to practitioners. For example practitioners may seek out earlier studies from areas in which they work to provide baseline data or a sense of how locations have evolved over time. They could also be used for cross-country comparisons of hazards, lessons, or interventions.

Knowledge portals also have great potential to connect actors working on similar problems or in similar contexts to one another (Hejazi 2005). Studies have found that process support and teamwork are two more important functions of knowledge management (Jansen et al n.d), and that "the easiest way to implement knowledge management is through networking" (Hejazi, 2005 p. 62). Successful knowledge portals should therefore connect people to each other as well as to information (Deltor 2004), places for people to interact and discuss the content should be available throughout the site.

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Weaknesses & Constraints: What Could go Wrong

The challenge in creating a portal knowledge portal for DRR, however, will be to develop a platform that meets user needs and encourages people and organizations to learn lessons from the experiences of others rather than merely collecting the same lessons over and over. This section explores some of the weaknesses and constraints that may prevent a portal from reaching the goal of better DRR programs, including catering to a diverse, multi-lingual audience, quality control of contributions, lack of incentives to seek out and use the information contained in the portal, and costs versus benefits.

In the case of a DRR portal, the potential audience is vast, which may lead to a lack of focus and information overload, as well as problems with communication. DRR projects take place all over the world, therefore lessons may be captured in languages other than English. A portal limited to English lessons would therefore exclude important lessons from non-English reports, whereas a portal in several languages could significantly complicate organization, management, and maintenance. It may therefore be best to limit the scope to a specific, defined area or theme rather than running the risk of having too much information, in too many languages, thereby overwhelming potential users. This of course, would also necessarily limit the portal's influence and reach.

Establishing a new portal also raises several questions about contributions, including who will contribute, how to ensure quality, and how to keep information of a vast number of potential DRR concerns organized and user-friendly. Merely establishing a portal does not guarantee that practitioners will contribute. In fact, some organizations might fear publicizing their "failures" for fear of the funding and reputational repercussions. On the other hand, if interest proves vast, it could be difficult to monitor submissions to ensure the quality of the information being presented. Again, balance is needed, and establishing the appropriate balance could be tricky.

The emphasis on portal development to improve the learning of lessons for DRR is reflective of a particular problem definition: that lack of access to information and lessons is the reason they are not learned or used. The assumption behind the portal is that if there is a repository, people will seek out the information. However, existing research suggests that in order to be successful, knowledge strategies need to be tied to incentives or behavioral change (Barnes & Milton 2015; Deltor 2004). Making knowledge available will not necessarily lead to better decisions or more lessons actually learned unless the strategy is linked to outcomes. A portal for capturing lessons, not embedded in larger structures or incentives, and not linked to everyday processes and operations of potential users is unlikely to achieve desired results (Barnes & Milton 49).

Even within a single organization, it is estimated by some experts that 80% of knowledge management strategies fail (Barnes & Milton 2015). Many of these failures occur because portal developers fail to engage relevant stakeholders, leaving knowledge management practices only partially realized. When use of the knowledge portal is not sufficiently "embedded within organizational processes and activities" (Milton p 20), it does not lead to lessons learned and improved performance.

If embedding knowledge management platforms is a challenge even within a single organization, one can only imagine the challenges of developing a decentralized strategy for sharing information across DRR organizations and actors who have diverse needs and internal policies. In the case of the lessons learned portal, knowledge management is not a goal in and

of itself, it is a means to lessons learned. Consequently, linking it to incentives (performance, financial etc.) would be important to ensuring success.

If USAID wants people to use a DRR lessons portal, it may have to create incentives for people to seek information and learning from the past to begin with. Evidence has shown that DRR actors may discount the past--believing that circumstances have changed or lessons have already been incorporated into planning--or believe that lessons from case studies do not apply to their particular location or project (Glantz et al 2014). What will drive people to the portal? Who will be accessing the site? Why? A successful strategy will need to consider who will be accessing this site (identify the target user) and how to push them toward it or attract them to it. In addition to donor or proposal requirements, the developer will need to consider how to increase visibility via search engines and links to existing websites relevant to the intended audience (Micklos et al. 2011).

Another potential weakness is that a DRR portal can only capture DRR knowledge that is captured and written down. Portals are designed to gather explicit knowledge rather than tacit knowledge (Marwick 2001 in Deltor 2004). Many of the potential solutions to common DRR problems (as well as lessons, best practices, and experiences) are likely to be stored in practitioner's heads but never explicitly written or shared on paper. This underscores the importance of fostering dialogue between practitioners in order to ensure that tacit knowledge relevant to learning from lessons is transmitted in addition to the details that make it into formal reports.

A final consideration is whether a DRR portal would yield sufficient benefit to justify the costs. Depending upon the precise configuration of the portal, it could prove to be a significant demand on time and drain on resources, not only to develop it, but to maintain and sustain the portal in the longterm. In the case of DRR, knowledge platforms already exist, and yet the problem of unlearned lessons persists.

Opportunities: What Ought to Be

Each opportunity, and some of the strengths, listed in the table above represents something that may or may not be realized depending upon the design and execution of the platform and participation of the broader community. The list of potential benefits is long, as is

the list of caveats. Nevertheless, the opportunities presented by a well executed are worthy of consideration.

As outlined in the strengths, among the most important opportunities are the potential to improve access to quality lessons and improve transparency in DRR programs. The development of a knowledge portal and associated donor policies may contribute to the learning of lessons and improvements in DRR programs and outcomes. This might be done because a portal has the potential to connect people to the right information quickly and easily; catalyze and support the emergence of a new community of practice centered on DRR lessons learned by providing a virtual discussion platform for practitioners and other potential users of DRR lessons; provide a gateway to other online resources.

Based upon the importance of networking to portal success, one of the ways a DRR portal may add value to the DRR community could be for it to link people to other portal members and to practitioners with relevant expertise instead of information and case studies alone. A DRR portal, if used, could have the added benefit of facilitating networking across a wide range of organizations and between actors working on a wide range of interrelated problems around the world. In an ideal scenario, a single point of access to a range of relevant DRR lessons and case studies from different geographical areas has the potential to create knowledge networks, connecting practitioners to each other, creating a community of practice and a dialogue around lessons learned makes an excellent point about the relationship of networking to information use. Such networking could facilitate communication between practitioners and the sharing of ideas that could, perhaps, lead to better project design and implementation.

One way to successfully embed a knowledge portal into decision-making is to find or develop champions within a community of practice that will push for use of a particular portal will increase adoption of the technology (Deltor, 2004). Unless USAID is willing to act as such a champion by incentivizing such changes within the organizations it funds, many benefits of a DRR portal may go unrealized.

Nevertheless, as we have seen from the discussion of the potential constraints and weaknesses above, none of these outcomes is guaranteed. Successful management strategies

work because they become part of organizational culture and priorities. An "organization must invest in both individual behavior changes and ultimately an organizational culture change if a KM implementation is going to succeed" (B&M 2015 137)." In order for people to take advantage of a new portal, "knowledge management should be part of everything an organization does and part of everyone's job" (Hejazi, 2005 p. 62). In his review of the existing literature on knowledge portal use and management Deltor (2004) provides ample evidence that if people are not rewarded for taking the time to to share information and learn from each other, they are unlikely to do so (O'Dell and Grayson 1998, Orlikowski 1995, Terra & Gordon 2003, and others in Deltor 2004). If using information is optional, it will likely remain in the portal. People must change their relationship to information, and perceive the information provided to be useful and easy to access/use (Deltor 2004).

Development of a new knowledge portal could therefore been seen as an opportunity to embed new incentives for reviewing and learning lessons into funding and planning processes.

"KM is a program that implements and manages organizational change and should be treated as such. It is not about buying and rolling out technology, it is not about giving people new toys, and it is not about adding another task into the project framework--it is about changing the way people think. It is about changing personal and organizational priorities, and it is about changing the way people treat knowledge. It is a profound shift from the individual to the social collective" (Barnes & Milton 2015 p 47)

A Key Opportunity: Engage Users to Understand and Meet their Needs & Overcome Constraints

The design phase of the portal presents an essential opportunity to ensure that the DRR portal realizes its potential strengths and opportunities. Extensive review of portals designed for business purposes confirms that designers need to understand information needs in order to ensure that the platform is useful (Deltor 2004). A participatory design process, in which intended users are engaged in developing the platform, can help to ensure that the final

product meets the needs of the target audience (Jansen et al, n.d). If the portal moves forward, developers should explore the desires, opinions, and constraints of potential users in the DRR community in order to ensure that their needs are understood and will be met by a new portal. This might be done through a survey of potential users, workshops, focus groups, interviews, or other forms of consultation. A collaborative or consultative process will increase the likelihood of stakeholders using the portal and of the reaching the goal of more lessons learned.

Examples of What Is: Existing DRR Knowledge Portals

Existing portals have consolidated information at a variety of levels with varying degrees of success. This section summarizes some key features and lessons from existing DRR portals and discusses lesson and implications for a new DRR portal.

A number of country-specific portals including those for Myanmar (<http://rrdmyanmar.org>) and Nepal (<http://apps.geoportal.icimod.org/ndrrip/mapsection.html>), consolidate DRR at a national level and specific to locally important hazards. In the case of Nepal, the portal is specific to earthquake risks, thereby limiting the potential reach and scope. Country or hazard-specific portals inherently limit scope and the audience. This may provide a solution to constraints related to language and information overload, but the narrow focus would not allow for cross-country comparisons or connecting actors to learn lessons from around the world. Although the DRR portal proposed at Antalya may want to focus only on one or two Hydro-met hazards (flood or drought) it will likely need to have a broader geographical focus. Indeed, a global DRR portal might seek to link to information already contained on these country-specific websites.

At the regional scale, the now defunct ISDR Asia Partnership (formerly at <http://drrprojects.net>) appears to have failed in their attempts to engage users on DRR in Asia. According to launch announcements, their platform included a searchable lists of projects, customizable graphs, and interactive risk and project maps (<http://sahanafoundation.org/deployments/disaster-risk-reduction-portal/>). This failure is despite features allowing users to customize and save searches. Although the reasons for the

site being taken down are unclear, this example illustrates the possibility of a failed endeavor, and the importance of understanding user needs and potential costs versus benefits.

Individual organizations also have online learning platforms that aggregate content on a range of development, humanitarian, and disaster-related concerns. The International Federations of the Red Cross Red Crescent movement has its own online learning platform which provides anyone who registers as a user with access to e-courses from a variety of organizations on topics related to humanitarian response (https://ifrc.csod.com/LMS/catalog/Welcome.aspx?tab_page_id=-67&tab_id=-1). It allows users to track their training, develop a professional profile, and network with other users.

Another e-learning platform, the World Bank's Online Learning Campus (<https://olc.worldbank.org>) provides talks, e-courses, and access to online community of practice forums on specific topics ranging from results-based aid and urban floods to sexual orientation and gender in the context of aid projects. A portal design which separates highly curated content (like talks and reports) from more participatory forums could be a useful model for a DRR focused portal as it provides access to different kinds and formats of information in a clear way.

Some larger DRR partnerships have also created their own platforms with more focused DRR content. The European Commission's Joint Research Center has a portal (<http://drr.jrc.ec.europa.eu>) that is largely reserved for exposure data and technical documentation. While this lies outside of the realm of specific lessons, it could be a useful source of data for users of a DRR platform.

World Bank already has a portal on Climate Change knowledge (http://sdwebx.worldbank.org/climateportal/countryprofile/home.cfm?page=country_profile), and given the significant overlap between lessons for DRR and for CCA (Glantz et al. 2014), the potential synergies with this platform should be explored. Geared toward development practitioners and policy makers with the intent of facilitating integration of climate risk into development planning, the portal allows the public to access adaptation profiles for 85 countries. Country profiles include data on climate, economic, hazards and vulnerabilities that

could be useful in helping people understand similarities and difference between countries. Although the focus is not on lessons, it may be a valuable complement to a DRR portal.

Other seemingly less successful effort sought to create open access journals focusing on case studies for DRR. Although not updated since 2015, GRF Davos Planet@Risk Journal (<https://planet-risk.org/index.php/pr/issue/view/12>) had a mission of supporting "the establishment of a worldwide risk community, committed to sharing know-how and expertise by a constant process of dialogue--a crucial but still insufficiently implemented element of a truly integrative approach to risk reduction and disaster management"(planet-risk.org). It was an open access platform publishing DRR-related case studies, working papers, grey literature and scientific reports after review by an editorial board. This platform could be a good source for DRR lessons, but may also be a cautionary tale, as the effort appears short-lived (only updated from end of 2013-mid 2015).

Also at the a global scale, PreventionWeb, an effort of UNISDR, is perhaps the best known existing portal. Like the DRR portal being explored here, it seeks to "serve the information needs of the disaster risk reduction community" and create a "network to share knowledge, connect and leverage resources to reduce disaster risk" ([Preventionweb.net](https://preventionweb.net)). It was developed by a coalition of government, NGO, academic, and private sector stakeholders to help reduce disaster risk in developing countries, and allows users to access information organized by hazard, theme, region or country. Anyone who completes the free registration is able to receive weekly updates related to interests they specify within those areas. It also provides links to existing networks and communities for each kind of hazard. Although not explicitly focused on lessons, this portal has several recommended features and significant overlap with the goals of a DRR portal, therefore the potential synergies should be explored.

The existence of so many knowledge portals related to DRR and development raises many questions. If such a portal exists already, is it prudent to develop another alongside it? What would be the value added? If access to information is primary obstacle to learning DRR lessons, why do lessons remain unlearned given that such networking and knowledge sharing opportunities already exist? How could existing portals be improved to promote the dissemination and learning of lessons? Given the existence of other DRR portals, it might make

more sense to look for ways to collaborate with or improve upon existing platforms rather than reinventing the wheel by developing a new platform from scratch. At the very least, the potential benefits of developing a new platform should be weighed against the potential costs and the possibility of enhancing existing platforms.

Design Considerations for a DRR Portal

Although the literature agrees that overcoming social barriers to knowledge portal use are more important than technical issues (Deltor 2004), thoughtful design and implementation are still important to fostering use. If a portal is poorly executed, even those with the drive to seek information provided in a portal are likely to turn elsewhere. The following bullets summarize some of the key design considerations mentioned in the literature, along with a rationale for each feature, where applicable.

Dias (2001) identifies 6 major components of knowledge portals for business purposes that should be taken into consideration.

- 1) Organizing rules and data that determine which users can add and access various kinds of information.
- 2) Search engines to enable users to find what they are looking for (see also Micklos et al 2011). Any portal needs a robust search function including the ability to classify, tag, and personalize information.
- 3) The ability for users to add their own information to the portal.
- 4) The ability to import and export information to and from the system.
- 5) Some kind of notification or subscription system that notifies users when content of relevance to their interests is added.
- 6) An interface that presents information and search results in an online format.

In addition to these, other authors point toward the following considerations.

- The information should be tailored to user needs.

- The portal should include individual user profiles and workspaces, a standardized interface.
- The portal should have a how-to page to explain the main features and functions (Jansen et al n.d).
- Systems should be in place to ensure quality control and information reliability (perhaps a referee for postings) (Jansen et al n.d.).
- Think about ways to facilitate collaboration and discussion; helping to connect people to co-workers/experts with relevant experience and knowledge.
- The platform should provide the ability to browse by topic.
- The content of the documents in the portal should be searchable (Micklos et al. 2011) in order to improve the reach of the search function.
- Users should have their own profile and the ability to personalize interface to help them locate what is relevant to them. space for users to customize and organize the information or contacts relevant to them (Jansen et al, n.d).
- Regional discussions to help actors working in the same context to consult and coordinate.
- Provide contact information for people submitting information in order to facilitate discussion (however, consider the possibility that this may lead to many inquiries and eventually lead people to stop contributing).

Although beyond the scope of this study, each of these questions and concerns will need to be carefully considered before development of a DRR portal begins.

Other Questions to be Considered

Design of the portal is key and requires careful consideration. Among the decisions that need to be made are:

- Who is responsible for site maintenance and keeping information up to date?
 - Who will be able to contribute/provide content?
 - How will content be added?

- What formats of information/lessons will be accepted?
- What will be the mechanisms for quality control?
- How will the benefit of the portal be measured (at least in part in order to maintain momentum and funding)?
- What might be important barriers to an effective portal?
- How, and at what levels, can incentives for production and use of information be devised?
- What this portal we learn from other DRR portals?
- What are the pros and cons of integrating with existing platforms ?
- How will the site help people sort through vast quantities of data and find the information relevant to their topic, needs, or interests?
- How to best ensure opportunities are realized (incentives)?
- How to entice people to use the portal? How, and at what levels, can incentives for production and use of information be devised?
- Is shortage of information or failure to consolidate information for ease of access the core problem? Might there be alternative or complimentary ways to address this problem?

Summary of Recommendations

- A DRR portal as it was proposed in Antalya, will have a strong potential to connect people to the right information quickly and easily; catalyze and support the emergence of a new community of practice centered on DRR lessons learned by providing a virtual discussion platform for practitioners and other potential users of DRR lessons; provide a gateway to other online resources.
- A DRR knowledge portal should only be considered in the context of broader investments in both institutional behavior changes and organizational changes. In addition to creating a portal, donors would also need to consider mechanisms for encouraging its use. In order to be used, a portal would have to be integral to USAID priorities and hence the decision-making processes of USAID funded projects. This might

be done by requiring that new project proposals reference previous lessons and present plans for overcoming common pitfalls of DRR programs as part of DRR proposals.

- Many other DRR-related knowledge portals exist, some with a regional and institutional scope, others indirectly focused on DRR. An important preliminary step would therefore be to evaluate the benefits, costs and institutional interest in developing a brand new platform against the possibility of enhancing an existing portal and adding a lessons learning perspective.
- The design process of the new portal should be participatory. Intended users should be consulted or otherwise engaged in developing the platform, to ensure that the final product meets the needs of the target audience. This could be done through a survey of potential users, workshops, focus groups, interviews, or other forms of consultation.
- One strategic measure could be a “Construction in Parts.” An “Alpha,” or pilot, version could be developed in the first year, focused on one type of hazards (e.g. Floods) and in one language (e.g. English). Then, based upon interest and usage, the numbers of languages (perhaps based upon WMO official languages) and hazards could be gradually increased.

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