The Joint Action Group (JAG) is a non-formal group of civil society organisations working in Cambodia on Disaster Risk Reduction (DRR) and Disaster Management. Members coordinate relevant activities and share information, knowledge, skills and experience.

Full members (2015): ActionAid - ACTED - AVSF - CARE - Caritas - DanChurchAid - IFRC - Life With Dignity - Oxfam - Plan - People in Need - Save the Children - World Vision Regular Observers: CHF/ADPC - UNDP (on behalf of UN system)

Cover: Standing ankle deep in floodwater, people in Kratie province tend vegetables planted in raised beds. (Charles Fox/ActionAid)
KEY RECOMMENDATIONS

The Joint Action Group on Disaster Risk Reduction (JAG) welcomes the passing of Cambodia’s Law on Disaster Management (hence ‘DM Law’) in July 2015, noting that further clarification and guidance for implementation will help Cambodia reach the goals of both the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) and the Sendai Framework for Action.

In the spirit of productive collaboration, JAG offers the following suggestions in order to facilitate implementation of the DM Law.

Recommendation 1A-I: Develop and share plans and programmes for improving public awareness and for identifying disaster risks as noted in the DM Law.

1A-I.i Involve civil society, development partners and other relevant bodies in planning and programming to improve public understanding of, and identification of, disaster risks;

1A-I.ii Pay specific attention to clearly explaining the legal penalties mentioned in Chapter 8 to communities and other affected stakeholders.

Recommendation 1A-II: Draft legal instruments to facilitate implementation of the DM Law that:

1A-II.i Establish distinct roles and responsibilities of all key actors at each national and sub-national level;

1A-II.ii Establish a mechanism to integrate DRR into general development and climate change adaptation planning at all levels;

1A-II.iii Establish a mechanism to collect and process feedback on DM Law implementation;

1A-II.iv Clarify how the law will promote the realisation of citizens’ rights and obligations under Chapter 6.

Recommendation 1A-III: Draft legal instruments that allocate national finances to the entire disaster cycle from preparation to rehabilitation.

1A-III.i Such funds and budgets should be decentralized and allocated to sub-national authorities accordingly;

1A-III.ii Such funds and budgets should support communes to integrate disaster risk reduction measures into Commune Development Plans and Commune Investment Programmes;

1A-III.iii An instrument to establish transparent funding and support coordination procedures for emergencies;

1A-III.iv As per the National Contingency Plan, an instrument to establish ‘trigger points’ for leveraging national, regional and international funding and support.
EXECUTIVE SUMMARY

Reducing disaster risk requires strong cross-sectoral support. Responsibility and ownership of Disaster Management (DM) should be shared among many stakeholders. Moreover, mainstreaming Disaster Risk Reduction (DRR) into all development planning and programming will bring long-term benefits to all.

Cambodia’s Law on Disaster Management (‘DM Law’) was passed in July 2015. There now needs to be effective public awareness and risk-identification campaigns to help ensure grass-roots understanding of disaster risks and how the new law affects communities and officials alike.

Chapter 4 on Governance indicates that line ministries must take more responsibility for Disaster Management planning (see Article 23). The clarification of all roles and responsibilities – not just of the National Committee for Disaster Management (NCDM) but among other institutions of the Royal Government of Cambodia (RGC) – will undoubtedly further improve coordination and development of disaster risk reduction, response and recovery practices. For example, clarification is required on how the appointment of Ministry ‘focal points’ (Article 8) will work in practice.

The DM Law covers rights as well as responsibilities. Plans and strategies are therefore needed so that at-risk communities can obtain the resources needed for implementing prevention measures, disaster risk reduction and post-disaster livelihood restoration outlined in Chapter 6 (Article 35); and realize their other rights.

Finally, subsidiary legislation will also be required to support Chapter 7, ‘Budget for Disaster Management’, and clarify how activities will be funded at every level and across every thematic area of line ministry responsibility.

RATIONALE: WHY THIS PAPER?

A multi-country report by the IFRC and UNDP, which studies the implementation of disaster legislation across the world, shows that “countries that develop policy, legislative and institutional frameworks for disaster risk reduction… have greater capacity to manage risks and to achieve widespread consensus for, engagement in, and compliance with disaster risk reduction measures across all sectors of society.”

As a member of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER), Cambodia is also legally committed to improve its disaster risk reduction capabilities. This includes taking ‘legislative, administrative and other measures as necessary to implement their obligations’.

The passing of the DM Law is therefore a major step: the next step is its implementation. The Joint Action Group on Disaster Risk Reduction (JAG) therefore wishes to engage with lawmakers to request that suitable clarifications are given and any necessary legal instruments are drafted to facilitate the implementation of the law.

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1 The formation of the Coordination Working Group for Disaster Preparedness, Emergency Response and Recovery involving NCDM, line ministries and the UN is a step in the right direction for coordinating across Government. However, there is as yet no space for civil society participation or monitoring, whether bilaterally or through the Joint Action Group or the Humanitarian Response Forum.

2 Accountability is particularly important in Cambodia to avoid another situation such as the Koh Pich disaster in 2010. No investigation has yet established who should be held responsible for so many deaths. In future, responsible persons should know that if sound preparedness measures are not taken they may be charged under the DM Law.


4 ASEAN; AADMER Work Programme 2010-2015.
SUMMARY

Preventing and mitigating the effects of natural emergencies is far better than responding to them. It also makes humanitarian response less costly and easier to manage. Reducing the long-term impact of disaster also prevents hard-won development gains from being lost every year a disaster occurs.

As a signatory to the original Hyogo Framework Agreement (HFA) and the ASEAN Agreement on Disaster Management and Emergency Response (AADMER), Cambodia has been on track to developing appropriate Disaster Risk Reduction (DRR) policies, plans and strategies. But there is still work to be done.

In 2015, HFA was superseded by a revised agreement – the Sendai Framework for Disaster Risk Reduction 2015-2030 – decided by the international community during the World Conference on Disaster Risk Reduction (WCDDR) from 14-18 March 2015.

There are many policy changes that Cambodia can implement to catch up with HFA and to hit Sendai and ASEAN targets at a fast pace. It can now build on past efforts to comply with and even go beyond the Sendai recommendations.

This position paper outlines potential ways for the Royal Government of Cambodia to save time, effort and money while protecting lives and livelihoods.

One way is to create specific budgetary allocations for DRR, with the necessary planning, implementation, monitoring and evaluation provision in line ministry affairs.

Secondly, Disaster Management Committees at the sub-national level should have the capacity to mainstream DRR and Climate Change Adaptation (CCA) into sub-national development plans and implement them accordingly.

Lastly, it is essential that the challenge is shared, and that the relevant bodies are accountable to the multiple stakeholders involved in the process. Communities and civil society should be involved in planning and implementing the measures that affect their lives.

KEY RECOMMENDATIONS

The members of the Joint Action Group respectfully urge the Royal Government of Cambodia to draft Prakas or other legal instruments that:

1B-I Commit to integration and mainstreaming of Disaster Risk Reduction (DRR) into sectoral plans at all levels, accounting for strategic links with climate change adaptation and sustainable development Commit to integration and mainstreaming of DRR into all relevant legislation to ensure overall coherence and effective implementation

1B-II Based on needs identified by a participatory process, transparently allocate adequate budget provision for implementation of DRR activities by all stakeholders

1B-III This includes relevant national line ministries and sub-national departments and offices, down to the commune level

1B-IV Considering the changing patterns of risk, commit to promoting and strengthening national and sub-national institutional capacity on disaster management and risk reduction

1B-V Enable meaningful participation of key relevant stakeholders (including Civil Society Organisations, UN entities, Development Partners, people with disabilities, ethnic minority groups, children and women) in disaster management activities from the community to the national level

1B-VI In consultation with stakeholders, follow up on the recommendations of the Sendai World Conference on Disaster Risk Reduction, the Core Humanitarian Standards, and other relevant international instruments

1B-VII Further strengthen regional and international cooperation on disaster management and emergency response, in particular to floods and typhoons, through existing institutions such as the ASEAN secretariat and the Mekong River Commission (MRC)
CAMBODIA: ONE OF THE MOST VULNERABLE COUNTRIES

Ratings agency Standard and Poor’s recently designated Cambodia the highest out of 116 countries in terms of vulnerability to climate change.¹

The 2012 World Risk Report classifies Cambodia as the planet’s eighth most at-risk country, and the 15th most exposed to hazard.²

The ND-GAIN Index³ summarizes a country’s vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. Cambodia is 138 out of 180 on vulnerability; 129 out of 184 on readiness; and 133 out of 178 overall.

It is also a matter of mindsets. DRR is not distinct from humanitarian response or to long-term sustainable development programming and climate change adaptation. In fact, it is essential and integral to all.

Overall, there needs to be a general evolution of mindset, and accelerated progress towards achieving DRR goals in Cambodia. Our recommendations are outlined below.

RATIONALE: WHY THIS PAPER?

Cambodia is considered one of the most disaster-vulnerable countries in South-East Asia. This is due to high levels of exposure to natural hazards; and to the limited adaptive and coping capacities of its population and of national and local structures to prevent and mitigate the effects of disasters.

Some 80% of Cambodia’s territory is exposed to the Mekong River, which fluctuates sizeably between dry and wet seasons. Add the effects of climate change, and Cambodia suffers a cycle of floods and drought almost annually, which are likely exacerbated by poorly-controlled development and deforestation. Other less prevalent risks include typhoons and storms, forest fires and landslides.

With approximately 70% of Cambodia’s population dependent on agriculture and fishing, natural disasters have tended to have devastating consequences for livelihoods and agricultural production, constraining socio-economic development.

It makes sense to invest in DRR, but given the financial and policy constraints faced at the national and sub-national levels, there needs to be clear and decisive action on making long-term preparedness and resilience a reality.

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THE COST OF FLOODING

About 14% of Cambodia’s Gross Domestic Product (GDP) and 12.2% of its inhabitants are subject to potential losses from floods.⁴

In 2011, extensive floods in 18 of Cambodia’s 24 provinces saw 247 fatalities and more than 350,000 households (over 1.64 million people) affected.

In 2013, floods affected 20 out of 24 provinces in the country and more than 377,354 families, with 168 fatalities recorded by NCDM.⁵

The costs of the 2011 and 2013 floods were estimated by the ADB and NCDM at $450-$1,000 million each. According to the International Disaster Database (EM-DAT), natural disaster in 2011 resulted in economic losses to Cambodia of about 4.3% of its GDP.⁶

From 2000-2009, Cambodia received $29.9 million of ODA for flood prevention and control for 6.6 million people affected.⁷

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⁵ Humanitarian Response Forum (2014), Cambodia Contingency Plan; data from Cambodia’s National Committee for Disaster Management
⁷ Jan Kellett & Dan Sparks, ‘Disaster Risk Reduction: Spending Where it should Count.’ (Wells: Global Humanitarian Assessment, 2012)
THE ECONOMIC LOGIC OF DRR INVESTMENT

Reducing the human losses of disaster is an imperative of the Cambodian constitution. But with losses the size of those in 2011 and 2013, there is also a strong economic logic for long-term investment in disaster preparedness, disaster risk reduction and resilience rather than spending or raising a huge proportion of the national budget on response.

According to the ADB, within the ASEAN region “relatively frequent, lower-impact 20-year natural hazard events would place the greatest burden on Cambodia, causing losses equivalent to up to 3.6% of its GDP and 18.3% of its annual government expenditure once every 20 years.”

Cambodia’s annual national budget for 2015 is reported to be $3.92 billion. It is hard to track the exact current expenditure on DRR measures in Cambodia. However, an investment of 2% of the total annual national budget (ie. $78.4 million) in DRR would be considered very worthwhile if it saved, say, 15% of the costs of recovery in the long run – ie. a net saving of $90-150 million.

This is not impossible: Bangladesh, for example, invests 4.5% of the national budget in DRR. Long-term national investment is also preferable to a continued reliance on international aid.

It is essential for all Royal Government of Cambodia structures to internalise this logic. DRR is a win-win policy. It saves lives, livelihoods, time and money across stakeholders: not just communities but also for the private sector and government bodies.

THE IMPACT OF DROUGHT

In 2004 alone, drought affected 790,000 ha of paddy rice fields and damaged 490,000 ha of crops.

“Droughts impact every aspect of the country’s economy and population, including leading to economic losses due to crop failure, health problems, and environmental damage.”

Over the period 1998-2002, a 20% loss in rice production loss was attributed to droughts. (World Bank-GFDRR, 2011).

RECOMMENDATIONS IN DETAIL

1A-I Commit to integration and mainstreaming of Disaster Risk reduction (DRR) into sectoral plans at all levels, accounting for strategic links with climate change adaptation and sustainable development

From 2015, Cambodia’s DRR framework should support better integration of disaster response, humanitarian and development interventions, building upon existing coordination mechanisms and initiatives.

It is important to recognise that DRR is not owned solely by the National and Provincial Committees for Disaster Management (NCDM/PCDMs). Each line ministry has a clear responsibility to ‘mainstream’ DRR into policy, planning and programming the same way that gender and CCA are already mainstreamed.

In line with relevant AADMER and Sendai Framework recommendations, Disaster Risk Reduction (and Climate Change Adaptation) must therefore be a key component of all programmes and policies from 2015 onwards.

For example, all line ministries should develop and implement Emergency Preparedness and Response Plans (EPRPs). Each should therefore reserve a budget to implement risk reduction and a contingency fund for disaster response. Provincial Departments and Offices of Health and Education etc. meanwhile, need additional resources for school and clinic assessments, EWS, meetings, simulation exercises, etc.

The NCDM could play a more coordinating role in this system, supporting the development and integration of relevant planning. Cross-ministerial and departmental coordination is also essential in order to make the savings and reap the development benefits. Otherwise actions tend to be fragmented with no clear lead and occasional duplication of efforts.

Moreover, further coordination with civil society and community structures at every level, plus NGOs and the UN, would further enhance the savings and benefits of DRR.

A corps of paid full-time disaster management professionals deployed at national and sub-national levels to help coordinate DRR and Emergency Response would be very beneficial in increasing each ministry’s capacity.

8 Eg Article 32: Every Khmer citizen shall have the right to life, personal freedom, and security; Article 38: The law shall protect life, honor, and dignity of the citizens.
11 ‘Understand the Past, Save the Future’ (NCDM-UNDP report)
12 Oxfam Cambodia and Graduate School of Global Environmental Studies of Kyoto University, Japan- Drought Management Considerations for Climate Change Adaptation. Focus on the Mekong Region CAMBODIA report.
1A-II Commit to integration and mainstreaming of DRR into all relevant legislation to ensure overall coherence and effective implementation

By making DRR measures a legal requirement in public and private sector planning and programmes, Cambodia can start to build a far more disaster-resilient infrastructure and a culture of preparedness.

The Disaster Management (DM) Law approved in 2015 signals an excellent start to this process, but it must be implemented well and monitored carefully.

Detailed recommendations on the DM and Environmental Impact Assessment Laws are covered in separate papers.

1A-III Based on needs identified by a participatory process, transparently allocate adequate budget provision for implementation of DRR activities by all stakeholders

1A-IV This includes relevant national line ministries and sub-national departments and offices, down to the commune level

Preparedness costs money, and the new DM Law does recognise this. As yet there are few specifics. However, if a proportion of the national budget is assigned to DRR, it can be allocated to each ministry’s total budget via calculations based on previous loss and damage assessments.

So far, Provincial Committees on Disaster Management (PCDMs) and Provincial governments reportedly only have a certain amount of budget assigned to disaster response. None of this is reportedly specifically allocated to DRR. Experience indicates that this is most likely to be spent on humanitarian interventions such as food distribution, or repairing roads and other infrastructure post-flood.

At the commune level, there are currently two main financing mechanisms: the Commune Investment Plan and the Commune Development Plan. At present, however, the way CIPs and CDPs are spent is restricted by the Ministry of the Interior, and sometimes DRR planning is not well-considered.

It is critical that in future these mechanisms can be allocated to disaster risk reduction measures, such as water catchment facilities for agriculture during droughts, pre-positioning of pumping equipment including fuel, or safe areas for evacuation during floods. A draft technical manual on ‘Mainstreaming of Climate Change Adaptation and Disaster Risk Management into Commune / Sangkat Planning’ contains further details of how this could be executed in practice.14

1A-V Considering the changing patterns of risk, commit to promoting and strengthening national and sub-national institutional capacity on disaster management and risk reduction

Disaster losses are accentuated in vulnerable households and communities, who are the least able to cope with recurrent shocks and stressors, and result in long-term consequences for food security, health, education and other critical dimensions of human welfare.

For example, food insecurity and malnutrition are both severe consequences of disasters and key risk factors driving the vulnerability of the poorest people and communities.

Attention therefore ought to be paid to poor households, women-headed families, disabled people and children; and stakeholders must continue building the capacity of national and sub-national institutions to assist these vulnerable populations.

For example, safety nets and social protection systems have proven they can be effective vehicles to deliver risk reduction, resilience, food security, and nutrition outcomes at scale. Disaster-vulnerable communities also benefit from early warning, hazard/risk information and awareness by disaster type in a user-friendly, timely and specific manner.

There is already engagement, collaboration and coordination between Disaster Management Committees and CSOs at all levels in addressing emergency response, Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) capacity and coordination.

Platforms such as the DRR Forum and National Climate Change Network exist to promote learning and sharing on good practices and implementation of DRR, CCA and Emergency Response activities in Cambodia.

The Humanitarian Response Forum (HRF) was established to facilitate...
coordination and communication on emergency preparedness and humanitarian response in Cambodia between the United Nations (UN), international non-governmental organizations (INGOs) in close collaboration with NCDM and the Cambodian Red Cross (CRC).

A national Disaster Risk Reduction (DRR) Forum has been established under the auspices of the NCDM, as well as the Cambodia Joint Action Group (JAG) to coordinate knowledge and activities on Community Based Disaster Risk Management.

1A-VI  In consultation with stakeholders, follow up on the recommendations of the Sendai World Conference on Disaster Risk Reduction, the Core Humanitarian Standards, and other relevant international instruments

The Royal Government of Cambodia can now publicly and transparently renew its commitment to the Sendai Framework on Disaster Risk Reduction Goal:

“Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.”

It should also bear in mind the Sendai targets, while adhering to the four Sendai priorities (outlined further in a separate document):

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction

Lastly, anticipating the adoption of Sustainable Development Goals15 at the United Nations General Assembly in September 2015, there is a number of relevant paragraphs, particularly:

**Goal 1.** End poverty in all its forms everywhere

1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

**Goal 2.** End hunger, achieve food security and improved nutrition and promote sustainable agriculture

2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

**Goal 9.** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Goal 11.** Make cities and human settlements inclusive, safe, resilient and sustainable

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

**Goal 13.** Take urgent action to combat climate change and its impacts16

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.2 Integrate climate change measures into national policies, strategies and planning

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

1A-VII  Further strengthen regional and international cooperation on disaster management and emergency response, in particular to floods and typhoons, through existing institutions such as the ASEAN secretariat and the Mekong River Commission (MRC)

Progress reports on HFA implementation suggest that across all countries people’s exposure to disasters has increased faster than vulnerability has decreased, generating new risk and an increase in disaster losses, with significant socio-economic impact in the short, medium and long terms, especially at the local and community level.

In order to retain international support Cambodia should therefore take a lead on setting integrated DRR budgetary and implementation targets. This will also encourage development partners to keep investing in DRR, since it is in their interests to reduce spending on post-disaster humanitarian response. A related cooperation framework may include joint disaster assessment, early warning, and workplan development, implementation and monitoring.

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15 United Nations, ‘Transforming Our World: The 2030 Agenda For Sustainable Development – Finalised Text For Adoption (1 August 2015)

16 Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.
1A-VIII Enable meaningful participation of key relevant stakeholders (including Civil Society Organisations, UN entities, Development Partners, people with disabilities, ethnic minority groups, children and women) in disaster management activities from the community to the national level

Promoting partnership at all levels is essential, especially by supporting community leadership and capacity for local-level action. Communities need to be at the centre of planning, designing and implementing such initiatives in partnership with all stakeholders.

The RGC’s own policies on decentralization and democratic development mandate public participation in local-level planning.

According to these policies, the broadest participation occurs at village level, in meetings called by village chiefs. These meetings give ordinary citizens the opportunity to feed priorities into the planning process; village level plans are subsequently fed into commune-level plans.

Meanwhile, Districts and Provinces should set up a feedback and response mechanism on the implementation of DRR measures among communes in need. These processes could include participatory assessment, including defining criteria for communes ‘most in need,’ verification, public announcement of recipients of budgetary assistance etc.

Spending on DRR measures should also be subject to monitoring and evaluation like any other development programming. In order to ensure any additional budgetary allocations reach communes that are most, guidelines must also be put in place to ensure transparency.

More than this, communities and civil society must be more involved in assessing community needs and monitoring progress towards addressing those needs. This way, people cease to be ‘victims’ and become more empowered in finding solutions.

Inclusiveness may include policy dialogue, development and implementation with a people-centred approach, facilitated through civil society.

Of great importance is a mechanism to monitor progress on implementing international obligations such as AADMER and HFA / HFA2, the NAP-DRR and the relevant components of DRR-mainstreamed policy and programming.

This would help communities and civil society hold authorities to account if disaster risk reduction measures are not implemented and they suffer from disasters as a direct or indirect result.

This mechanism would be operated in close partnership with NGOs, UN entities and development partners. There should be appropriate disaggregation of data and indicators (eg. by sex, age, vulnerable group) to ensure accountability.

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SUMMARY

In recent years Cambodia has experienced several notable disasters, for example Typhoon Ketsana in 2009 and floods in 2011 and 2013. Each of them caused significant damage, and the extent and intensity of flooding and drought is likely to increase due to climate change. It is essential to take preparatory action to reduce the impact on the population.

Secure and safe access to Water, Sanitation and Hygiene (WASH) facilities is one of the most essential needs after a natural disaster. As well as cholera and other waterborne infections, lack of good WASH increases cases of diarrheal diseases, especially among children. Diarrhoea leads to severe malnutrition, which has long-term negative effects on children’s physical and cognitive development.

This paper and its companion papers present a series of practical recommendations for the Royal Government of Cambodia, international institutions and NGOs on how to address and mainstream Disaster Risk Reduction (DRR) in the WASH and health sectors, including aspects of nutrition.

We encourage the Ministry of Rural Development (MRD) to take the lead on integrating the proposed recommendations in consultation with the Ministry of Health (MoH), the Ministry of Water Resources and Meteorology (MoWRAM), the Ministry of the Interior (MoI) and other relevant governmental institutions and non-governmental stakeholders.

KEY RECOMMENDATIONS

Recommendation 2A-I:
Ensure adequate disaster-resilient community water supplies

2A-I.i Elevate at least one functioning safe water point per 500 residents by at least one metre above historic flood levels; and ensure it is accessible to people with disabilities and the elderly;

2A-I.ii Safe sites should be equipped with reliable, safe drinking water sources to provide a minimum of 15 litres per person per day;

2A-I.iii Support pre-positioning of spare parts and chlorine in Provincial Departments of Rural Development (PDRDs) for immediate repairs and cleaning of the most affected infrastructure;

2A-I.iv Support mapping of water supply infrastructure including functionality and spatial distribution, to inform better planning, preparedness and programming;

2A-I.v Promote sustainable household water treatment systems and water hygiene;

2A-I.vi Support effective implementation of operation and maintenance (O&M) of critical Water, Sanitation and Hygiene (WASH) infrastructure in flood-prone areas.

Recommendation 2A-II:
Ensure adequate sanitation and hygiene during times of need

2A-II.i Provide accessible, gender-responsive and decent sanitation at safe sites;

2A-II.ii Map and create inventory of safe sites sanitation facilities;

2A-II.iii Support development of, and training for, low-cost flood-proof sanitation solutions;

2A-II.iv Introduce safe site environmental planning including defining roles and responsibilities of safe site management committees and O&M mechanisms;

2A-II.v Scale up hygiene promotion during disasters through first responders: Village Health Volunteers and Health Centre/Health Post staff;

2A-II.vi Support arrangements for de-sludging service for latrines prior to flood season
RATIONALE: WHY THIS PAPER?

Despite significant improvements in access to health services and WASH, many Cambodians continue to use unsafe water sources and to practice open defecation. The situation worsens at times of crisis, such as flooding (May-October), resulting in increased levels of morbidity due to normally easily preventable diseases.

According to the Cambodia Disaster Loss and Damage 1996-2013 Analysis Report, floods are the primary cause of disaster-related deaths (53%; 1,091 reported deaths since 1996) and damage caused to health facilities (98%; 191 reported damaged health centres and hospitals since 1996).

The floods in 2013 alone damaged 12,094 wells and boreholes across 18 provinces hampering access to clean water to nearly 2.2 million Cambodians.

Scaling up DRR interventions in the WASH sector is essential to protect vulnerable citizens at times of crisis. This can be achieved only by well-coordinated, planned and focused interventions aiming at resolving specific problems as outlined above.

In order to reach the required scale and local ownership of the process, the relevant authorities – i.e. MRD with MoH, MoWRAM and MoI – should take the lead on integration of the proposed recommendations in their planning and projects. This can be achieved through existing coordination mechanisms, such as WASH monthly meetings at MRD and regular Council for the Development of Cambodia (CDC) forums of the Government and Development Partners.

CURRENT SITUATION

Some problems and obstacles on integration of DRR in the WASH sector are:

- **Political commitment:** Due to the relatively low number of deaths and amount of damage to industrial infrastructure caused by natural disasters in Cambodia compared to other countries in the region (notably the Philippines and Indonesia), plus other priorities and poor understanding of DRR, political commitment to DRR is limited.

- **Vulnerable water supply infrastructure:** The high level of damage to water supply infrastructure (12,094 wells and boreholes were affected during the 2013 floods, for example) suggests that retrofitting guidelines and flood-proofed designs including site selection and preparation are needed for new constructions.

- **Vulnerable sanitation infrastructure:** Though less than 50% of Cambodians have access to latrines and toilets, the effects of overflowing pits during floods may have very negative impacts on the population. Faecal pollution would affect the immediate environment and creates wider hazards.

- **Operation and Maintenance:** Though facilities are frequently damaged during disasters, there is no central O&M system in place, and infrastructure is maintained and repaired at the community level. This is often inefficient, especially at public facilities such as schools and pagodas, which often serve as temporary safe sites during flooding.

- **No comprehensive inventory of critical infrastructure for disaster preparedness and response:** With no verified data regarding the types and spatial distribution of WASH or health facilities and stocks, the local authorities and humanitarian agencies are unable to assess potential damage and humanitarian needs during the first days of disaster to mobilise necessary resources.

- **Limited involvement of the private sector:** There is definitely a space in Cambodia for greater integration of private sector in DRR-sensitive WASH and health programming. For example, Population Services International (PSI) Orasel marketing campaigns in rural Cambodia proved to be quite successful in approaching local vendors to promote and sell Orasel solutions to rural Cambodians. Similarly, producers of ceramic water filters and other household water treatment systems (HWTSs) shall be encouraged and supported in after sale services provision.

- **Poor hygiene and sanitation practices:** Despite large-scale hygiene and sanitation promotion campaigns and high awareness among the general public in Cambodia, poor hygiene and sanitation practices remain one of the biggest contributing factors to the high prevalence of diarrheal diseases in Cambodia. This lack of knowledge exacerbates the situation during disasters.
RECOMMENDATION 2A-I IN DETAIL
ENSURE ADEQUATE DISASTER-RESILIENT COMMUNITY WATER SUPPLIES

2A-I.i Elevate at least one functioning safe water point per 500 residents by at least one metre above historic flood levels; and ensure it is accessible to people with disabilities and the elderly

Elevated water supply facilities are already common in regularly-flooded areas and have proved to be very effective. Their construction should be further promoted and supported by MRD and Development Partners. However, according to the 2013 Floods Early Recovery Needs Assessment Report, 12,094 open wells and hand-pumps were damaged (UNDP, 2014). Although there are no verified figures, anecdotal information suggests that many of the wells rehabilitated in the aftermath of 2011 floods were severely affected again two years later.

Incremental improvement and strengthening of critical water supply infrastructure should therefore be integrated into local planning processes (e.g. Commune Development Plans and Commune Investment plans - CDPs/CIPs).2

2A-I.ii Safe sites should be equipped with reliable, safe drinking water sources to provide a minimum of 15 litres per person per day

According to People in Need (PIN) and ActionAid pilot inventories in Pursat, Banteay Meanchey and Oddar Meanchey, only 5% of the assessed safe sites have sufficient water supply and sanitary infrastructure to assist displaced populations. The proposed target of 15 litres of water per person per day is based on Sphere Minimum Standards in Humanitarian Response, 2011 edition (see 'Minimum Standards in WASH', p79). Rainwater harvesting tanks, elevated hand-pumps or other feasible solutions should be constructed to make this possible.

The water available at safe sites should be tested by PDRDs or other capable parties. This is to ensure it is potable and safe for humans (no faecal coliforms per 100ml). In case the minimum standards for water quality are not met, it should be treated either at the safe site (chlorination3) or at household level (HWTS, boiling, water purifying solutions, etc.).

2A-I.iii Support pre-positioning of spare parts and chlorine in Provincial Departments of Rural Development (PDRDs) for immediate repairs and cleaning of the most affected infrastructure

PDRD staff are the first responders to crises and therefore should be able to conduct elementary repairs to restore access to safe water in affected areas. Although PDRDs typically have very qualified staff to perform repairs and maintenance of water supply infrastructure, they lack resources to respond immediately due to limited spare parts and supplies.

Regular inventory of PDRD stocks and pre-positioning of water treatment materials, dewatering pumps and spare parts could significantly reduce response times and speed the early phases of recovery. Institutional capacity-building of PDRD staff in implementing stock management procedures and protocols should be integrated in any projects involving prepositioning.

2A-I.iv Support mapping of water supply infrastructure including functionality and spatial distribution, to inform better planning, preparedness and programming

One of the benefits of infrastructure mapping is easier identification and assessment of the potential needs and the extent of damage caused by disasters. This is being done by overlapping infrastructure maps with flood extent satellite imagery.

There is no effective water supply database for Cambodia, except the Wellmap (http://www.cambodiawellmap.com/), which is not regularly updated. There are concerns about this platform’s usability and general usefulness too (WSP & MRD, 2013).

MRD with support from UNICEF is currently developing a water point assessment tool based on an electronic data collection platform and online database. It enables a variety of stakeholders to access to water supply infrastructure information. While the tool is primarily designed for post-disaster assessments, it has potential to become a national water supply infrastructure database.

Girls use a rehabilitated water pump raised above historic flood levels in Pursat. (People in Need)
**2A-I.v Promote sustainable household water treatment systems and water hygiene**

HWTS, and in particular Ceramic Water Purifiers (CWPs), have proven to be effective in eliminating or significantly reducing faecal coliforms (similar to boiling of water).\(^4\)

There are several manufacturers in Cambodia producing such filters. However, access to spare parts (taps, filters, lids) is limited, hampering the sustainability of this product. This is also due to uncoordinated water filter distribution during flooding by aid agencies, which is disrupting the local markets.

Aid agencies shall consider conditional cash grant distributions instead, so affected populations could purchase the filters or spare parts from local vendors. In case of emergencies they shall also consider limiting filter distributions to institutions only (e.g. schools, health centres, evacuation sites). It is therefore recommended to analyse value chains and address the bottlenecks in order to increase access to spare parts.

Other HWTS methods (e.g. PUR, cloth filters combined with SODIS)\(^5\) should be also promoted in flood-affected areas although their acceptability and feasibility may be a concern in some areas (e.g. the SODIS method requires six hours of sun to treat water).

The recent WHO study (Shantz, 2013) suggests that the majority of supposedly treated water is re-contaminated with e-coil because of poor hygiene: dirty hands, lack of lids and dirty containers and cups, plates, etc. However, households using HWTS are much less likely to contract diarrheal diseases than those who do not treat their water.

**2A-I.vi Support effective implementation of operation and maintenance (O&M) of critical Water, Sanitation and Hygiene (WASH) infrastructure in flood-prone areas\(^6\)**

Badly maintained WASH infrastructure will fail at a time of crisis. Integration of robust, regular O&M is a cross cutting issue for the WASH sector. Water Safety Plans or alternative O&M arrangements of critical infrastructure (especially in safe sites) should be further supported and rolled out in flood prone areas.
RECOMMENDATION 2A-I IN DETAIL
ENSURE ADEQUATE SANITATION AND HYGIENE DURING TIMES OF NEED

2A-II.i Provide accessible, gender-responsive and decent sanitation at safe sites

A minimum of one block of three latrine units should be constructed at recognised safe sites. These should be constructed to ensure the most vulnerable have access to decent sanitation during times of displacement; and waste water does not further contaminate surface and drinking water supplies. Aspects of accessibility, privacy and the needs for women need to be well integrated in the design.

One of the alternatives to consider is pre-positioning of Eco-San composting toilets and distributing them to the safe sites at the time of flooding. This system has been tested by UNICEF in collaboration with Live & Learn and RainWater Cambodia at five safe sites in Prey Veng in 2014.

Another solution is low cost, biodegradable, single use toilet bags that turn faeces into fertiliser. These can be pre-positioned for two years and distributed at times of crisis. This is particularly useful for evacuation sites where there is no space for installing latrines. Research on acceptance of this solution among affected populations is recommended before scale-up.

2A-II.ii Map and create inventory of safe sites sanitation facilities

This would enable local authorities and development partners to plan long-term WASH at these sites.

The mapping and inventory of safe sites also enables humanitarian agencies to quickly estimate the needs of the evacuated population. For example, in September 2013 it took PIN three hours to contact all the safe sites lying in the flood-affected areas in Pursat as shown on the satellite imagery; and to collect necessary information regarding the humanitarian situation.

PIN and ActionAid have conducted inventories in collaboration with Provincial Committees for Disaster Management (PCDMs) in Pursat (2013), Banteay Meanchey and Oddar Meanchey (2014). But there are no other known inventories of safe sites and other critical disaster preparedness infrastructure in other parts of Cambodia.

2A-II.iii Support development of, and training for, low-cost flood-proof sanitation solutions

But despite the increasing numbers of household latrines in Cambodia, open defecation remains widespread; and existing latrine models are frequently damaged by floods.

To avoid contaminating surface waters, flood-proof sanitation systems must keep faecal waste out of the surrounding environment. The system can be sealed or elevated in a range of ways to achieve this. However, flood-proofed sanitation solutions are generally more expensive and subsidy models need to be developed as part of the programme for families living in medium and high risk of flooding areas. This needs to be combined with training of local masons constructing latrines at the village and commune levels.

Thanks to rural sanitation programmes, many Cambodians now purchase pour flush latrines, which are generally more resistant to flooding than simple pit latrines. Inundation of latrine systems results in reduced system capacity, structural damage (from toppling and material degradation) and wastewater overflow to surface waters. This leads to users reverting to open defecation while toilets are unusable. More effort should still be invested in flood-proofing latrines.

GENDER AND DIVERSITY PERSPECTIVES

Women are particularly vulnerable at times of disaster. Often they are primary caregivers; responsible for household water supplies, sanitation and hygiene; preparation of meals; and medical treatment of family members. This is why any deficiencies in the functioning of WASH infrastructure can affect them more than men.

At the same time it must be recognised that women bring a lot of additional capacity and contribute immensely to long-term disaster resilience (UNISDR, UNDP & IUCN, 2009).

The following minimum gender-sensitive aspects should be considered (Sphere, p.130):

- WASH infrastructure should be easily accessible, safe and secure: lockable from the inside, well lit, and ensure privacy (in the case of latrines).
- Latrines at safe sites should be gender segregated (at least a three women - two men ratio where possible).

People with disabilities (physical and mental), the chronically ill and elderly are frequently the worst affected by disasters as they tend to be the most impoverished and may require assistance in evacuation to the safe areas.

The following minimum disability and age sensitive aspects should be considered:

- WASH infrastructure should be accessible to all people, regardless of their ability. Simple accessibility adjustments can be easily integrated into original designs. In case of retrofitting there should be at least one sanitation facility with accessibility adjustments.
- Development agencies should integrate the special needs of disabled and older people in their WASH interventions and involve them in design processes.
- Local authorities (e.g. village chiefs) should have an up-to-date list of individuals with special needs, and ensure they are assisted with any WASH requirements.
in seasonally inundated areas as they are frequently inundated for prolonged periods.

Several WASH-focused NGOs associated with the Sanitation Working Group led by MRD are working on affordable solutions, which could be effectively scaled up through future and ongoing sanitation programmes.

**2A-II.iv Introduce safe site environmental planning including defining roles and responsibilities of safe site management committees and O&M mechanisms**

Improved safe site planning and good practices are likely to multiply health benefits from improved infrastructural assets and other humanitarian assistance. Therefore, whenever possible, each safe site should clearly define shelter areas for people and livestock, since livestock can easily transmit diseases to humans and vice versa.

Moreover, solid and organic waste disposal sites should be identified and clearly marked to control vector-borne disease and ensure optimal hygienic conditions. Local authorities and respective committees should ensure the relevant rules are known and respected.

**2A-II.v Scale up hygiene promotion during disasters through first responders: Village Health Volunteers and Health Centre/Health Post staff**

During the floods in 2011 and 2013, Village Health Support Groups and Village Health Volunteers were among the first responders providing essential hygiene training and awareness-raising as well as referrals. Further support to these individuals is strongly recommended in all flood-prone areas.

Village Health Volunteers, and/or pagoda/school/safe site management committees should also be engaged in outreach activities: promotion sessions, monitoring and finding corrective solutions to poor habits, soap distribution, etc. Local authorities with support from Development Partners should provide training to first responders on effective hygiene promotion in times of emergency and distribute Information, Education and Communications (IEC) materials.

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EXECUTIVE SUMMARY

Poorly planned infrastructure projects can exacerbate the impacts of natural disasters, affecting communities and businesses alike.

The Royal Government of Cambodia (RGC) should therefore reinforce and implement legal frameworks and policies to ensure high standards of environmental management within the commercial and the development sectors. It should in turn reduce underlying risk factors, as outlined in Hyogo Framework Agreement priority 4, and also the Sendai Framework for Disaster Risk Reduction 2015-2030 priority 3 paragraphs 30.f and 30.g.

Environmental Impact Assessments (EIAs) are an important tool for achieving this goal, and are examined in detail in this paper.

This paper and its companion papers present a series of practical recommendations for the RGC, international institutions and NGOs on how to address and mainstream Disaster Risk Reduction (DRR) into natural resource management and environmental policies, programmes and institutions, along with key actions that are required to strengthen crucial ecosystem services and their DRR benefits.

KEY RECOMMENDATIONS

Recommendation 3A-I:
Integration of Disaster Risk Reduction (DRR) into environmental plans and policies

3A-I.i Mainstream DRR considerations and mitigation measures into all relevant environmental plans, programmes, legislation and policies in Cambodia.

3A-I.ii Improve intersectoral departmental coordination of key provincial departments on DRR, Natural Resource Management and climate change interventions.

Recommendation 3A-II:
Environmental Impact Assessments (EIAs)

3A-II.i Support the integration of DRR assessments and mitigation measures into the EIA law (or an appropriate prakas).

3A-II.ii Continue meaningful stakeholder consultation in the EIA law drafting process.

3A-II.iii Ensure the prompt inter-Ministerial review and enactment of the EIA law and its effective implementation.

3A-II.iv Strengthen and implement meaningful public consultation on, and participation in, environmental planning through other relevant existing policies, laws and regulations.
RATIONAL: WHY THIS PAPER?

The 2011 and 2013 floods both cost at least $600m in terms of loss, damages, response and recovery needs, according to ADB and UNDP estimates in coordination with the National Committee for Disaster Management (NCDM).¹ According to the International Disaster Database (EM-DAT), natural disaster in 2011 resulted in economic losses to Cambodia of about 4.3% of its GDP.²

When nature is under stress, the risk of natural disasters increases. Development activities can have significant impacts on the natural environment and its ability to provide crucial ecosystem services that reduce the occurrence and severity of disasters. In other words, poor infrastructure and development planning and implementation can make the impact of natural disasters even worse.

CURRENT SITUATION

In 2011, Ministry of the Environment (MoE) officials declared that only about 5% of the roughly 2,000 major development projects approved by the government between 2004 and 2011 – dams, roads and bridges – had carried out Environmental Impact Assessments.³

The approval of development projects without adequate environmental consideration can significantly increase disaster risks. For example, if an EIA is not conducted before a rural road is built, the road might block natural drainage paths and exacerbate flooding in the area. Correctly assessing the impact of such roads can ensure they are constructed in more suitable locations or alongside culverts to aid drainage.

¹ For detailed figures see: ADB, ‘Flood Damage Emergency Reconstruction Project: Preliminary Damage and Loss Assessment’ (March 2012); UNDP and NCDM, ‘Post-Flood Early Recovery Need Assessment Report’ (April 2014)
LIMITATIONS TO CURRENT EIA LEGISLATION AND IMPLEMENTATION

There are currently significant limitations to existing EIA legislation in Cambodia. The legislation is not seen as strong enough to ensure companies conduct the necessary environmental checks before and during development projects. The existing legislation is also weakened by a lack of requirements on: information disclosure; alternative development approaches; scoping; public consultation; and the trans-boundary impacts of development projects.

In addition, limitations in government capacity, technical expertise, monitoring capabilities, and financial resources have resulted in inadequate compliance monitoring and enforcement. This further hampers efforts to minimize the social and environmental impacts of development projects.

Finally, although the 1999 EIA Sub-decree states that an EIA must be completed for all public and private projects (including activities such as agro-industry, wood and paper production, mining, chemical plants, textiles, power plants, tourism and infrastructure etc.) an exemption is included for ‘special and crucial projects approved by the Royal Government’. This provides a legal loophole allowing developers to push ahead with development activities prior to completing the necessary assessments.

LIMITATIONS TO PUBLIC PARTICIPATION

Article 1 of the 1999 Sub-decree states the objective is to ‘Encourage public participation in the implementation of EIA process and take into account of their conceptual input and suggestion for re-consideration prior to the implementation of any project’. However, while public involvement is ‘encouraged’ in the EIA decree, no concrete requirements are stipulated. There is no specific guidance on the nature, timing, or reporting requirements of public participation.

The lack of meaningful participation and consultation in the EIA process has resulted in complaints from Civil Society Organisations (CSOs) and sub-national authorities, who in many cases are unable to access the final EIA reports for major projects.

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4 In Cambodia, Environmental Impact Assessments are governed by the 1996 Law on Environmental Protection and Natural Resource Management (EPNRM), the EIA Process Sub-decree of 1999, and other associated sub-decrees, which mandate general requirements, procedures and responsibilities for EIA
5 Danh Serey, statement at the National EIA Consultation Workshop, September 2012
9 MK16 Project Team, ‘Report on Conflict Analysis and Power Relations in Pursat Catchment - Fostering Evidence-based IWRM in Stung Pursat Catchment. (Tonle Sap Great Lake)’. (December 2013)
RECOMMENDATION 3A-I IN DETAIL
INTEGRATION OF DRR INTO ENVIRONMENTAL PLANS AND POLICIES

The Joint Action Group considers that the relevant authorities – the Ministry of the Environment (MoE), the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of Water Resources and Meteorology (MoWRAM) and the Ministry of Land Management, Urban Planning and Construction (MLMUPC) – should take the lead on integrating the proposed recommendations in their planning and projects.

This can be achieved through existing coordination mechanisms, such as through Technical Working Groups, and through regular forums involving the government and development partners such as the Council for the Development of Cambodia (CDC).

Furthermore, DRR and EIAs should also be considered in the Ministry of Environment’s proposed environmental code.

3A-I.i Mainstream DRR considerations and mitigation measures into all relevant environmental plans, programmes, legislation and policies in Cambodia.

While existing planning practices focus solely on how projects impact the environment, it is also essential to assess the interaction between hazards and infrastructure development.

Through incorporation of DRR measures into environmental planning and management, disaster risk can be successfully reduced and the adaptive capacity of local communities and ecosystems to recurrent risks of natural hazard and extreme weather events, environment hazards as well as climate-induced hazards can be strengthened.

Research assessments in the northeast of Cambodia demonstrate the clear benefits of community-based disaster risk management (CBDRM) and natural resource management. These complementary approaches help address local vulnerabilities to natural hazards.10

“The experience of Mondulkiri Province demonstrates the importance of government, NGO and community cooperation in natural management that is crucial for CBDRM wherein the Forestry Administration led the participatory land use planning (PLUP) in partnership with NGOs like the Wildlife Conservation Society for the Seima Biodiversity Conservation Area. Communities were engaged in identifying different land uses through a participatory approach resulting in a PLUP agreement with the community. Under the agreement, each family will be allocated five hectares to use for their residence and farming activities.” (Sumaylo 2011)

This experience also showed that CBDRM is most effective when informal social mechanisms are linked to formal mechanisms, such as the Commune Investment Plan and Commune Development Plan (CIP and CDP). In order for this to be effective, there should be a clear definition of roles and responsibilities; and budgetary allocation at provincial and sectoral department levels.

3A-I.ii Improve intersectoral departmental coordination of key provincial departments on DRR, Natural Resource Management and climate change interventions.

It is important to improve technical and human resource capacities for disaster risk management and natural resource management, and coordination of relevant agencies at the subnational level. Likewise, it is also important to facilitate the mobilization and enhancement of support on the operation of finance and technology for DRR and Climate Change Adaptation too. This will all strengthen existing structures and approaches for the effective implementation of DRR and loss and damage frameworks.

The RGC’s National Strategic Development Plan (NSDP) 2009-2013 recognizes the importance of filling these gaps. It states: “The regulatory framework to effectively manage Cambodia’s ecosystem is still at an early stage of development. Lack of coordination and cooperation between city and provincial governments as well as among ministries and agencies continue to hamper efforts to control illegal activities.”

Improved cooperation between key provincial authorities – such as between Provincial Departments of Agriculture, the Environment, and Water Resources and Meteorology - is key to improving environmental governance and in turn strengthening disaster management outcomes.

RECOMMENDATION 3A-II IN DETAIL
ENVIRONMENTAL IMPACT ASSESSMENTS (EIAs)

3A-II.i Support the integration of DRR assessments and mitigation measures into the EIA law (or an appropriate prakas).

There is a wave of EIA policy reform efforts throughout the Mekong region. This includes a new draft EIA law in Cambodia and a Vietnamese environmental protection law set to take effect in early 2015. Along with the forthcoming launch of the ASEAN Economic Community (AEC), these reforms are good opportunities to address the increasingly regional impacts of investments.

Appraising natural hazard risk as part of the EIA process is important for two reasons. First, appropriate hazard mitigation measures must be incorporated into project design. Second, hazard risk should also be integrated into the formulation of environmental management and monitoring plans. The existing provisions in the draft EIA law on climate change impacts and mitigation are an important and welcome addition to this legislative tool.

There is, however, a need to strengthen the draft law with more detailed provisions on disaster prevention and management. This should include requirements for periodic assessments of disaster risks through the review of new information and/or monitoring specific hazard/climate elements.

Inclusion of DRR into the EIA process will require no change to the essential steps or sequence of the EIA process itself, and will be beneficial to investors, as well as to the environment, to avoid any future damage and costs.

3A-II.ii Ensure the prompt inter-Ministerial review and enactment of the EIA law and its effective implementation.

With oil and gas extraction, mining and hydropower development all expected to significantly increase in Cambodia, there is an urgent need for the prompt review, enactment and implementation of the new EIA law. This needs to occur without any significant cuts or changes to the law during the inter-Ministerial review process. It is especially important to preserve existing provisions relevant to public participation in the EIA process.

Following enactment of the law, it is essential that the MoE’s judicial and enforcement officers receive the necessary training on how to implement the law, particularly regarding monitoring and enforcement provisions, and that local NGOs and community groups are informed of their rights and responsibilities under the new law. The rights of women and vulnerable groups such as the ID Poor should receive particular attention.

3A-II.iii Continue meaningful stakeholder consultation in the EIA law drafting process.

Ensuring the meaningful participation of a diverse array of stakeholders, including community members, Civil Society Organizations (CSO), the private sector, and sub-national authorities, during development projects is essential for the success of an effective and credible EIA Law and any subsequent prakas or other amendments.

3A-II.iv Strengthen and implement meaningful public consultation on, and participation in, environmental planning through other relevant existing policies, laws and regulations.

The issues of EIAs and Economic Land Concessions (ELCs) are closely related. The Sub-Decree 146 on ELCs Article 4 states that an ELC may be granted only on land that meets the following criteria:

3. Environmental and social impact assessments have been completed with respect to the land use and development plan for economic land concession projects…
5. Land for which there have been public consultations, with regard to economic land concession projects or proposals, with territorial authorities and residents of the locality.

Despite such provisions, the application of public participation processes has been significantly limited in practice. Those who are most likely to be affected by infrastructure development and any increased disaster risk should be able to participate in consultations and be given adequate information in order to assist the environmental assessment process.

Improving community participation also offers multiple market advantages to businesses. Along with reducing the risk of conflict arising, improved consultation with local communities will also allow access to their traditional knowledge on disasters and coping mechanisms. It builds companies' social license to operate; and improves their marketability to both local consumers and international buyers, who are increasingly concerned with socially responsible supply chains.11

Fair compensation for environmental and social impacts should also be addressed. For example, any disaster risk impact caused by an ELC or similar project should be mitigated by the ELC holder, not the people affected.

A lack of public consultation can ultimately cost time and money, delaying projects due to public protests and potentially causing investors and donors to pull out. For example, despite an independent EIA in 2008 recommending against the filling in of Boeung Kak lake in Phnom Penh, the project proceeded regardless. In 2014 Erdos Hongjun Investment Corporation (the Chinese partner of Boeung Kak developer Shukaku Inc) pulled out of the project, leaving progress very uncertain. Meanwhile, Phnom Penh is indeed suffering flash flooding after heavy rainfall, while Shukaku's own plans to create drainage channels have not been fully implemented.12

The issues of ELCs and DRR are covered further in the accompanying paper.

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11 http://www.global-business-initiative.org/work/asean/
SUMMARY

Cambodia’s rapid development (and development elsewhere in the wider Mekong region) is putting increasing pressure on natural resources, the environment and the livelihoods of affected communities. High deforestation rates, decreasing fish stocks, biodiversity loss, and rural and indigenous people’s loss of land and traditional livelihoods have become matters of increasing national and international concern.

The continued destruction of vital ecosystem services is likely to increase poverty and food insecurity, especially among the most disadvantaged people, rendering Cambodia even more vulnerable to the impacts of natural disasters and climate change.

On the other hand, sustainable environmental management can help to reduce disaster risk. For example, forests offer a certain level of local watershed protection, which has a strong influence on flood dynamics.

The RGC should therefore establish and implement strong legal frameworks and policies to ensure high standards of environmental management, and to reduce underlying risk factors (Hyogo Framework Agreement Priority #4, and also HFA2 [Sendai 2015] agreement paragraph 30.n).

This paper and its companion papers present a series of practical recommendations for the Royal Government of Cambodia, international institutions and NGOs on how to address and mainstream Disaster Risk Reduction (DRR) into natural resource management and environmental policies, programs and institutions, along with key actions that are required to strengthen crucial ecosystem services and their DRR benefits.

"Sustainable environmental management reduces disaster risk"

KEY RECOMMENDATIONS

Recommendation 3B-I: Improve forest and protected area management to reduce disaster risk

- **3B-I.i** Take urgent steps to enforce Cambodia’s Forestry Law (2002), Protected Area Law (2008), and other relevant legislation to promote sustainable forestry.
- **3B-I.ii** Further support, both in policy and practice, community-led efforts to implement sustainable forest management and gain legal tenure rights.
- **3B-I.iii** Support and scale up efficient energy use and use of alternative energy to reduce unsustainable practices that increase disaster risk.

Recommendation 3B-II: Reduce land use and management practices that worsen disaster risk

- **3B-II.i** Continue to enforce the 2012 moratorium on Economic Land Concessions (ELCs).
- **3B-II.ii** Conduct regular reviews of ELCs and cancel any concessions that are found to increase disaster risk as per the DM Law and other relevant legislation.

Recommendation 3B-III: Improve water resource use and management to reduce disaster risk

- **3B-III.i** Delay (by two to five years) the decision to implement dams on the 3S Mekong tributary rivers (Sekong, Srepok, Sesan) to allow time for further research on the impacts of these dams.
- **3B-III.ii** Support the greater use of integrated water resource management practices (including for hydropower and coastal zone management); and
- **3B-III.iii** Better understand and balance the risks and trade-offs between development projects and ecosystem services.
RATIONALITY – WHY THIS PAPER?

Total economic losses from natural disasters in Cambodia from 1999 to 2008 were US$ 214 million, with floods and droughts the key drivers of this damage. When nature is under stress, the risk of natural disasters increases.

If not properly planned, implemented and monitored, development activities can have significant impacts on the natural environment and its ability to provide crucial ecosystem services that reduce the occurrence and severity of disasters.

The occurrence of floods, for example, is exacerbated by natural resource exploitation and depletion. In Cambodia, forests play a key role in regulating water flows, helping to prevent soil erosion, and providing natural by-products for sustainable livelihoods.

Considering the significant impact and likelihood of drought, floods and destructive storms, strengthening and scaling up Natural Resource Management (NRM) and proven environmental management interventions is of utmost importance. This can be achieved only through well-coordinated, planned and focused interventions aiming at resolving specific problems as outlined above.

CURRENT SITUATION

Cambodia has an existing range of laws and policies in the field of environment and natural resources, as well as in land management, but this body of law is largely side-stepped by companies eager to capitalize on common property resources for commercial gain.

In 2012, the human rights group LICADHO reported that 22 percent of Cambodia’s surface area – approximately 3.9 million ha - had been granted in ELCs, mining concessions and other allotments, an area estimated to cover 53 percent of Cambodia’s arable land.

The diminishment of natural resources that have resulted from this model of economic development have had significant impacts on parts of the rural population, rendering them and their local environments more vulnerable to the impacts of disasters.

In 2012 Prime Minister Hun Sen declared a moratorium on Economic Land Concessions (ELCs). Despite this, land is still being granted to large companies and forests are being cleared for industrial agribusiness production.

Meanwhile, there is as yet no moratorium on Social Land Concessions (SLCs), the granting of private state land for residential or farming purposes. Though SLCs may only be granted for social purposes, they can also “facilitate economic development; facilitate ELCs by providing land to workers of large plantations for residential or family farming purposes; and develop areas that have not been appropriately developed.” The Cambodian Center for Human Rights (CCHR) reported in 2013:

The last three purposes mainly focus on general economic development and thus, give an incredible breadth of discretion to the government in determining how SLCs can be utilized; namely, as an urban and rural planning tool as well as a means of supporting the economic policies of the government. These last few broadly stated goals seem to circumvent the purpose of designating a land concession scheme for social purposes, and make this program vulnerable to abusive power that serves commercial interests.

The lack of credible and timely information, both within RGC and the public domain, and effective systems for public participation, is another key constraint to citizens being able to partake in decision-making processes affecting their livelihoods and environment.

DEFORESTATION

The conclusion of the Stern Review on the Economics of Climate Change advised that any serious attempt to address climate change must include preventing destruction of existing natural forests.

Yet Cambodia is experiencing deforestation on an alarming scale. Export-led growth alongside poorly enforced legislation and a lack of political will to curb deforestation leaves Cambodia’s people in more danger of natural disaster.

Between 2000 and 2013 the country lost almost 3.7 million ha of its 12 million ha of forest cover – about 30%. If this were to continue at the same rate, Cambodia’s natural forests will have completely disappeared in roughly 60 years’ time.

6. Ibid
COASTAL MANGROVE DEPLETION
Climate change impacts are exacerbated by the depletion of mangrove forests, which form a natural barrier to coastal erosion and the effects of storm surges. Mangroves are critical habitats for aquatic animals, the most important component of coastal community livelihoods and food security. For example, one reason that Cyclone Nargis caused over 135,000 deaths when it hit Myanmar in 2008 was that the affected area had experienced a 50 percent loss of its mangrove forests and serious degradation of remaining cover since the 1970s. According to RGC figures submitted to FAO in 2010, only 56,000 ha of mangrove forest remains in all of Cambodia, which is 70% of the area present in 1990. Mangrove clearing is being undertaken illegally for firewood, charcoal production, saltpan investments, land declarations and intensive shrimp aquaculture among other uses. Mangroves are reported to be further damaged and degraded by offshore and estuarine sand dredging, which has reportedly continued despite a total ban imposed in 2009.

INSUFFICIENT PROTECTION OF KEY ECOSYSTEM SERVICES AND WATERSHEDS
Water is absolutely critical to Cambodia: for fishing, agricultural production and industry; and in human settlements for drinking and sanitation. More than six million people work full-time in fisheries-related activities, and fish and other aquatic animals provide more than 80 percent of the total animal protein and much of the essential minerals and vitamins in peoples’ diets. But population growth, urbanization, declining water quality, dam construction, industrialization and climate change are continuously increasing the pressure on water resources in Cambodia and the region. A failure to address these issues could seriously threaten the stability and security of the region in terms of flooding, drought and an increase in migrant flows.

RISKY HYDROPOWER DEVELOPMENTS
The Generation Master Plan 2008-2021 outlines the RGC’s intention to increase the power supply from dams from three percent in 2010 to 40 percent by the year 2020. Yet the cumulative impacts of dam construction on agricultural and fishery production threaten to render local communities more vulnerable to the impacts of disasters and alter natural hydrological patterns that are themselves subject to impacts from climate change. A study by the Cambodian Fisheries Administration (FIA), which involved a nationwide survey assessing food consumption and the use of hydrological models to estimate future fish yields, confirmed that hydropower development on the Mekong River’s mainstream will come at a major cost to Cambodia’s food security, nutrition and health by fragmenting and changing the hydrology of critical habitat.

For example, there could be severe impact on the Tonle Sap system. According to Kummu and Sarkkula (2008): “Relatively small rises in the dry-season lake water level would permanently inundate disproportionately large areas of floodplain vegetation and eroding the productivity basis of the ecosystem by reducing the inundated area and duration and amplitude of flooding. The reduction of gallery forest area would mean loss of livelihood sources for a significant number of people, due to both loss of gallery forests per se and the consequent negative effects on aquatic productivity... Hydropower dam regulation will probably be the main cause of flow alterations in the near foreseen future. Other important actors are land-cover changes and irrigation schemes. Climate change may play an equally important role from the latter part of the century on. Integrated, cross-boundary planning, involving both downstream and upstream countries, and cumulative impact assessment are urgently required to minimize the impacts of the flow alteration.”

Similarly, work by the MRC found that if all planned mainstream Mekong projects were to proceed, Vietnam and Cambodia are likely to suffer net short- to medium-term losses because the combined effects on fisheries and agriculture would outweigh any power benefits.

The relevant authorities i.e. the Ministry of Environment (MOE), the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of Water Resources and Meteorology (MoWRAM) and the Ministry of Land Management, Urban Planning and Construction (MLMUPC) should take the lead on integrating the proposed recommendations in their planning and projects. This can be achieved through existing coordination mechanisms, such as through Technical Working Groups, and through regular forums such as the Council for the Development of Cambodia (CDC).

13. “In 2009, Prime Minister Hun Sen imposed a total ban on marine dredging for export, except where sand gathered and replenished itself naturally or where build-ups were obstructing waterways. Mao Hak, director of rivers at the Ministry of Water Resources, said yesterday that only rivers where sea water flowed into fresh water, replenishing sand naturally, were exempt from the premier’s ban.” Boyle, David, and Phak Seangly, ‘Scale of dredging revealed’, Phnom Penh Post. (24 June 2011)
14. E. Baran, N. Schwartz, Y. Kura, ‘Climate change and fisheries: vulnerability and adaptation in Cambodia’. (WorldFish Center, 2009)
3B-I.i Take urgent steps to enforce Cambodia’s Forestry Law (2002), Protected Area Law (2008), and other relevant legislation to promote sustainable forestry.

While the Forestry Administration (FA) possesses the strongest mandate to crack down on illegal activities affecting forests, reports of the involvement of local officials in illegal logging imply that action is required. The FA should take further steps to build the capacity and resources available to provincial department staff on patrolling and enforcement regimes; and investigate allegations against the involvement of local officials in illegal logging, especially in key watershed areas such as the Prey Lang forest.

Cooperative relationships between local FA staff, police and military police, and local community members yield good results, and their use should be supported and scaled-up by relevant government authorities. For example, the Wildlife Rapid Rescue Team (WRRT), established by Wildlife Alliance in 2001, have contributed to a 75 percent reduction in wildlife trafficking country-wide and the arrest or fining of over 2,100 offenders.

3B-I.ii Further support, both in policy and practice, community-led efforts to implement sustainable forest management and gain legal tenure rights.

The National Forest Programme (2010-2029) recognises that Community Forestry (CF) is the favoured method of forest management in order to both improve local livelihoods and protect forests and biodiversity. As of June 2013, according to MAFF’s Forestry Administration, 345 of 457 CF applications had been approved by MAFF, and 253 had been signed. The signed CFs cover 207,299ha, just over half of the 400,167ha applied for. MAFF should therefore work to simplify the CF establishment procedure and expedite the granting of land for community forestry.

Greater capacity building is also needed for CF groups to conduct sustainable forest management; for example improving mapping and evidence collection skills and equipment. Further support for forest-based livelihoods will help build the resilience of forest communities. This could include support for sustainable harvest and marketing of Non-Timber Forest Products (NTFPs), eco-tourism, sustainable community management of wood lots, and other activities.

Community patrolling and enforcement efforts have also yielded important results, such as the efforts of the Prey Lang Community Network (PLCN), which has effectively cracked down on illegal logging in Prey Lang forest areas.

3B-I.iii Support and scale up efficient energy use and use of alternative energy to reduce unsustainable practices that increase disaster risk.

Over 10 million Cambodians use wood for cooking, contributing to forest degradation nationwide. Domestic biodigesters, such as those being promoted by the National Biodigester Program, provide an important opportunity to reduce these impacts. Energy efficient cook stoves have also proven to reduce fuel consumption significantly, and reduce household fuel wood use by an average of 22%. Environmentally friendly briquettes are another important fuel wood alternative. These are made by recycling coconut shells and/or biochar (carbonised wood), waste products that would otherwise end up in landfill.

Support to make these technologies more accessible and affordable nationwide could have an important impact on reducing this driver of deforestation.

22. MAFF, ‘Community Forestry Statistic in Cambodia 2013’
23. (NGO Forum 2013)
25. A Biogas User Survey conducted in 2014 found that households that had installed biodigester units had reduced their fuel wood consumption on average by 47kg per month, contributing to annual reductions in greenhouse gas emissions by 4.01 tons per biodigester, and annual household savings of $165 per household. Kooijman, Patrick et al, ‘Biogas User Survey Report for the National Biodigester Program (NBP)’. (Phnom Penh, 2014)
RECOMMENDATION 3B-II IN DETAIL
REDUCE LAND USE AND MANAGEMENT PRACTICES THAT WORSEN DISASTER RISK

3B-II.i Continue to enforce the 2012 moratorium on Economic Land Concessions (ELCs)

The 2012 Moratorium on ELCs is an important step forward by the RGC. It must be enforced in addition to an assessment of all granted ELCs until proper State Land Management is in place. This involves mapping, demarcation, and registration of all state land (state private and public land) in accordance with Sub-decree No. 118 on State Land Management.

The current loophole allowing projects that were already in the pipeline to be approved – such as the 32 new ELCs to be approved in the six months following the ban – should be addressed; and reliable public information should be provided on which projects are still considered to be at this stage.

3B-II.ii Conduct regular reviews of ELCs and cancel any concessions that are found to increase disaster risk as per the DM Law and other relevant legislation.

The RGC’s cancellation of selected land concessions in Koh Kong, Preah Sihanouk, the Prey Long area and elsewhere are important achievements and demonstrate commitment to environmental protection. These efforts need to be up scaled through regular review processes. This includes the need to adhere to the conditions outlined for granting land concessions in protected areas, as per the 2008 Protected Areas Law.

The principles of Free, Prior and Informed Consent (FPIC) must be, at all times, respected by the RGC and the concessionaires during the granting of the ELCs. It is also important that measures are taken to ensure no ELCs are granted in areas where CFs are under the process of registration.

Another issue of concern is that the NFP’s definition of ‘forest’ includes plantations. This allows for plantations within ELCs to technically be classed as forested land. In order to protect Cambodia’s remaining natural forests it is critical that this definition is amended.

It wasn’t until December 2011 that the first three communities in Cambodia’s north-eastern provinces finally received their communal land title. Some had waited almost six years. Meanwhile, others have been waiting even longer.

There is an important need for further clarification from the RGC on which communities are eligible for communal land rights, and steps should be taken simply the process for indigenous communities.

RECOMMENDATION 3B-III IN DETAIL
IMPROVE WATER RESOURCE USE AND MANAGEMENT TO REDUCE DISASTER RISK

3B-III.i Delay (by two to five years) the decision to implement dams on the 3S Mekong tributary rivers (Sekong, Srepok, Sesan) to allow time for further research on the impacts of these dams

While recognising the need for hydropower development to address domestic and regional electricity needs, the potential risks of these developments need to be carefully considered.

In recognising these risks, the RGC has itself called for the suspension of the proposed mainstream Xayaburi dam in Laos due to its potential impact on the Mekong river system. Similar delays are required to provide sufficient time for research to better understand the environmental ramifications of the proposed dams in Cambodia; how they affect sediment flow, nutrients, food webs, and biodiversity; and the economic and development impacts/trade-offs related to these variables.

3B-III.ii Support the greater use of integrated water resource management practices (including for hydropower and coastal zone management); and

In particular, there is an important need for further research into 42 or more dams being constructed or planned for the 3S river basin, which strongly influences the hydrology and productivity of the Tonle Sap and Mekong Delta and contributes 23 percent of the mean annual Mekong water volume. Assessments have shown that the new hydropower proposals in the 3S basin will generate relatively little energy considering their high environmental impacts.

Further research into these proposed developments will provide the RGC with decision support tools that explain how different scenarios (such as variances in the dam location, design and operation, along with the cumulative impacts of the multiple dams being constructed), will influence the dams’ impacts. This will aid the taking of fully informed decisions.

3B-III.iii Better understand and balance the risks and trade-offs between development projects and ecosystem services.

Hydrological cycles have important impacts on downstream river and floodplain ecology. For example, river flood cycles deposit fertile nutrients on flooded land, nourishing the soil for agriculture. Understanding these interactions is therefore essential for effective planning. But so far, planning mechanisms for assessing water resource options under a changing climate, and the potential impacts and trade-offs, are not in place.

Greater use of integrated water resource management as a planning tool will allow for more informed decision-making on the trade-offs between development, energy production and other ecosystem services, particularly those vital for the survival of the poor people that depend on them. The use of integrated hydropower development and conservation planning approaches can also significantly reduce the social and environmental impacts caused by dams.
GENDER AND DIVERSITY PERSPECTIVES

There are many existing impediments to women’s involvement in natural resource management. Concrete actions to address these impediments could play an important role in strengthening environmental outcomes and in turn reducing vulnerabilities from disasters. For example, training and coaching on technical resource management topics, public speaking, literacy, and organizational management, can have important impacts and help build women’s confidence to participate in NRM processes. Studies have shown that there is a strong correlation between the involvement of women and the outcomes achieved in natural resource management. For example, in the forestry sector, experience has shown that when significant numbers of forest user group members are women (at least 33%) who have tenure rights, receive technical training, obtain benefits that reduce their burdens and provide income generating opportunities, and participate in planning activities, there is less forest degradation, fewer incidents of illegal logging and forest land conflicts, and better protected forests and productive farms.35

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KEY LEARNINGS

Cambodia should commit to the Worldwide Initiative on implementing Safe Schools to protect learners and education workers from death, injury and harm in schools, and to strengthen risk reduction and resilience through education.

Through Disaster Risk Reduction (DRR) and Emergency Preparedness and Response Plan (EPRP) activities, schools can help spread awareness of key disaster preparation messages throughout communities.

Parents, School Support Committees and other community members can all be involved in celebration and learning activities to spread the knowledge wider.

SUMMARY

Education is a major asset for Disaster Risk Reduction (DRR). Once students have a grasp of the key ideas, they can spread these to their families and wider communities, inspiring preparedness and disaster risk reduction measures at the grassroots level while laying the foundations for further changes in society.

However, over the last few years, formal teaching on Disaster Risk Reduction has been very fragmented; and it may have relied too much on external resources such as short-term NGO interventions.

With the support of Save the Children and partners, DRR is therefore being ‘institutionalised’ or ‘embedded’ within the Ministry of Education, Youth and Sports (MoEYS) curriculum and mindset. The idea is to give officials, school directors, teachers and students long-term ownership of DRR; and to become advocates of change with the tools to put principles into practice.

Rather than teaching DRR as a separate ‘subject’, it is now integrated into Social Studies and Science lessons for Grades 4-6. The curriculum allows creative space for the teachers, and is intended to encourage child-centred investigative learning.

“While developing the idea, we used an education lens rather than a disaster risk lens,” says Samban Seng, Humanitarian Manager at Save the Children Cambodia. “His Excellency the Minister of Education likes the idea, and has been very receptive and supportive.”

The final draft of the DRR curriculum for Grades 4-6 was completed in 2015 and will be piloted in Kampong Cham and Prey Veng provinces. MoEYS intends to roll it out nationwide in 2016.

Save the Children also assisted with national-level ‘training-of-trainers’ at Provincial Teacher Training Colleges in December 2015 so that the teachers of the future will be well-informed too.
INSTITUTIONALISING DISASTER RISK REDUCTION

Like many other NGOs, Save the Children has a long-standing good relationship with the MoEYS and the National Committee for Disaster Management (NCDM). Under European Commission Humanitarian Aid and Civil Protection (ECHO) funding and with support from partner institutions, they are now supporting the integration of DRR into the national school curriculum.

Save the Children first drew on existing materials produced by NGOs and other partners. Consultants were hired to go through it all and edit the good practices into new sets of training materials integrating into lesson planning guides for teachers.

Further discussion also occurs via the Joint Technical Working Group on education, a forum for cooperation between government, NGOs, the UN and other development partners. It is chaired by MoEYS and UNESCO.

BUILDING TEACHERS’ CAPACITY

With support, teaching staff themselves can annotate appropriate DRR knowledge into the texts they use, especially while taking part in DRR and Emergency Preparedness and Response Plan (EPRP) training events in schools. Teaching staff for grades 4-6 can thus bridge the gap between training events and the new curriculum roll-out in 2016, as well as support its successful take-up.

This kind of support can be repeated with teaching staff for grades 7, 8 and 9. It will further embed DRR throughout the education community, especially if carried out alongside DRR and EPRP training. Again this will provide crucial capacity to teaching staff, while consultations continue on developing the DRR curriculum.

THE INVESTIGATIVE LEARNING APPROACH

Education specialists recognise there is a large gap between longstanding teaching methods and more recent DRR recommendations, making practical application difficult for teaching staff.

For example, a number of teaching staff continue to use previous teaching methods and texts without the additional literature provided (such as supplementary DRR / CCA materials). Education specialists indicate that this is likely due to a lack of comprehension on how and where the additional literature can be applied in conjunction with texts they are already using.

The Investigative Learning Approach (ILA) is a core aspect of updating teaching methods within the curriculum, and encourages the practical application of learning. By making learning more appropriate to their everyday situation and investigating theories, options and solutions, DRR concepts become much more applicable to students and teaching staff.

ILA will involve students using mathematics to record and report weather, temperature, rainfall, crop and livestock numbers, and market price fluctuations throughout the year. Project work can involve comparing data they have collected against previous records and current predictions. They can also use creative language and artistic expression to demonstrate observations, impressions and ideas about applying DRR ideas.

The integration of ILA within communities can be complemented by co-ordinating curriculum themes with the improved livelihood work that Save the Children and the Provincial Office of Education (PoE) in Koh Kong is carrying out with partners PIN (see box). Combined, these projects will provide important tools for progressing community mindsets. This will ensure the appropriate implementation of beneficial DRR and CCA methods and practices via teachers and parents as well as students.

TEMPORARY LEARNING SPACES

The DRR curriculum also complements other education collaborations between Save the Children and MoEYS, and is part of a bigger whole.

The development of Temporary Learning Spaces (TLS) is a clear example of addressing the need to minimise and avoid delays in student’s education as a result of flooding and other natural disasters. Providing TLSs for students not only enables minimal interruption to their education, but also provides them with a safe space during times of disaster.

This safe space can additionally provide the opportunity to address the emotional impacts disasters can have through ILA, as well as focusing on and addressing successful applications or DRR in their schools and communities.
DESIGNING EVENTS TO REMEMBER

Also under the ECHO ‘Building Disaster Resilient Communities’ project – and in cooperation with MoEYS, POEs, School Support Committees (SSC) plus NCDM and various subnational committees for disaster management – Save the Children, Oxfam, ActionAid and others have been conducting EPRPs and related interactive learning events at schools to raise awareness of DRR. These have involved quizzes, prizes and drawing activities as well as official launch events for the EPRPs.

“[Today’s event] has highlighted the importance of EPRPs,” said Mr Eng Vath, from the Curriculum Development Department of the Ministry of Education, Youth and Sport at the EPRP launch and International Day for Disaster Risk Reduction at Aranh School in Kampong Chhnang. “It reinforces the announcement issued by MOEYS in 2012: all schools in disaster prone areas are required to be involved in developing their own disaster preparedness plans.”

He added: “MoEYS has already prepared and provided human resources to all levels of education offices to assist schools in making these plans.”

In conjunction with the annual International Day for Disaster Reduction and ASEAN Day for Disaster Management themes, future school DRR celebrations could include presentations from the older students on:

• Their favourite DRR topic and why they chose it;
• What they think would work in their own community, what wouldn’t, and why.

As part of the preparations for the annual DRR day celebration and the school fair and village exhibition the school principal, teachers, school support committee, deputy village chief and other community representatives can be invited to identify children who are ID poor / indigenous etc. that attend school infrequently or not at all.

This will provide community representatives and education staff with the opportunity to progress with how to communicate DRR to potentially marginalised members of the community, and to then invite them to and encourage them to take part in the village fair and DRR Day.

In addition to the school DRR celebration at the end of every school year, students can participate in a school fair for their village exhibition every three months.

The exhibition could include up to 10 homes in the community identified by the students that demonstrate examples of DRR, as well their own suggestions for potential DRR in practice. Provincial officials and other guests could be invited to village exhibitions to encourage inter-community information sharing.

Other activities that students and teachers can participate in as part of the yearly DRR celebration could be repeated every three years as follows:

• **Year One**: role-play (or emergency drill) and painting the school tree.
• **Year Two**: drawing competitions and quizzes on household DRR, DRR and hygiene, safe access to schools etc.
• **Year Three**: drawing competitions and quizzes on school DRR and Temporary Learning Spaces as the main focus, while summarizing the previous year’s topics.
Ma En, 12, lives in Phum Muoy, a fishing village of around 700 people in Koh Kong province on the south-eastern coast of Cambodia. Storms regularly destroy the coastal mangrove forests which shelter Phum Muoy, exposing villagers to extreme weather, eradicating wildlife habitat and encroaching previously fertile farmland with salt water.

“My parents used to encounter storms when they were fishing,” she says. “It destroyed their things, food, fishing tools, and boat. It was lucky that my parents were not seriously injured. Now, they will not go fishing anymore when the sky is dark and cloudy with strong winds.”

In the rural mangrove swamps of Koh Kong province, schools are few and far between, so En stays with her aunt, an hour’s boat ride from the village where her parents were born and where they still live. En visits her parents three or four times a month. She would like to visit more often, but she is aware of the dangers of travelling in unpredictable weather.

Since October 2014, Save the Children has coordinated with the Koh Kong PoE and other provincial departments on implementing the Disaster Resilience through Improved Education and Livelihoods (DRIEL) project in Koh Kang Primary school. It focuses on providing resilience opportunities for communities through implementing sustainable livelihood ideas, supporting schools to increase children’s understanding of environmental change and disasters, and supporting village councils to lead the way in identifying hazards and mitigating risks in their local community.

The strategy is to mainstream the concepts of disaster risk reduction and climate change adaption (DRR/CCA) into school curriculums by developing Disaster Preparedness Plans and school safety guidelines. Children are supported by education authorities, the Commune Committee for Disaster Management and the SSC to conduct school hazard mapping and learn about family livelihood alternatives and life skills.

En is now aware of the disasters that regularly strike her community each year. “I have learnt about disasters such as storms, strong winds, lightning, and floods,” she explains. She also knows how to reduce the risks of storms by planting more mangrove trees: mangroves can reduce the danger of sea surges, absorb rain water, protect the community from storms and strong winds, reduce soil erosion, and conserve the fish, crustaceans and molluscs on which local people depend for food and income.

Through an innovative Investigative Learning Approach pioneered by the project, she has learnt how to grow morning glory and cabbages in her school. She encourages her aunt to plant and take care of these storm-resistant plants at home as well.

DRIEL empowers children to be the agents of change in their communities. En shares her newfound knowledge of how to stay safe with her friends, relatives, and people in the community.

“The DRIEL program is very important for my school and community,” said Mr. Kay Heoun, Koh Kang School Principal. Teachers and students receive knowledge on DRR/CCA and the Investigative Learning Approach; then they share this knowledge with people in the community.”

Mr. Sai Leng, Chief of Phum Muoy village, added: “The DRIEL Program is good for us because it benefits my villagers - they know how to mitigate risks; for example, when storms occur they know how to go to the safe area.”
ABOUT JAG

The Joint Action Group (JAG) is a non-formal group of civil society organisations (CSOs) working in Cambodia on Disaster Risk Reduction (DRR) and Disaster Management. Members coordinate relevant activities and share information, knowledge, skills and experience.

**Full members (2015):** ActionAid - ACTED - AVSF - CARE - Caritas - DanChurchAid - IFRC - Life With Dignity - Oxfam - Plan - People in Need - Save the Children - World Vision

**Regular Observers:** CHF/ ADPC - UNDP (on behalf of UN system)

JAG also proactively engages with the Cambodia Humanitarian Forum (CHF), Humanitarian Response Forum (HRF) and the Cambodia Climate Change network (CCCN) to facilitate greater understanding and learning on DM and DRR. Membership is open to registered NGOs and other networks in Cambodia, and two members to co-chair on a six-month rotating basis.
THE ROLE OF THE JOINT ACTION GROUP

Capacity gaps at both the national and sub-national levels limit Cambodia’s ability to effectively manage disaster risks and mainstream DRR. There is a need to synchronise the efforts of government, national and international NGOs and other stakeholders. JAG sees itself as an intermediate mechanism to help fill these gaps.

It emerged in 2008 out of informal discussions between Non-Governmental Organisations (NGOs) engaged in Disaster Management (DM) in Cambodia. The forum was later named as Joint Action Group, and has since continued to meet informally on a regular basis.

JAG members currently work together on:

- Supporting general NCDM’s coordination role;
- Building capacity of various DM and DRR actors in Cambodia;
- Advocacy around DRR (including the International Day for Disaster Reduction);
- Joint implementation of relevant activities;

JAG stakeholders benefit from a holistic understanding of ongoing initiatives, donor priorities, best practices and lessons learnt. The forum played a key role in mainstreaming DRR into the National Strategic Development Plan (NSDP). It also works together during specific incidents, for example, supporting the National Committee for Disaster Management (NCDM) during the 2010 border dispute. In the event of disaster, JAG will take part in national level coordination in partnership with HRF in order to improve ensure better risk reduction is integrated into responses.

JOINT ACTION GROUP KEY OBJECTIVES

Objective One: To advocate the effective and coordinated implementation of DRR activities at the national level and to enhance adherence to policies and international humanitarian standards, including the integration of DRR into longer-term strategy and planning processes.

Objective Two: To promote effective and coordinated implementation of DRR activities and integration of DRR in longer term planning at the sub national level.

Objective Three: To provide a common space to all DRR actors in Cambodia to enhance their learning, sharing information and experiences on DRR.
**Scope and purpose**

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors.

**Expected Outcome**

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

**Goal**

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.

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### TARGETS

- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015
- Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015
- Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030
- Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030, through adequate and sustainable support to complement their national actions for implementation of this framework by 2030

### GUIDING PRINCIPLES

- Primary responsibility of States to prevent and reduce disaster risk, including through cooperation
- Shared responsibility between central Government and national authorities, sectors and stakeholders as appropriate to national circumstances
- Coherence of disaster risk reduction and sustainable development policies, plans, practices and mechanisms, across different sectors
- Protection of persons and their assets while promoting and protecting all human rights including the right to development
- Accounting of local and specific characteristics of disaster risks when determining measures to reduce risk
- Engagement from all of society
- Addressing underlying risk factors cost-effectively through investment versus relying primarily on post-disaster response and recovery
- Full engagement of all State institutions of an executive and legislative nature at national and local levels
- «Build Back Better» for preventing the creation of, and reducing existing, disaster risk
- Empowerment of local authorities and communities through resources, incentives and decision-making responsibilities as appropriate
- The quality of global partnership and international cooperation to be effective, meaningful and strong
- Support from developed countries and partners to developing countries to be tailored according to needs and priorities as identified by them
- Decision-making to be inclusive and risk-informed while using a multi-hazard approach

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### PRIORITIES FOR ACTION

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas:

**Priority 1 Understanding disaster risk**

Disaster risk management needs to be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.

**Priority 2 Strengthening disaster risk governance to manage disaster risk**

Disaster risk governance at the national, regional and global levels is vital to the management of disaster risk reduction in all sectors and ensuring the coherence of national and local frameworks of laws, regulations and public policies that, by defining roles and responsibilities, guide, encourage and incentivize the public and private sectors to take action and address disaster risk.

**Priority 3 Investing in disaster risk reduction for resilience**

Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment. These can be drivers of innovation, growth and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses and ensure effective recovery and rehabilitation.

**Priority 4 Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction**

Experience indicates that disaster preparedness needs to be strengthened for more effective response and ensure capacities are in place for effective recovery. Disasters have also demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of the disaster, is an opportunity to «Build Back Better» through integrating disaster risk reduction measures. Women and persons with disabilities should publicly lead and promote gender-equitable and universally accessible approaches during the response and reconstruction phases.
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