



Cost-effectiveness in humanitarian work: preparedness, pre-financing and early action

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5 October 2018

Question

What rigorous cost-effectiveness evidence is there of preparedness, pre-financing and early action in humanitarian work, and what does the evidence tell us?

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1. Summary

Rigorous evidence of the cost-effectiveness of investments in disaster preparedness is limited. However, overall the available data points to disaster preparedness leading to clear reductions in both humanitarian costs and losses due to crises (lost lives, assets, livelihoods). While there is general consensus on the importance of preparedness, significant challenges mean it still accounts for a very small proportion of humanitarian aid. There is a need for more research on the impact of disaster preparedness.

Preparedness¹ means putting in place mechanisms which will allow national authorities and relief organisations to be aware of risks and deploy staff and resources quickly once a crisis strikes. By improving the speed and quality of assistance provided, preparedness can save lives and reduce suffering, and increase the value for money of relief action (increasing efficiency and decreasing costs). There is an increasing focus on disaster preparedness to improve the effectiveness and efficiency of disaster response and post-response efforts: its importance was underscored at the 2016 World Humanitarian Summit and provisions for preparedness are included in key international agreements and commitments. Despite the general consensus on the importance of disaster preparedness, the majority of humanitarian aid continues to be directed towards humanitarian response efforts: the proportion allocated to disaster prevention and preparedness makes up over 5% of total disaster spending since 2011 (Goldschmidt & Kumar, 2017: 4).

Disaster preparedness entails a wide range of activities. Financing falls broadly into three areas: preparing funds for an early response; financing activities ahead of a disaster (e.g. pre-positioning supplies and training field staff); and protecting the most vulnerable. As well as financing preparedness, it is important to have administrative preparedness through, for example, donors streamlining their own administrative procedures, emergency contingency partnerships, and incorporating flexibility into development programming. One of the main challenges for preparedness is the risk that no emergency materialises, leaving donors with the impression that public money was not spent efficiently. Related to this is the limited visibility that comes with successful prevention and preparedness, which could also undermine incentives. A further challenge highlighted in the literature is the lack of evidence about impact of disaster preparedness.

This review details the evidence from a number of studies of disaster preparedness impact, focusing on cost (and time) effectiveness. The literature reviewed was a mixture of academic papers and development agency reports. Key findings are as follows:

- A study examining the economic case for investment in early response and resilience-building in disaster-prone regions of Kenya and Ethiopia concluded that early response was far more cost-effective than late humanitarian response (Fitzgibbon, 2013). Two strategies were identified as particularly effective in reducing aid costs: early destocking (of animals) and buying food beforehand. Such measures drastically reduced costs.
- A cost-benefit analysis of emergency preparedness in relation to drought and flood hazards in Niger (Kellet & Peters, 2014) found that the benefits of investing in

¹ The term 'preparedness' is defined by the UN Inter-Agency Standing Committee (IASC) as: 'the ability of governments, professional response organisations, communities and individuals to anticipate and respond effectively to the impact of likely, imminent or current hazards, events or conditions, the knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from the impacts of likely, imminent or current hazard events or conditions' (IASC, 2011, cited in Fabre, 2017: 1).

preparedness far outweighed the costs. Estimated benefit-to-cost ratios (BCR) ranged (depending on different scenarios) from US\$ 3.25 for every US\$ 1 spent, to US\$ 5.31 (Kellet & Peters, 2014: 81-82). While the analysis provided a clear financial imperative for greater investment in preparedness, the authors stress that this has to be well-designed – otherwise it could fail and end up more expensive than ‘business as usual’.

- A 2015 study by the Boston Consulting Group quantified the cost and time benefits of a large and diversified investment ‘portfolio’ of emergency preparedness interventions undertaken by UNICEF and WFP in 2014 (BCG, 2015). It found that all the emergency preparedness investments examined saved significant time and/or costs in the event of an emergency: 75% demonstrated cost savings, with a net saving of \$6.4 million, 93% saved time, and 64% saved both costs and time. Among the interventions with highest return on investment were pre-positioning of emergency supplies, large infrastructure projects, and trainings.
- A 2016 report (Venton, 2016) gives the findings of a Value for Money (VfM) assessment of US\$ 39.8 million DFID contingency funding that was provided early in the 2015/2016 Ethiopia drought crisis. Timely procurement with DFID funding was estimated to have avoided an additional US\$ 6.3-7.4 million that would have been incurred by later procurement, an overall saving of approximately 18%.
- A 2017 report (Venton & Sida, 2017) presents interim findings from a study on the value for money (VfM) of DFID multi-year humanitarian funding (MYHF) and contingency funding. The greatest value savings (18-29% less than costs of buying in an emergency) were identified in Ethiopia through smarter WFP procurement. However, overall the study found there was a lot less evidence on anticipated value savings than was expected: this could be due to challenges in collecting data.
- A study examining the relationship between disaster preparation and preparedness (DPP) and the cost of humanitarian disaster response looked at data from 2002 to 2014 of aid received by 156 OECD countries (Goldschmidt & Kumar, 2017). The analysis found no support that investment in disaster preparedness reduces the cost of disaster response, the number of people affected, or the number of deaths resulting from natural disasters. However, the authors stressed that this should not imply a rejection of disaster preparedness, but rather promote understanding of why investments weren’t having an impact and how to improve upon them.
- A 2018 report (DEPP, 2018) gives the findings of a study of the return on investment (ROI) of DFID’s Disaster and Emergency Preparedness Programme (DEPP)’s capacity development investments in Ethiopia and the Philippines. The investments yielded positive returns: on average, for each £1 spent, there was a saving of £2.84 (though financial ROI took an average of 4.4 years to materialise); an average of 35.4 days response time was saved; and there was significant capacity ROI. The report concludes that preparedness investments are effective and likely to provide high levels of return, if localised; and preparedness benefits greatly from capacity development investments that support coordination. However, these need to be long-term.

Overall, this review found that there was evidence for cost-effectiveness of disaster preparedness, pre-financing and early action, but there remains considerable potential to increase savings. The literature points to the need for greater research into the impact of different disaster preparedness investments – as well as greater allocation of resources for preparedness.

2. Disaster preparedness, pre-financing and early action

Rationale

Preparedness means putting in place mechanisms which will allow national authorities and relief organisations to be aware of risks and deploy staff and resources quickly once a crisis strikes (Fabre, 2017: 1). By improving the speed and quality of assistance provided, preparedness can make a major difference in saving lives and reducing suffering, and increasing the value for money of relief action and ensuring that scarce resources are directed to where they will have the greatest impact. Fabre sums up the benefits (Fabre, 2017: 3-4):

- Preparedness increases efficiency – it means that funds to address humanitarian needs when a disaster occurs arrive earlier, aid is delivered faster and efficiency increases;
- Preparedness decreases costs – prepositioning emergency relief through a regular logistical chain and training national and local capacity in an area that is prone to recurrent disaster clearly will cost less than flying in emergency relief and international experts during an emergency;
- Preparedness can enhance national and local leadership;
- Preparedness can increase resilience and can bridge humanitarian and development funding;
- Preparedness decreases the humanitarian carbon footprint.

Goldschmidt and Kumar (2017) explain that investment in disaster prevention and preparedness focuses on two primary outcomes: reducing the cost of humanitarian relief efforts and reducing societal social and economic costs of natural disasters. The social cost is measured by the number of people affected or needing assistance during the disaster, and the number of people killed by a natural disaster. The economic cost of a natural disaster is measured by the amount of damages and economic losses related to the disaster (Goldschmidt & Kumar, 2017).

There is an increasing focus in humanitarian work on emergency preparedness to improve the effectiveness and efficiency of disaster response and post-response efforts (Fabre, 2017). In 2012 the United Nations launched a social media campaign, 'Act Now, Save Later', to highlight the benefits of investing in disaster preparedness, asserting that 'every single dollar of aid spent on preventing and mitigating disasters saves an average of seven dollars in humanitarian disaster response' – though no calculations or citations were given to support this cost benefit ratio (Goldschmidt & Kumar, 2017: 2). In developing countries, the United Nations estimates that allocating 10% of aid towards disaster preparedness would protect development gains (Goldschmidt & Kumar, 2017: 4). The 2016 World Humanitarian Summit underscored the importance of disaster preparedness, and initiated and strengthened a number of preparedness measures aimed at reaching an essential level of readiness (Fabre, 2017). The Sustainable Development Goals (1.3 and 1.5), the Sendai Framework for Disaster Risk Reduction 2015-2023, the Agenda for Humanity, and Good Humanitarian Donorship (Principle 1) are some of main international agreements and commitments with provisions for preparedness (Fabre, 2017: 4-5).

Despite the general consensus on the importance of disaster preparedness, there continues to be a lack of funding for preparation projects. The majority of humanitarian aid continues to be directed towards humanitarian response efforts, with the proportion allocated to disaster prevention and preparedness making up over 5% of total disaster spending since 2011 (albeit up

from less than 1% of total disaster aid prior to 2007) (Goldschmidt & Kumar, 2017: 4). Fabre concludes that 'the humanitarian financial system remains essentially reactive and focuses on responding to disasters rather than preparing for them' (Fabre, 2017: 3).

Forms

There are three main ways to support financing of disaster preparedness, each of which can take many forms (Fabre, 2017: 5-12):

- a) Preparing funds for an early response (pre-financing) – making sure that money is already available before a disaster hits so that humanitarian actors can start their relief operations immediately. This can be through an emergency financial reserve (included in humanitarian budgets for unforeseen events requiring urgent funding); building contingent capacity (including funding sources) for high probability, high impact disasters into planning processes; global and country-based pooled funds (e.g. the UN Central Emergency Response Fund, CERF); and the Disaster Relief Emergency Fund (DREF).
- b) Preparing partners for early action – financing activities ahead of disaster so that they are prepared before the shock, mitigating the impact of disaster on the population. This can include emergency supply pre-positioning (stockpiling critical supplies in strategic locations) and training field staff to respond; forecast-based financing (FbF) that triggers humanitarian action and funding for specific preparedness actions once a certain threshold of probability has been reached in forecasts of extreme weather and climate conditions; and, investing in the building blocks of a good response (e.g. forecasts, early warning systems, disaster risk mapping and analysis, and coordination mechanisms).
- c) Protecting the most vulnerable – is a way for individuals or governmental systems to be protected against losses that are induced by a disaster. This can be through social protection measures such as social safety nets; climate risk insurance at micro level (individuals and households); and disaster risk financing to help countries manage the cost of disaster and climate shocks.

As well as financing preparedness, it is important to have administrative preparedness through, for example, donors streamlining their own administrative procedures and improving the flexibility of their funding (Fabre, 2017). Emergency contingency partnerships are another useful means to pre-position humanitarian aid: arrangements with selected partners or alliances may include pre-positioned funds or fast track approval processes. Another approach is incorporating flexibility into development programming, so that local development partners can be involved in the humanitarian response. Crisis modifiers, for example, are provisions that allow the national or local actor to move funds from development activities to crisis response, or allow donors to provide additional funds for crisis response.

Challenges

One of the main perceived risks for preparedness funding is the risk that no emergency materialises, leaving donors with the impression that public money was not spent efficiently (Fabre, 2017: 13). This could be overcome through 'no regrets' programming, which delivers results even if no crisis occurs, e.g. cleaning sewage in anticipation of extreme rainfall will benefit the population even if disaster doesn't materialise. Learning from no regrets responses

successfully implemented by two NGO resilience consortia in Somalia² found that ‘community-led early actions based on early warning information saved flood-vulnerable communities from crop losses and were more effective than a humanitarian response after the floods occurred’ (IFRC, 2016: 109, cited in Rohwerder, 2017: 10). However one analyst commented that no regrets responses had lost momentum partly due to ‘the challenges associated with incentivising early action’ as there were reputational and financial risks associated with acting on uncertainty, while the limited visibility that comes with successful prevention and preparedness could also undermine incentives (Chloe Parrish in ALNAP, 2016: 23, cited in Rohwerder, 2017: 10).

There are also other non-financial challenges to disaster preparedness, including: semantics – definitions and meanings of key emergency preparedness terms are not shared across different actors; lack of ‘joined-up’ understanding of all risks – knowledge is often parcelled out amongst particular actors within their own sectors; weak government frameworks and institutions; lack of a systematic approach and of planning for emergency preparedness; and unclear roles and responsibilities, especially amongst the international community (Kellet & Peters, 2014: 12).

A further challenge highlighted in the literature is the lack of evidence about impact of disaster preparedness. ‘Little evidence has been collected to date to demonstrate the impact of early preparedness investments on eventual humanitarian response’ (BCG, 2015: 2). ‘There remains limited research on both disaster preparedness and the impact of preparation on disaster and post-disaster response’ (Goldschmidt & Kumar, 2017: 2). Fabre (2017) notes that many preparedness activities are relatively easy to monitor when they aim to put in place capacity, processes and items ahead of a crisis, when constraints are less critical than during the crisis response. ‘The impact of such activities, however, is much harder to assess, making political buy-in difficult to gain’ (Fabre, 2017: 13). Fabre (2017: 14) concludes: ‘research is still needed to define the most impactful elements of preparedness and their interaction in reducing suffering and costs during a crisis’.

The remainder of this review details the evidence from a number of studies of disaster preparedness impact, focusing on cost (and time) effectiveness.

3. Rigorous evidence of cost-effectiveness

Fitzgibbon, C. (2013). *The economics of early response and disaster resilience: lessons from Kenya*

This article gives the key findings from a study commissioned by DFID to examine the economic case for investment in early response and resilience-building in disaster-prone regions. The study looked at Kenya and Ethiopia with a specific focus on the pastoral lowlands typical of many drought-affected areas in the wider region. It compared costs of three different approaches or ‘storylines’:

- Late humanitarian response
- Early humanitarian response

² Somalia Resilience Programme (SomReP) and Building Resilient Communities in Somalia (BRCiS) – these operated during the 2015 El Nino season when early warning indicators pointed to large-scale flooding across parts of southern Somalia (Rohwerder, 2017: 10).

- Building resilience to disasters.

Given the focus of this literature review, it is the findings with regard to early vs. late response that are relevant. The study concluded that early response is far more cost-effective than late humanitarian response: 'Early response ensures that assistance arrives before households have to resort to negative coping strategies such as selling productive assets like core breeding stock' (Fitzgibbon, 2013: 28). Two strategies are identified as particularly effective in reducing aid costs:

- Early destocking – in pastoral communities facilitating early destocking (via commercial sale) of quality animals (can) reduce aid costs. If pastoral households can convert high-value animals into cash before their condition declines they can use the income to maintain the condition of their remaining animals and feed themselves without food aid;
- Buying food beforehand – the cost of buying food aid during a crisis, as against buying it beforehand, is inflated. The study estimated that food (and cash) transfers usually represent 60-80% of total humanitarian assistance.

The combined effect of purchasing cheaper food earlier and reducing the number of people in need drastically reduces costs. Fitzgibbon acknowledges government and donor concerns about releasing humanitarian funds early in response to early warning reports for fear that they could end up funding a 'non-disaster', but claims that even allowing for that risk there are cost savings: 'In fact, the study points out that donors could mistakenly fund two early responses in Kenya, and seven in Ethiopia, before the cost matches that of even one late humanitarian response' (Fitzgibbon, 2013: 28).

Kellet, J. & Peters, K. (2014). *Dare to prepare: taking risk seriously. Financing emergency preparedness: from fighting to managing risk.*

This report includes a cost-benefit and cost-effectiveness analysis of emergency preparedness in relation to flood and drought hazards in Niger.

The total estimated costs of emergency preparedness, as articulated in the Government of Niger's annual support plan and its flood risk management plan, are US\$ 47.9 million per year (Kellet & Peters, 2014: 81). The benefits of emergency preparedness have been articulated as (Kellet & Peters, 2014: 81):

- a) Reduced unit cost of response – WFP Niger estimated that pre-planning in response to drought could reduce aid costs (food and non-food aid) to 89% of the cost under a scenario without any pre-planning, based largely on reduced costs of cereal prices and transport costs. These savings would also be applicable to flooding and conflict;
- b) Reduced caseloads – modelling suggests that an early response to a high magnitude drought would lead to 51% of caseloads under a late response, further reducing annual humanitarian response costs;
- c) Reduced losses – the analysis looked at three potential scenarios for reduced losses (associated with lost lives, assets and livelihoods) due to the impact of a crisis as a result of emergency preparedness. Even under the most conservative assumption, losses were estimated to decrease by 10%, and under the least conservative by 30%.

The costs and benefits outlined above were input into a 20-year model to estimate the costs of emergency preparedness as compared with the benefits, monetised in terms of avoided costs of aid and disaster losses. Because of the number of assumptions involved, three scenarios were

modelled. The benefit-to-cost ratio (BCR) was positive across all scenarios. In the most conservative scenario it was estimated that US\$ 3.25 of benefit would be generated for every US\$ 1 spent, rising to US\$ 5.31 of benefit in the least conservative scenario (Kellet & Peters, 2014: 82).

The authors conclude that the findings provide 'indicative evidence that there is a clear financial imperative for greater investment in effective preparedness in the country. The monetary benefits of investing in preparedness...clearly outweigh the costs' (Kellet & Peters, 2014: 11). However, they stress that the effectiveness of an emergency preparedness plan will depend on its design – one that is not carefully designed could fail to deliver outcomes and hence ultimately be more expensive than 'business as usual' (Kellet & Peters, 2014: 83).

Boston Consulting Group (2015). *UNICEF/WFP Return on Investment for Emergency Preparedness Study*

This study by the Boston Consulting Group (BCG) claims to be one of the first research initiatives to quantify the cost and time benefits of a large and diversified investment 'portfolio' of emergency preparedness interventions undertaken by UNICEF and WFP in 2014. The aim was to build an evidence base for a return on investment (ROI)³ for preparedness to:

- identify opportunities to reduce costs and increase the speed of humanitarian response;
- assess planned and existing preparedness investments in terms of potential cost savings and response time;
- compare different preparedness interventions along these two dimensions.

The study looked at 49 emergency preparedness investments in three pilot countries: Chad, Pakistan and Madagascar. The investments spanned across four main operational areas (logistics, procurement, staffing and partnerships/external contracting) and covered UNICEF and WFP activities under the DFID Humanitarian Programme funding for emergency preparedness from January 2014 through the end of 2014 (BCG, 2015: 2).

Key findings from the study were:

- All the UNICEF and WFP emergency preparedness investments examined saved significant time and/or costs in the event of an emergency;
- Cost savings – 75% of preparedness investments examined demonstrated cost savings beyond the amount of the initial investment. \$5.6 million was invested in the 49 preparedness activities examined. These interventions saved a total of \$12 million toward future humanitarian response for a net saving of \$6.4 million;
- Time savings – 93% of preparedness investments examined saved time toward humanitarian response – no investment slowed down humanitarian response. Response time was speeded up by 2 to 50 days, or an average of more than one week.
- 64% of preparedness investments saved both costs and time.

The authors say their research demonstrates that humanitarian preparedness is complex and must be tailored to context. Investments with high returns in one country do not necessarily

³ The ROI (return on investment) is a financial measure in which an ROI rate of 1 indicates that future costs will be reduced by the same initial investment amount. All rates greater than 1 indicate a higher cost saving than the original investment (BCG, 2015: 3).

indicate similarly high returns if implemented in another country. However, drawing on trends within the data collected and analysed for the study, they suggest some patterns (BCG, 2015: 3):

- Pre-positioning of *internationally*-sourced emergency supplies yield ROIs in the magnitude of 1.6 – 2.0 and significant time savings of 14 to 21 days on average across all pilot countries. Analysis based on anticipated future needs suggests that quantities pre-positioned as emergency supplies in the pilot countries could be increased without risk of spoilage or financial loss.
- Large infrastructure investments (e.g. in airstrips) yield the highest absolute money savings;
- Trainings may yield by far the highest financial ROIs (1.3-18.7) due to their relatively limited initial investments and large potential cost savings, but this type of investment also requires the need to retain the trained staff and to ensure a high quality of training;
- The more dependent a country is on external goods and services, the higher the ROI of an investment ensuring their availability in an emergency situation (primacy of available goods over non-available ones);
- For countries with higher coping capacities, the ROIs for more basic emergency preparedness investments fade, with higher value shifting to those in human capital (e.g., training) and organizational capacity (e.g., additional resources);
- All investments have various additional qualitative benefits (e.g., higher reliability, local expertise development, spillover to the broader humanitarian community or long-term multiplier effects) that were not quantified but further increase the value of the investments.

The authors conclude that ‘given the magnitude of the ROI of most investments, it appears that there is still a large gap between potential savings from preparedness investments and the actual cost of humanitarian response’ (BCG, 2015: 4). They call for early funding toward emergency preparedness, while stressing that this does not remove the need for donor support for humanitarian response – rather a more balanced resource allocation approach should be taken between preparedness and response activities in high-risk settings. They also recommend diversifying preparedness investments across a spread of intervention areas ‘since the operational preparedness gains examined in this study showed strong interdependence in realizing maximum cost- and time-savings’ (BCG, 2015: 4). Finally, they stress that contextualized analysis is necessary for evaluating the relative merits of investments in different situations.

Venton, C. (2016). *The Economic Case for Early Humanitarian Response to the Ethiopia 2015/2016 Drought*

This report gives the findings of a Value for Money (VfM) assessment of DFID contingency funding that was provided early in the 2015/2016 Ethiopia drought crisis. The hypothesis was that timely humanitarian funding – funding provided early, at the first signs of a crisis – should bring efficiency and effectiveness gains to the overall response. The study was part of a wider evaluation of DFID multi-year funding and resilience in protracted crises (see below, Venton & Sida, 2017). Contingency funding was defined as additional early funding triggered in response to the crisis through existing pipelines.

The analysis looked at the overall response to the Ethiopian drought to assess the additional cost of the funding shortfall as of 31 March 2016. It estimated the cost required to meet the unfunded part of the Humanitarian Requirements Document (HRD) (released in December 2015 calling for US\$ 1.4 billion in humanitarian aid to reach 10.2 million people in need) by comparing three scenarios: the cost to procure on time, the cost of late procurement and the cost of no response. Most relevant to this review are the financial cost savings from early DFID funding.

DFID provided US\$ 39.8 million in early funding for food and treatment of severe acute malnutrition (SAM). Timely procurement with DFID funding was estimated to have avoided an additional US\$ 6.3-7.4 million that would have been incurred by later procurement, an overall saving of approximately 18%. However, early funding had far less impact on water supply, which required more time to set up and get working properly (Venton, 2016: 32).

While the study findings indicate that DFID contingency funding provided early in the crisis played a significant role in delivering VfM gains, it also indicated that the costs associated with the remaining deficit could measure in the hundreds of millions of dollars in procurement and economic costs. It concludes: 'This analysis.....shows the necessity for funding models to respond to the first signs of a crisis. Flexible funding, for example through multi-year humanitarian funding models with built-in contingency mechanisms, can allow shifts in funding depending on need and can help to stimulate more timely response resulting in significant cost savings' (Venton, 2016: 7).

Venton, C. & Sida, L. (2017). *The Value for Money of Multi-Year Humanitarian Funding: Emerging Findings*

In 2014, DFID introduced multi-year humanitarian funding (MYHF) for protracted conflicts. DFID subsequently commissioned a thematic evaluation focused on protracted crises, using Ethiopia, Sudan, the Democratic Republic of Congo (DRC) and Pakistan as case studies. A number of potential value savings were hypothesised for MYHF. This report presents interim findings from the study to date (2017) on the value for money (VfM) of MYHF and contingency funding, summarising emerging findings.

With regard to value savings, the greatest value savings (to date) were identified in Ethiopia through smarter WFP procurement. 'By purchasing at the optimal time, WFP spent between 18 and 29% less than if they had had to buy in the heat of an emergency. Even compared to routine purchasing there look to be significant gains from longer term predictable funding, as it allows for better planning. There were also some modest staffing cost savings' (Venton & Sida, 2017: 3). The study found that the area of planning appeared to be the main gain associated with MYHF. The best example of this was seen in DRC where UNICEF was using MYHF for a cash transfer programme for people displaced by conflict. The agency managed to reduce delivery costs by giving fewer, larger grants.

The report noted that, whilst the promise of MYHF was becoming clearer, there were still significant hurdles to its implementation. 'Most significantly, much of the MYHF examined in this study still ends up being effectively short term in nature. This is either because agencies do not pass on the multi-year benefits to sub-grantees ('pass through'), or because their systems do not allow them to work longer term' (Venton & Sida, 2017: 4). In Ethiopia, for example, both OCHA and UNHCR were in receipt of MYHF but neither was able to fund partners for longer than a year. WFP in Ethiopia also used DFID MYHF in the same way as other donor financing, against a plan of emergency food distribution worked out every six months. By contrast, UNICEF in DRC

took a longer-term planning perspective and also signed grants longer than a year with its partners. ACF was the other MYH partner in DRC, operating an emergency nutritional response model. Interventions were in response to spikes in malnutrition and were mostly short-term in nature (once the situation is stabilised ACF withdraws). 'MYHF ensures this capacity to respond is in place, an entirely positive outcome, but it does not lead to different approaches' (Venton & Sida, 2017: 4). They sum up the challenge:

Systems have been built over many years to deliver short term programming, and these cannot be unravelled overnight. In fact, the very word humanitarian has become synonymous with short term intervention, a significant philosophical and psychological barrier to implementing longer term approaches in crises labelled humanitarian (Venton & Sida, 2017: 5).

They conclude that benefits in terms of planning, programme design and a change in approach remained tentative in the programmes examined and a lot more work would be needed to ensure such gains become routine.

The authors found there was a lot less evidence on anticipated value savings than was expected. Aside from the WFP example highlighted above for Ethiopia, VfM data was surprisingly thin despite significant efforts to collect this. While the study acknowledges that agencies clearly have trouble collecting the data as it is complex and costly, it finds 'there is a major gap in terms of data to prove the value case, meaning the hypothesis that MYHF can lead to more efficient aid is only partly proven' (Venton & Sida, 2017: 6).

Goldschmidt, K. & Kumar, S. (2017). *Reducing the cost of humanitarian operations through disaster preparation and preparedness*

This paper examines the relationship between disaster preparation and preparedness (DPP) and the cost of humanitarian disaster response. The authors hypothesise that increased investment in disaster preparation and preparedness will reduce the need for future emergency response efforts, thus driving down costs.

To analyse this they looked at data from 2002 (the first year of investment in disaster prevention and preparedness) through 2014 of aid received by 156 OECD countries (Goldschmidt & Kumar, 2017: 4). They included three subgroups of humanitarian aid: emergency response (ER); reconstruction, relief and rehabilitation (RRR); and disaster prevention and preparedness. The dataset included a total of 126,086 humanitarian aid disbursements over the time period 2002-2014. They also collected data over the same period on societal social and economic cost metrics from the EM-DAT: International Disaster Database of 5,745 natural disasters in 179 countries, filtering this to include only the 154 countries listed in the OECD dataset (Goldschmidt & Kumar, 2017: 4). Global development data was collected from the World Bank data catalogue from 2002 to 2014 for the 154 OECD countries, and additional data from the Yearbook of International Organizations on the number of active NGOs and intergovernmental organisations (IGOs) active in those countries. The authors claim theirs is the first study they know of that investigates aggregate funding – previous studies have relied on individual case studies.

The combined data was used to address the following research questions:

- How does investing in post-disaster reconstruction, relief and rehabilitation (RRR), and pre-disaster DPP impact future disaster response costs?
- How do social and development indicators contribute to disaster response costs?

With regard to findings, the analysis found no support that investment in disaster preparedness reduces the cost of disaster response, the number of people affected, or the number of deaths resulting from natural disasters. Moreover, investments in DPP the previous year significantly increased the cost of responding to natural disasters. Including RRR in the analysis did not change this finding – that investment in DPP the previous year increases ER costs. The authors also found that the number of NGOs and IGOs within a country – a large presence would be expected to reduce ER costs – has no significant effect on disaster response costs. Looking at whether the logistics capabilities of a country reduced the cost of ER, they again found no support for this.

Despite the negative findings, Goldschmidt and Kumar stress that these ‘should not spurn disaster preparedness, but rather promote further understanding of why the existing investments are having no impact and how to improve upon the existing disaster preparedness processes such that they achieve their intended purposes’ (2017: 2). They present a number of possible explanations for their findings (Goldschmidt & Kumar, 2017: 11-12):

- There is a lack of clarity as to what investments are being made in DPP, and whether the types of investments have changed over the past two decades. Further details would allow for a more complete analysis: it is possible that existing DPP investments are having a significant impact. Further details would also provide insights into what investments work and what investments don’t work;
- Perhaps not enough is being invested in disaster prevention. There is the possibility that there is a tipping point for disaster preparedness investments, and that only once the level of investment reaches this tipping point would there be returns or benefits on the investment;
- There exists anecdotal evidence that over time, without the appropriate level of maintenance and repair or reinforcement, there is a reduction in the effectiveness of preparation investments;
- One of the critical project characteristics that could differentiate projects that successfully reduce future disaster response costs is the scale and scope of the project. When examining the prior literature, many of the case studies focused on large-scale projects (e.g. dam construction), which we believe are more likely to reduce future disaster costs. In our data....about 93% of projects have budgets of less than a million dollars.

DEPP (2018). *DEPP Return on Investment Study: Final Report*

In 2014, DFID launched the Disasters and Emergency Preparedness Programme (DEPP), a three-year, £40 million programme aimed at significantly improving the speed and quality of humanitarian response in countries at risk of natural disasters or conflict-related emergencies (DEPP, 2018: 6). This report gives the findings of a study, conducted between October 2017 and May 2018, of the return on investment (ROI) of DEPP’s capacity development investments in Ethiopia and the Philippines. The analysis used the ROI methodology first developed by the Boston Consulting Group (BCG) in 2015. It relies on carefully analysing and comparing how a humanitarian response in different risk scenarios would occur with and without the investment having been made. A total of 11 capacity development investments in Ethiopia and the Philippines, collectively valued at £3,874,424 were appraised (DEPP, 2018: 4).

The key findings of the study were as follows (DEPP, 2018: 12):

- Financial savings - The investments yielded positive returns. Averaged across all investments analysed in this study, for each £1 spent, there is a saving of £2.84. The greatest financial returns are obtained by investing in local staff and organisational efficiency. On average, investments in capacity development for preparedness start yielding a positive financial ROI after 4.4 years.
- Time savings - The preparedness investments that were analysed were found to enable time savings that are likely to save lives. Across the investments analysed, an average of 35.4 days was saved, with community empowerment yielding the highest time ROI. This figure was far lower in the Philippines than in Ethiopia, pointing to the importance of country context as an enabler of high-potential investments.
- Capacity ROI - Investments focused at the organisational level provided the highest score at an individual level. Specifically, investments that empower local communities as humanitarian actors, those that fill humanitarian skills gaps and those that enable faster and more appropriate responses through enhanced data gathering seem to offer the most potential.

Overall, the findings indicate that capacity development investments, though at times hard to appraise, are among the most promising in terms of humanitarian results. The time taken to yield a positive financial ROI implies that decision-makers can only make the case for preparedness as a source of financial savings by taking a long-term view. This may have ramifications for humanitarian planning processes that may not always encourage such foresight, particularly donor-funded programmes that are of shorter duration and expected to produce results within these shorter timeframes.

The report concludes that: preparedness investments are effective and likely to provide high levels of return, if localised; and preparedness benefits greatly from capacity development investments that support coordination. However, investments in capacity development for humanitarian preparedness need to be long-term (DEPP, 2018: 18).

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Suggested citation

Idris, I. (2018). *Cost-effectiveness of humanitarian work: preparedness, pre-financing and early action*. K4D Helpdesk Report 461. Brighton, UK: Institute of Development Studies.

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