

The supranational view: a discussion about disaster risk in Armenia

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Disaster Response Centre
Image credit: UNDP Armenia

Armen,

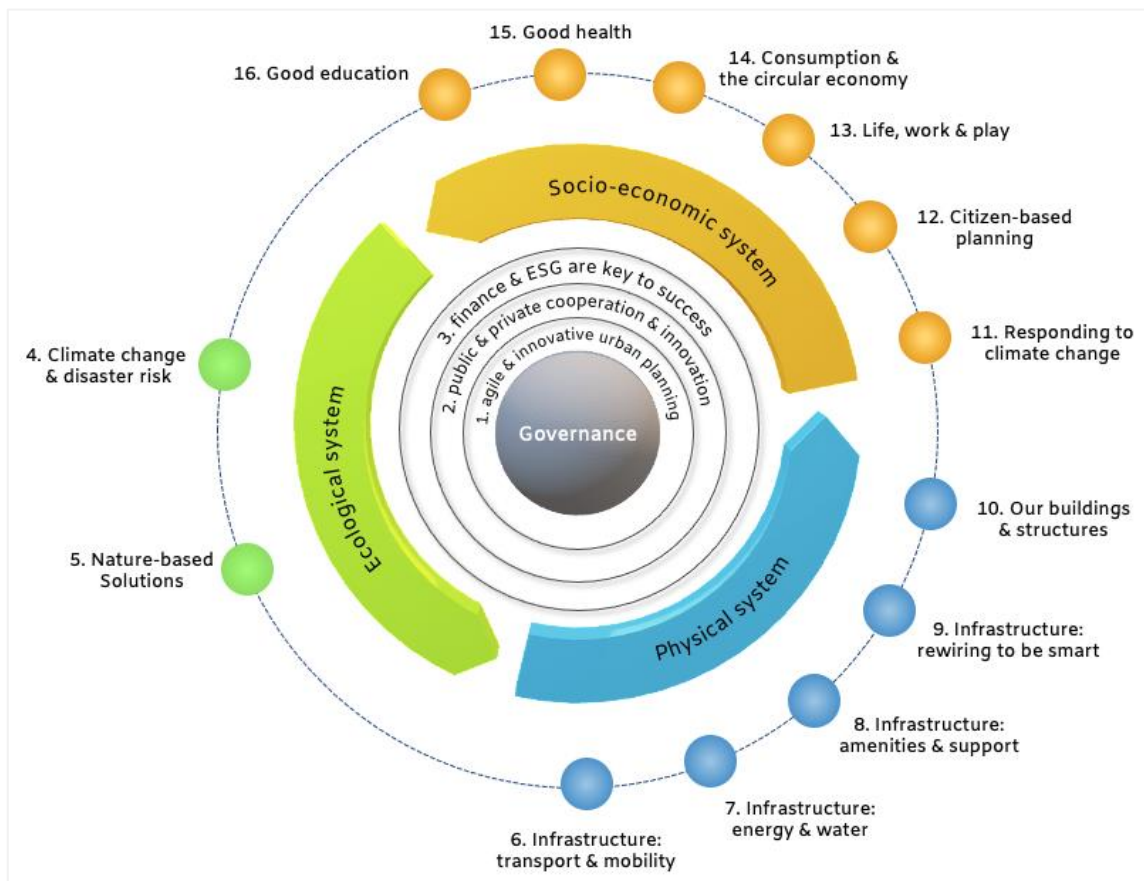
Thank you for making the time to discuss with me the work that is taking place to strengthen disaster risk capacity in Armenia.

It was a pleasure to be a presenter alongside you in November 2022 for [an online UNDP Eurasia Urban Talk](#). Your presentation about UNDP's activities to support disaster risk action in Armenia contained some very interesting examples and insights, and I'm looking forward to discussing matters in more detail with you in this interview.

I am keen to learn about examples of **what is being done** in Armenia including seeing what **learnings may be relevant to other places**, to help the global effort towards good disaster risk reduction, in urban and rural environments, and wherever possible to avoid disasters.

I know that the population, economy, and environment of Armenia are highly vulnerable to hazards that can cause disasters. Earthquakes and landslides are examples of such threats, with Armenia being situated in one of the most seismically active regions of the world. Earthquakes have affected large numbers of people and caused significant economic losses over many years. [The 1988 Spitak earthquake in Armenia](#) killed 25,000 people, injured some 20,000, left 517,000 people homeless and caused significant damage to several cities which resulted in direct economic losses in the billions of dollars. The landslide hazard zone covers one-third of the country, primarily in foothill and mountain areas. Around 15% of the total population is exposed to landslides.

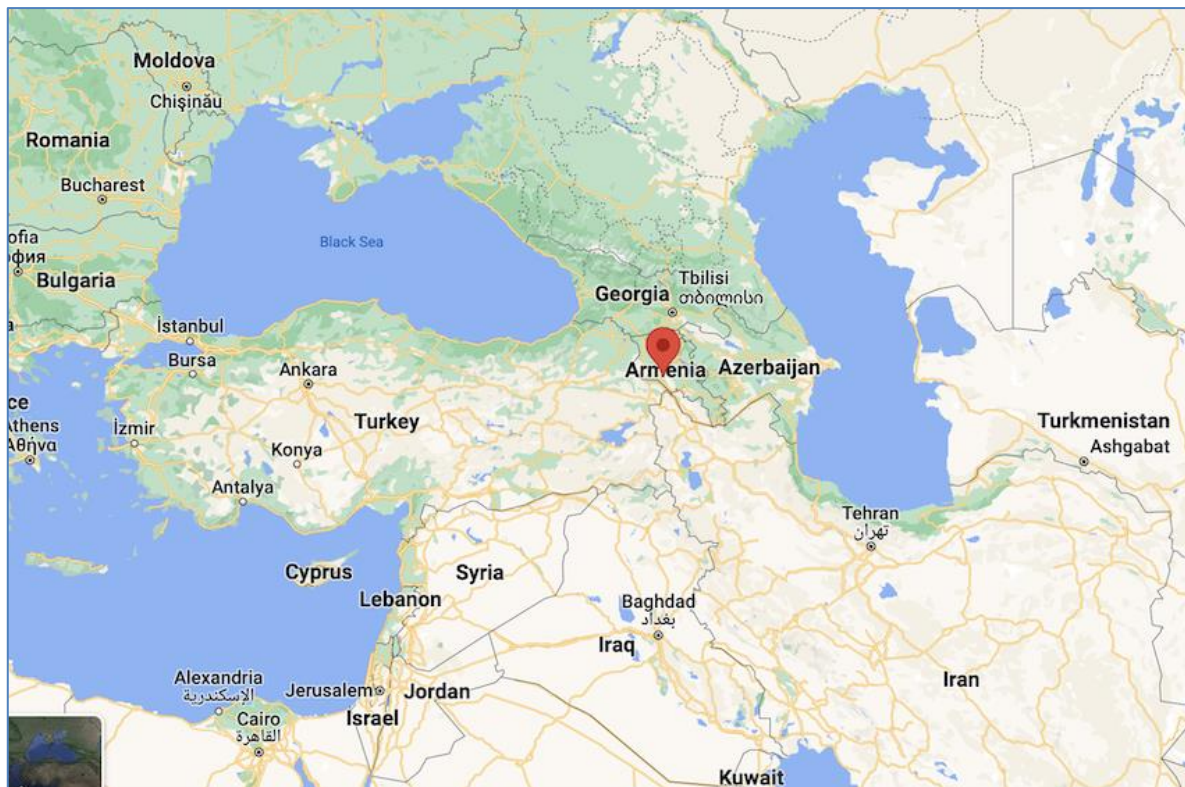
I'd like to frame some of our discussion points about disaster risk in Armenia using a system (per the diagram below) which links to the 17 UN Sustainable Development Goals ([the SDGs](#)) and [the 2030 Agenda](#). By stitching discussion points to this system, I hope we can show the benefits of considering, to varying degrees and depending on context, aspects of governance, the ecological environment, the physical environment and the socio-economic environment in decision-making and the management of disaster risk, and how knowledge can be effectively shared to ensure continuously improvement around the world.



System image by author

Gareth: Geography plays a major part in the context of a country's development and its resilience against events that can cause a disaster. I know that Armenia is a country of approximately 3 million people, and is geographically located in the South Caucasus. I know that its terrain is mostly mountainous, with fast flowing rivers, and only a few forests. Summers can be hot, and winters cold.

Regarding the capital city of Armenia, Yerevan, I know this city is at altitude – being, on average, almost 1,000m above sea level in the central Armenian Highland in the north-eastern part of the Ararat Plain, which makes it amongst the fifty highest cities in the world. [The Hrazdan River](#) runs through the city centre, which is surrounded by mountains to the north, west and east. Given its geography, I can appreciate that Yerevan gets cold in the winter and can be hot in the summer.



Armenia (with Yerevan pinned) on the map
Image credit: Google

Gareth: I can see four parts to this interview:

1. The overall approach to disaster risk management in Armenia
2. National legislation and governance to set a foundation
3. Science-based actions
4. Community and participatory decision-making

Before we get into the first point, I'd like to first provide a *definition of a disaster* before we get into our interview points, to give us some context.

The United Nations Office for Disaster Risk Reduction ([UNDRR](#)) defines a disaster [as](#): “A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.”

I have seen that other global groups use this definition. For example, the IPCC, in Annex II to the IPCC AR6 (2022) suite of reports, quote it.

However, this definition is lengthy, quite complex and hard to remember. Academics have analysed how disaster risk definitions have evolved over the past few decades and concluded that many are overly complicated. Perhaps we can consider a simpler definition per the following, which draws upon work by [Professor Ilan Kelman](#) of UCL who is co-lead of a NASA-funded project to look at examples of disasters avoided:

A major situation requiring outside support for coping.

The essence of this definition is as follows: something happens, we cannot deal with it, and we need help. It applies to individual, community, state and country levels and at the international level. It relates to the United Nations definition and to those used by scientists, emergency services and dictionaries. Using the words “situation”, “support”, and “coping” is vague but vagueness can rarely be avoided when we want brevity.

Part 1: the overall approach to disaster risk in Armenia

I understand that cooperation for disaster risk activities between UNDP, many other agencies, the national government of Armenia and municipal authorities of Yerevan and other cities has been in place for over ten years. I know that Yerevan was the first Armenian city to join [the MCR2030 network](#) which is run by [UNDRR](#), and that there are plans for other Armenian cities to join this global network. Can you outline what your activities in disaster risk in Armenia consist of, and how you prioritise needs and projects. Is it fair to say that part of your objectives is to avoid disasters from occurring?

Armen: The activities of UNDP in Armenia to assist with strengthening disaster risk management capacities in the country have been ongoing for many years. Our goal is indeed to avoid disasters, and to ensure cultural integration of practical actions at a local level that make a real and tangible difference.

In terms of a timeline of our activities, I'll start from 2009 which is when we conducted a first capacity assessment of disaster risk reduction which led us to identify and develop about 40 recommendations into a plan to improve the disaster risk reduction system in the country. These recommendations focused on three pillars, which are important to keep in mind for the rest of our discussion:

- 1. Ensuring an appropriate and fit-for-purpose institutional framework is in place.*
- 2. Focusing on technical skills and a capacity to respond.*
- 3. Community engagement when strengthening disaster risk reduction practices.*

The Report that was developed from this assessment, which was released in 2010, discussed capacity, stakeholders, and strengths and weaknesses as they were at the time. It is available online, here:

<https://www.cadri.net/system/files/2021-06/Armenia-DRR-System-Capacity-Development-Report.pdf>

The assessment became a baseline for ongoing disaster risk system development. Many UN agencies including UNDP, the World Bank and others agreed to support this baseline and the accompanying action plan, and to support the Armenian government with ensuing disaster risk reduction measures and projects.

We conducted this assessment using [the Hyogo Framework](#) (the UN global blueprint for disaster risk reduction which was used between 2005 and 2015) as an assessment toolkit. It was the first time in Armenia that we used an international strategic framework at the national level to understand and analyse where we stand with regards to disaster risk and our overall objectives, including at a detailed level.

We monitored our plan against this assessment for five years, up to 2014. Soon after [the Sendai Framework for Disaster Risk Reduction](#) was released in 2015, we conducted a follow-up capacity assessment in conjunction with [the World Bank](#) and [the Armenian Ministry of Emergency Situations \(the Armenian Emergency Authority\)](#). Through this follow-up assessment, we found that about 70% of the first plan had been implemented, and actions to respond to the remaining 30% were in progress to varying degrees. This was an interesting exercise for us to undertake.

Gareth: Looking back at this assessment work, how beneficial was it to use a global framework, rather than developing something locally?

***Armen:** The capacity development process using a global framework was extremely useful. It allowed us to develop capacity building plan based on a global model and for key activities to be developed to generate a self-assessment, to inform stakeholder consultations, and to broaden the understanding, localisation, and application of an international strategy for disaster risk reduction – from global to local, you could say (and we really do mean down to on-the-ground localness).*

The use of internationally accepted frameworks for disaster risk reduction (DRR) and capacity development has created an evidence-based rationale for DRR in Armenia. The methodology and tools developed for the DRR system in Armenia have become a valuable resource that has been subsequently widely used and adapted in the country for the further capacity development of a disaster risk management (DRM) System for Armenia (which I will explain a bit more about later in our discussion). It has also helped key government stakeholders to actively participate in the development of a shared vision for an effective disaster risk system to be put in place. So yes, looking back, these assessments have added value to help us on our journey on managing disaster risk.

Gareth: Since this assessment work was undertaken, what are some of the key activities being focused on for the overall approach to disaster risk in Armenia?

Armen: A key focus for us in recent years has been to introduce a change (including behavioural change) which is to incorporate and integrate disaster risk management (DRM) alongside on disaster risk reduction (DRR). Some people equate / think of disaster risk management (DRM) as the part of the cycle that deals with responding to disasters after they occur. We view DRM as our system to ensure a broad network of stakeholders is engaged in the overall management of disaster risk – including preventative measures and the reduction of risk, and responses to and management of events that create disaster situations, as well as post disaster recovery.

Gareth: Is it fair to say that your approach includes a focus on *avoiding disasters*, by ensuring resilience is in place so that when an event that could cause a disaster occurs (and appreciating the various disaster risks you face in Armenia), action has been taken to ensure it does not result in a disaster?

Armen: Yes, a focus on avoiding disasters is integral to our approach, and coordination across stakeholder groups is key to achieving this. When we completed the two disaster risk assessments in 2009 and 2015, the sole agency involved in disaster risk in Armenia at the time was the Ministry of Emergency Situations. This has since evolved to include more stakeholders, which has been a positive step forward. The holistic management of disaster risk means involving multiple agencies and stakeholder groups, which is a focus of our DRM system, to continue with the integration of all ministries, agencies and other groups involved in and impacted by disaster risk events. We have engaged local, regional, national and international partners in this activity. As part of this, in 2016 a new capacity disaster risk assessment was created and adopted (which readers of this interview can have a copy of if they would like).

Based on this new assessment and considering what we had learned and achieved from our two previous assessments, two national strategies for DRR and DRM in Armenia were approved in 2017. We have since updated the DRM part of our focus again in 2022, which is being reviewed by the national government as of early 2023.

It's important to always keep in mind that disaster risk needs to be managed in context to the way that things work in a country. Different countries and regions have different set-ups in place, which are informed by how things are managed over time.

Part 2: National legislation and governance to set the foundation

Gareth: I'd like to discuss the second point of our four review points now (and perhaps we can follow up on aspects of it after this interview).

Legislation and governance with appropriate accountability is key to ensuring that all disaster risk management activities have a solid foundation and base. For example, it is crucial to support technical assessments with governance that actively addresses weaknesses and issues that are identified from these assessments. How does the national legislation and governance process work in Armenia for disaster risk management, is accountability working, and is the process as efficient as it can be, in your view?

***Armen:** For Armenia, national governance takes the overall form of a national platform for disaster risk reduction (which is available through this link: <http://www.arnap.am/?lang=en>). This platform describes how many different parties (including of course the Armenian government departments plus ourselves at UNDP, other UN agencies such as UNICEF and UN-Habitat, the World Bank, Non-Governmental Organisations, or NGOs, and Civil Society Organisations, or CSOs) can come together to achieve a good disaster risk capacity.*

UNDP supports a cross-department sharing and coordination approach in Armenia for disaster risk management along with several others including UNICEF and the World Bank. I would say this is a good way to leverage the UN agency system of coordination and partnerships. For example, UNDP liaises with Armenian government ministries together with UNDRR in their Brussels and Incheon (South Korea) offices (Incheon being responsible for the Global Education and Training Institute, or GETI), the World Food Program (WFP), the World Health Organization (WHO) and UNICEF who help and support children. This multi-party liaison ensures we incorporate actions from all agencies in a disaster risk management project to achieve maximum efficiency and to ensure that budget and capacities are not duplicated across parties. For example, UNICEF takes the lead on education matters, which includes their work in schools. UNDP focuses on community administration, jointly working with all stakeholders. We link up together, we do not duplicate our efforts.

We have put in place a partnership network with the national Armenian government, local administrations (covering several cities, including the City of Yerevan), the private sector and international organisations. Usually, one of the key common linkages to our disaster risk projects is the National Platform. As an example of leveraging a global programme for national benefit, [the MCR2030 programme](#) (Making Cities Resilient 2030) which is overseen by UNDRR globally is promoted in Armenia by UNDP and the National Platform, with UNDRR providing support when an appropriate initiative is identified for which MCR2030 can support it. The coordination of responsibilities shifts from one party to another when it is appropriate.

Gareth: I appreciate this context to how disaster risk coordination takes place in Armenia, Armen, and the range of parties involved. Can you provide a "working example" of how the process works?

Armen: *Let's consider two examples of the process in action. The first example is when the DRR National Platform manages and coordinates requests from government departments to set up and implement disaster risk management projects. The second example is when any team / entity identifies problems and challenges to be tackled, which they then engage the DRR National Platform about to see what can be done.*

For the first example, consider the DRR National Platform receiving a request from a government entity to review and update a legislative document or act (e.g. to update a national strategy). This usually requires specific expertise.

Upon receiving such a request, a Requestor nominates a focal point to lead the process, and through our platform we ascertain which organisations are interested to partake in the work. Once we receive notifications of interest, a thematic working group is formed to agree who should be involved in the initiative and how it will take place.

For the second example of identifying bottom-up needs, they can arise from any type of party that sees a gap in disaster risk, a problem or an opportunity to be addressed.

For both approaches, activities include project management and action plans, managing to an agreed scorecard and ensuring that all appropriate liaison and linkages between stakeholder groups is in place. For both approaches, the national platform provides the developed final product or solutions to the government and oversees implementation with the engagement of all interested stakeholders.

Gareth: How does the private sector in Armenia engage with your disaster risk work, as one of the many stakeholder groups? Does their inclusion fold into both approaches that you have just described?

Armen: *The private sector is certainly involved, and the DRR National Platform is supporting this push for private sector support. Businesses have experience in various aspects of disaster risk that we want to leverage.*

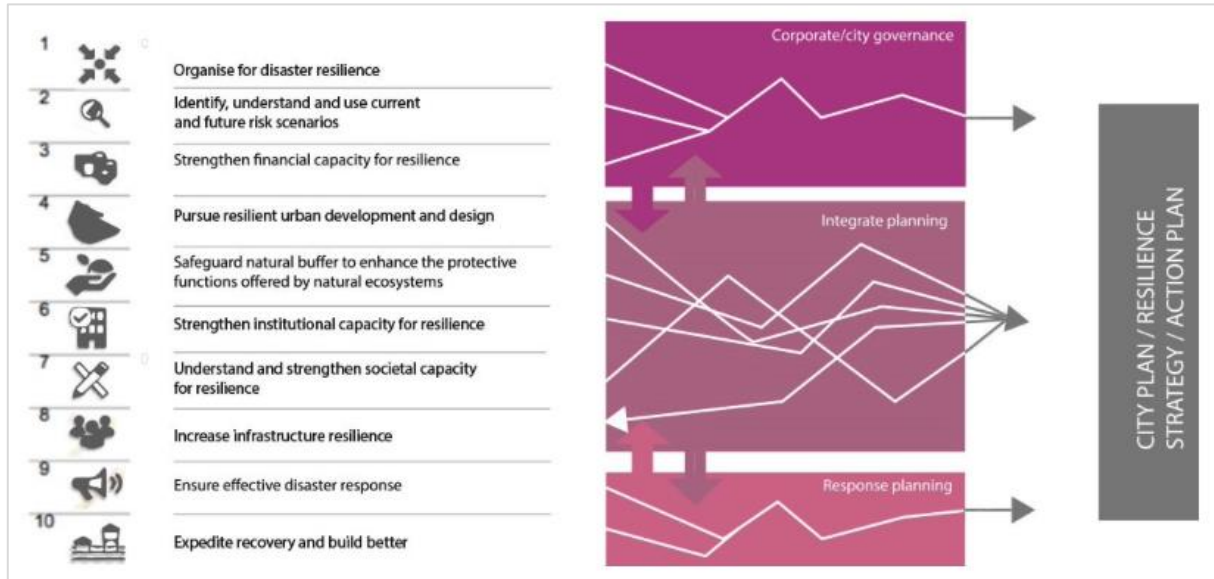
Part 3: Science-based actions

Gareth: Let's discuss the third point of our four review points now (to perhaps follow up on more examples of it at a later point in time), including perhaps some examples of linkages with the private sector. What kinds of projects have recently been implemented using the governance process we have just described, which have used science-based techniques to lead to an agreement on science-based actions? Are Earth observations part of this?

***Armen:** Multi-risk profiling is an example of a top-down identified need through the DRR National Platform which uses a scientific approach. For example, a multi-party team has completed multi-risk profiling assessments for ten Armenian cities. For the City of Yerevan, the assessment was led by the Japan International Cooperation Agency (JICA); for the other 9 cities, UNDP undertook the assessment. These assessments incorporated the [Global Earthquake Model](#) (GEM) international methodology. With the support of academic institutes in Armenia the project team integrated landslide and flooding analysis with earthquake analysis to produce a multi-risk scenario for local communities to then use in a practical way, and for authorities to consider as part of their urban planning work and the organisation of emergency preparedness and planning.*

One of the goals of this collaborative modality is to improve the availability of science-based data and information relating to disaster risk. As a result of this project, we have several localised science-based assessments for several urban communities in Armenia. This is helping us to develop good community and participatory decision-making, which we will cover shortly as our fourth main discussion area.

In a linkage to our second main discussion area of localisation of best practices and innovations for insuring the risk informed decision making and governance, we are reviewing the capacities of the DRR National Platform to ensure replication of MCR in Armenia. A UNDRR office consultant is supporting us, and we need to embed it within the country to ensure there is local skills and capacity to do it directly. UNDRR has created an MCR scorecard / assessment modality guideline which we are implementing for 25 cities in Armenia that are part of the MCR2030 global network, including Yerevan. We have three such assessments in place so far, and it is a continual process that is supported by UNDRR Brussels. [An online scorecard exists and is available in many languages through the global MCR2030 website](#), which we used for assessment of the capacity of the cities that are part of MCR and adapted to suit our needs. This scorecard is helping us to identify overall management capacities in the cities against [the MCR2030 "ten essentials"](#), to develop and implement a roadmap and specific actions to improve local governance for effective disaster risk reduction, and to – per your point earlier – seek to avoid disasters occurring.



The ten essentials of MCR2030
Image credit: [MCR2030 website](http://www.mcr2030.org)

Earth observations are a priority for us, which includes the use of satellites and drones. UNDP is supporting the capacity building of different stakeholders for using drones and innovative technologies for risk monitoring, and there is an educational programme launched in the Crisis Management State Academy offering for degrees in this field. It's important to ensure there are educated local people to maximise the use of technical capabilities such as GIS and drone monitoring. For most initiatives undertaken moving forwards, GIS and the utilisation of satellites is part of it.

For example, we are supporting the national Hydro-met service to increase their technical capacities for more accurate forecasts and scenarios related to the understanding of the impact of hydrometeorological extremes. It needs a process to go through, to show the benefits by showing how everyone can use and benefit from it. Climate change scenarios can be used in development processes. As always, appropriate legislation and a management mechanism that is enforced is important to ensure that required changes based on science-based evidence are implemented, with legal consequences if parties do not adhere to them.

Gareth: I'm wondering if a future step with Earth observations is to use them for further forward-thinking and planning. For example, to monitor (whilst always respecting people's privacy) the respect for building codes, or migration and any other patterns that could be "weak signals" to possible changes, be they positive or negative.

Armen: Certainly, a future step is to agree how to improve our use of EOs for spotting potential areas to address as early as possible to avoid disasters occurring.

Gareth: Does science-based action include near-time alerts and signals of an event, such as Early Warning Systems (EWS)?

Armen: It does indeed. EWS is a good example of leveraging funding from multiple donors for projects, as well as enhancement of private-public partnership and to seeing the economic and financial benefits of localising a science-based service for the benefit of local communities.

UNDP supports the government in the building of a national EWS capacity so that it can be run across the country by local specialists. In a link to our previous discussion about involving the private sector, we now have a private Armenian company overseeing it as a national producer, which is seven times cheaper than an international existing solution (which has understandably higher overheads, hence increased costs).

To give you a specific cost-benefit example of localisation, when we started the EWS system cost was US\$4,200 each for the equipment, plus US\$500 per installation from an international supplier. Plus, with support having to be remote, the renovation and updates can take 15 days, so the downtime per siren is a risk.

With a local producer and supplier, the cost is US\$700 per system, including installation and 1-year warranty and the operational management system.

This is a good example of cooperation with the national private sector. We showed them the need and kick-started the process with an international expert, and we showed them the market opportunity. Our role was to be a catalyst, and I'm pleased to say that in this case it has worked.

Gareth: Does science-based action cover land use and the control over permits for new development, in cities and also in rural areas?

Armen: Land use planning and urban development also requires science-based support. Cities do not have up to date data and information about seismic risk and flood potential. After our work on this as a multi-party project in target 10 cities, information was presented to them, and it has helped them to decide how to control what land the private sector can use, what permits can be issued for types of development. This is another example of science-based information being used for decision-making and working with the private sector backed by legislation to ensure rules are followed.

Part 4: Community and participatory decision-making

Gareth: Let's move onto the fourth point of our four review points (with the potential to follow up with more examples later). What kinds of activities, backed by good governance and science-based data and information, are being undertaken to ensure good community engagement and leadership in implementing ground-level actions?

Armen: *The participatory involvement of communities is vital. In our work with communities, we respect and leverage their distinct local knowledge and identification of risks and pragmatic solutions. It covers liaising with the community administration and citizens.*

We must make sure that we localise science-based data and risk models. We know about hazards and flood and seismic zones, but knowing what can happen if they occur in a specific local area is where community involvement is key. It's this analysis that helps "the last mile" work to avoid a disaster / minimise the impact of a major event.

An example I can give relating to the Armenian cities I mentioned earlier is a disaster communications and engagement initiative for citizens, which was identified as a gap, and links to point 7 of the ten essentials of MCR2030: Understand and strengthen societal capacity for resilience. As well as ensuring local administration engagement and science-based assessments, we need to ensure we have good engagement with citizens, including listening to their views on how to prepare and respond to disaster events.

Back in 2010 we developed a local level risk management (LLRM) methodology which is based on the vulnerability capacity assessment (VCA) toolkit. It serves as a diagnostic instrument for identification of main hazards, vulnerabilities and capacities of the communities and formulate recommendations on mainstreaming DRR into community development plans. We tested it in 40 communities across the country (including in Yerevan), which led to a recommended approach and methodology put forward for all partners that deal with community resilience. Prior to the introduction of the LLRM, any organisation that had a community level project did it in their own way, and whilst what they did worked it was inefficient and didn't allow us to effectively leverage learnings across projects. Since 2010 we have focused on efficiency and an integrated approach, which is linked to the points we covered in the first part of our discussion. We have seen how different parties (e.g. UNDP or UNICEF, for example) can be involved at different times in projects, and one party can easily pick up the thread where others have left it – which avoids having to do a new assessment, and keeps it integrated as a single source of truth.

Since 2010, more than 340 rural settlements in Armenia have been assessed with LLRM. Urban settlements use the MCR scorecard and science-based assessment, while rural ones use only LLRM, methodology which doesn't include as much science-based data. As a multi-stakeholder team, we are working through the implementation of approved recommendations. Just recently, within the framework of the DRR National Platform and with the support of UNDP and UNICEF, the methodology is being updated to consider climate change and adaptation impacts at a community level.

Here are two small but valuable examples of local level ownership and action:

- In 2010, the community of Zuygaghpur knew they had a flash flooding risk. As a result of LLRM assessment we have identified flash flooding risk as a critical issue and supported a project to clean a drainage channel, which had been blocked with debris and rubbish (poor / inadequate / blocked drainage is a common factor in flash flooding problems globally, of course). Two months after it had been cleared, there was a major water surge, and because the channel had been cleared everything was fine. Ten years later, one of our team returned to the community and discovered that the community had found an annual budget to clean the channel every year and had also improved their garbage collection. This was achieved because citizens in the local community were engaged from the very beginning – and were empowered to find the right solutions. The administration and the community are partners.
- In another community, Lernantsk, flooding is a major risk. We supported the community to build a small and better physical bridge between their dwellings and their agricultural land. This turned out to be crucial “flywheel infrastructure”. Within 2-3 months, electricity had been installed across the village, roads were repaired. 70% of people then bought a car and became more mobile. Plus, to mitigate landslides, the community changed the old water channel down the mountains to be a new pipeline, which is a better way to avoid a disaster situation.

For disaster risk community plans, and in a link to legislation providing a strong foundation for good disaster risk management, it is now mandatory to cover risk identification and mitigation, emergency preparedness & response, and post-disaster recovery measures. These aspects have been integrated into a draft law for civil protection. Legislative actions are key, to get things going and provide crucial legal support for implementation.

Gareth: This last point you have just mentioned, re-emphasising the importance of a legislative framework, is I think key to ensuring actions to address hazards and weaknesses are followed through, that they do not just exist in plans and recommendations that “go nowhere”.

Armen: Legislation and good governance is key, and it has of course been our second focus area of this discussion. Local communities need the budget line for DRR, and with legislation in place they can achieve this. They need to be given the responsibility to do things related to DRR, to employ relevant professionals or specialists etc. This of course, comes with a commitment by them to act.

Gareth: I’m interested to understand a bit more about the engagement you have with communities and citizens, and some of the challenges you face (and hopefully overcome). Is your community liaison linked to other aspects of urban resilience – for example, the needs for improving transport & mobility, the built environment and ecology (and other UNDP activities to support urban resilience in Armenia)?

Also, are there ways to ensure that government, and perhaps opposition parties as well, do not see disaster risk as a standalone activity that can be “chopped and changed” by different administrations?

***Armen:** Working out how best to engage with citizens so that they are informed about and prepared for potential disasters is important. At the local community level in our cities, private sector enterprise has a good understanding and capability, but citizens not so much. We have found that we need to be involved in the discussion to ensure there isn't a knowledge gap (and that no one is left behind). Knowledge related to climate change and sustainability varies greatly across communities. One option available to us is education and training.*

One point I made in my Urban Talk in November 2022 concerns the disruption that a change of government can have on the continuation of disaster risk projects and initiatives. When a national and/or local government in Armenia changes, people in ministries change and there is a possibility of losing momentum and drive to continue with disaster risk initiatives. This is the case not only in Armenia, of course, it is similar elsewhere.

To try to overcome or at least mitigate this challenge, we are using the participatory model – with a community resilience team – to engage with local authorities and their communities, so that if/when there is a national or local government change, a framework helps to ensure continuity of projects. The approach we take is for a community administration to establish an Advisory Board and a platform, which is approved by the mayor. They invite potential partners to be part of their platform – including civil, academic / educational parties and the private sector. When the Board is operational, we (UNDP) support the implementation of capacity building activities with them. Through these Boards, local people and local organisations who know their local context are engaged in the overall process, and they become integral to it. They are engaged in the development of action plans and initiatives. They are key to circulating what is being done across their community, and the Board can exist independent of elected government teams.

We work hard to ensure citizens are engaged in civil society capacity (the human capacity) at a local level. UNDP is also working to coordinate and support the activities of local NGOs (Non-Governmental Organisation) and CSOs (Civil Society Organisations) across Armenia. They spread across community development, protection of the environment and others.

This coordination approach includes providing training and setting up partnerships (to also help with resources) with local administration. They develop projects for disaster risk that are identified from their community disaster risk plan or LLRM assessment (and/or other plans) – we always look to make sure that activities are linked to agreed plans. These activities foster trust between community administration and NGOs and CSOs.

In terms of linkage with other UNDP work, for the City of Yerevan we conducted an assessment in 2019 and supported the development of the [Smart and Resilient City for Yerevan concept document aimed](#) to improve data management (which I know is part of a separate interview / discussion you have held).

Our part of the assessment was to assist the municipal authority of Yerevan to plan digitisation needs relating to disaster risk. Within this partnership, a technical specification for an Early Warning System (EWS) was developed by UNDP, with risk modelling put forward, based on which the Yerevan municipality announced a tender and modernised the EWS for the entire territory of Yerevan.

Gareth: It's interesting to see how you have used disaster risk models and frameworks such as those provided by the Sendai Framework and MCR2030 to create tangible and "real" links between the ground-level activities and actions by local people and organisations including NGOs and CSOs, and the national legal frameworks.

***Armen:** The linkage to national legislation is always important. We have indeed tried to find real solutions which can link to international frameworks and declarations, including Sendai. Whilst these international agreements do not have legislative mechanisms, they should be linked to national legislation, and even if they are not, we should seek to institutionalise processes that are applicable. In Armenia the development and adoption of the National strategy on DRM is the best solution which ensures the implementation of Sendai at all levels and also contributes in DRR mainstreaming into the development programmes at all levels.*

Gareth: What advice would you have for nation states, cities and towns that are seeking to improve their approach to disaster risk? Does it depend on the context of the national culture and specifics to local areas?

***Armen:** In central Asia, it is often the case that responsibility for public sector activities is dedicated to one department or ministry. The use of a matrix style of organisation is not always used, which can result in challenges to sharing and coordinating activities across public sector authority departments.*

In summary, I would like to stress that government at all levels must ensure their efforts are efficient and concerted for the most effective implementation of disaster risk management and climate change adaptation (CCA) policies. It is possible to achieve a common goal of having resilient societies and countries only with a knowledgeable and prepared population, planned and controlled development of urban and rural communities, and a focus on protecting ecosystems and sustainable development that takes all risks into account and ensures resilience building at all levels.

Gareth: Thank you very much for your time in describing disaster risk activities in Armenia, and actions that are being pursued to avoid disasters. I look forward to hearing more about the continued work by UNDP and other stakeholders to manage disaster risk in the country, and continued opportunities for knowledge sharing.

Armen: Thank you for your time, Gareth. There is always more that we can do. We are always striving to improve.