The Red Cross and Red Crescent's
Principled Approach to Innovation

Acknowledgements

Cover: The Ebola outbreak in West Africa was the deadliest in recorded history. Faced with unprecedented challenges, the Red Cross led an innovative response, adapting and improving its efforts in disease prevention, education and awareness efforts—such as the social mobilization activity pictured here—and in the safe and dignified burials of Ebola victims. (Photo: Stephen Ryan, IFRC)

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Why do humanitarians need to innovate?

In the future, humanitarian challenges are set to further intensify. Armed conflicts, natural disasters and health crises, compounded by population growth, climate change and rapid urbanization, are putting more lives at stake and prolonging suffering. These humanitarian stressors compromise human development gains, including poverty reduction and economic growth, throughout the world. Alongside growing needs, the cost of international humanitarian aid has more than tripled in the last 10 years, while many traditional assistance mechanisms are proving to be ill-suited and inefficient in responding to the changing socio-economic contexts.

Given the unprecedented pace at which humanitarian needs and the cost of meeting those needs are growing, humanitarians face the challenge of becoming more agile and adapting operations to fulfill their missions. Traditionally, humanitarians are slow to adapt to change, yet in the face of these challenges, many organizations are increasingly compelled to explore the concept of innovation to improve the humanitarian system and enhance the delivery of assistance and protection. Innovation provides a vehicle for change and a process for improvement as organizations strive to strengthen effectiveness and broaden their reach. Humanitarians can leverage the innovation process to anticipate and prepare for future challenges, to support communities as they develop and become self-sustaining, and to improve effectiveness and impact. Without innovation, humanitarians risk employing inefficient and outdated solutions, duplicating efforts, mismanaging limited resources, and ultimately, overlooking the needs of some of the most vulnerable populations.

> **Humanitarians can leverage the innovation process to anticipate and prepare for future challenges, to support communities as they develop and become self-sustaining, and to improve effectiveness and impact.**

So essential is the concept of humanitarian innovation that it will feature at the World Humanitarian Summit in May 2016 under the Summit's theme of Transformation through Innovation. The Summit calls for humanitarians from all sectors to collectively work on sustaining innovation and change, and creating an effective innovation ecosystem across disciplines, industries and populations affected by humanitarian crises.

As the world's largest humanitarian network with more than 150 years of experience, the Red Cross and Red Crescent is well positioned to be a leading contributor to this initiative. Humanitarianism—the collective action to *improve* the world by alleviating the suffering of people affected by conflicts and natural disasters—is, in fact, innovation by definition. The Red Cross and Red Crescent has a history of innovation that has shaped the sector and defined best practices—from providing neutral medical assistance to wounded soldiers on the battlefields of the American Civil War to overcoming logistical challenges to provide relief following the April 2015 earthquake in Nepal—as well as growing incentive to strengthen its innovation process through a principled approach.

In the village of Sathi Ghar, Kavre province, a Red Cross worker assists a survivor of the 7.8 magnitude earthquake that devastated Nepal on April 25, 2015. She had been searching the rubble for a photo of her husband, who died in the quake. (Photo: Merlijn Stoffels, IFRC)

What is innovation?

Innovation is a **dynamic, managed process,** which focuses on the creation of **new or improved tools and approaches**. It can deliver **incremental change, significant progress and disruptive transformation** in the form of products, such as new technology, processes, programs, policies and societal shifts.

Innovation supports humanitarians in **adapting to rising challenges, global shifts and other trends.** Successful innovations are those that meet the needs and aspirations of people threatened or impacted by a crisis through improvements in **efficiency, effectiveness and quality** of humanitarian assistance and community initiative, as well as social outcomes and impact.

The Innovation Cycle

Identify and Define the Problem

Scale the Solution Where Appropriate

Co-Design Potential Solution

Test, Adapt, Evaluate and Use the Solution

Adapted from *Humanitarian Innovation Project*. Louise Bloom and Dr Alexander Betts, Refugee Studies Centre, University of Oxford, 2013

How can transformative change within the humanitarian system be achieved through a principled and ethical approach to innovation?

The Red Cross and Red Crescent encourages continuous innovation to optimize performance, reinvent or offer new services to meet emerging needs, and build new value with its partners. Our approach to innovation is **principled**, ensuring that the process does not undermine humanitarian values. Established 50 years ago, the Fundamental Principles of the Red Cross and Red Crescent continue to guide today's innovation objectives and processes.

Humanity

We strive to prevent and alleviate human suffering wherever it exists. When faced with the opportunity to innovate, we prioritize **humanitarian needs and community aspirations through human-centered solutions** that will protect life and health as well as ensure dignity for all. We understand those we serve are people first, rather than a collection of needs, and aim to empower affected communities through the innovation process. Our approach to innovation is **highly collaborative and participatory**; we listen, observe, empathize and include people closest to the problem in finding and developing solutions that correspond with their preferences and desires. We apply **ethical standards** to ensure the innovation process and outcomes do not create additional vulnerability, dependencies, risks or other harms. This requirement reinforces our **accountability** to the people affected by humanitarian crises.

Impartiality

We do not discriminate against people based on nationality, race, religious beliefs, class or political opinions. We are solely guided by people's needs and desires, and we give priority to the most urgent cases of distress. This principle gives us **focus and direction**, such as supporting marginalized populations like women, children, refugees and disabled people who suffer exponentially in the face of humanitarian crises. Our decisions are **driven by data and other evidence**, with an eye on long-term outcomes and impact. Guided by the principle of impartiality, the Red Cross and Red Crescent strives to make the innovation process **inclusive and transparent.** Where access to resources, such as new technology is limited, we develop and update alternative solutions

while advocating for equitable access so as not to exclude important stake-holders in the innovation process.

Neutrality

We do not take sides in hostilities or engage in political, racial, religious or ideological controversies. We are a **trusted, neutral convener** with the ability to lead an **equitable and fair** innovation process. We are not partial to spe-cific technologies, partners, funding sources or outcomes, which expands the number and types of solutions available to us. Where innovative solutions like technology and their users are perceived as having bias, we will incorporate low technology and other context appropriate solutions to build trust and ac-ceptance in the communities we serve.

Independence

Local Red Cross and Red Crescent groups are autonomous auxiliaries of the governments where we work. With respect to impartiality and neutrality, this principle allows the Red Cross and Red Crescent to work in close coordination with public agencies and officials. In collaboration, the Red Cross and Red Crescent can consider the entire ecosystem in which we operate to inform technological, legal, financial and regulatory policies, and to design interoper-able solutions or tools that build on, link and work smoothly with existing sys-tems. This position helps us avoid the trap of always developing new solutions. Our independence from special interest groups means we can work with af-fected populations to create solutions that are not beholden to other agendas. Our independence also enables us to advocate on behalf of people affected by humanitarian crises to prevent unintended consequences of innovation re-lated to safety, security, privacy, the economy and the environment.

Voluntary Service

We are not motivated by profit or other gains; we are guided solely by a hu-manitarian desire. In the context of innovation, this means the Red Cross and Red Crescent is not led by competitive strategies, such as intellectual property rights. We promote the sharing of ideas, information and innovations freely, while upholding the privacy of those we serve. We support open innovation and crowd sourcing, tapping into the knowledge and creativity of others.

Unity

We are open to all, and our work is coordinated across 189 countries. At all levels, Red Cross and Red Crescent enables the entrepreneurial spirit that stems from a **"bottom-up" approach** and promotes the access, manage-

ment and ownership of solutions by local actors. We are able to honor this commitment with support from our global volunteer network. One in every 415 people in the world is a Red Cross or Red Crescent volunteer, and they have access to and relationships within the most remote, complex, dangerous and commonly unknown places worldwide. We leverage this position to collect real-time information and honest feedback from people affected by humanitarian crises to ultimately assess new needs, identify gaps and solve problems together. This principle affords the Red Cross and Red Crescent to work at an unprecedented scale. Our Movement expedites the replication, expansion and harmonization of best practices and other improvements as well as the sharing of information and open-source tools, on which others can build. Unity also means that Red Cross and Red Crescent entities use a similar framework and methodology to manage innovation. We can effectively leverage innovation related partnerships and investments across geographies as well.

Universality

Each Red Cross and Red Crescent entity is equal and shares responsibility for humanitarian need worldwide. When approaching innovation, we have access to the largest network of humanitarian experts and can engage **diverse expertise** across disciplines and industries to solve problems at all stages. This principle also drives our desire to increase people's **access** to proven tools and approaches and to democratize the innovation process.

In an effort to ensure the health and safety of volunteers working in the Ebola response, the Red Cross sought to improve the personal protective equipment worn by workers to reduce their risk of infection. (Photo: IFRC)

How can we ensure innovation is human-centered and reaches scale?

To achieve **impact and scale**, that is, provide quality and quantity assistance, humanitarians must **adapt and experiment** with new models as well as employ fresh thinking and creative problem solving. We must embrace intelligent risks without compromising our principles, accept the possibility of **failure** and apply the lessons learned to achieve greater speed, reach, accountability, transparency, connection and knowledge.

Through such experiences, the Red Cross and Red Crescent has identified three factors which have proven reliable in producing human-centered solutions at scale through an iterative process: **dual scenario designing, systems thinking and business planning.**

To secure acceptance and impact, humanitarians and their collaborators must tailor solutions to meet the unique needs and aspirations of each individual and community. Though at the same time, to reach scale and help the most people in an efficient and sufficient manner, humanitarians must design universal solutions based on patterns and trends that can serve many people who may have similar issues but live in different parts of the world. The Red Cross and Red Crescent addresses this tension and achieves both impact and scale through dual scenario designing, infusing innovation teams with both local actors and global representatives living outside the affected community. Equal partners in the innovation process at the onset, local and global experts coordinate their requirements and collaborate to bring solutions forward that satisfy both sets of stakeholders and achieve their full potential.

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All innovation begins with problems grounded in local realities. In the Red Cross and Red Crescent innovation process, local actors focus on the needs, wants and barriers of "users," the local people who experience the problem and who will ultimately be impacted by the solution. The users are active participants in Red Cross and Red Crescent innovation teams. They co-design solutions to their challenges and inform decisions at every stage of the process through planning, development, implementation and assessment. This partnership with change agents in the affected communities is critical to the sustainability of any innovation, and armed with the knowledge and skills, they can apply the innovation process to future problems and issues.

Our systems approach to project design also allows us to consider opportunities and implications beyond the initial objective. Global experts focus on scale from the beginning of the innovation process to reduce the number of potential dependencies, ensure any solutions have the capacity to grow and expand, vet them for future changes and stressors, and identify the most sustainable mechanisms to support the resulting ideas.

Once a potential solution is identified, the local and global experts conduct short-term experiments to prove concepts and test prototypes, and develop longer-term pilots to demonstrate impact before scaling the solution to other countries and contexts. Such experiments must have the consent of participants, be guided by protection principles such as "do no harm" and align with other ethical standards. The iterative process allows the Red Cross and Red Crescent to responsibly manage its resources and mitigate risk through careful and consistent measurements. Together, local actors and global representatives develop business models and plans to sustain the solution locally and grow globally those that are successful and replicable.

New partners and flexible investment models based on shared value, including **cross-sector collaboration** between disciplines and industries like academia, government and business are critical to stimulating innovation and scaling the most promising ideas as well. Funding pools that reduce risk from innovation, grantors who accept reasonable failure, and other rapid and adaptive mechanisms are valuable in the earliest stages of innovation. To bring a solution to scale, however, more robust investments and/or market-based solutions, which have traditionally been absent from the humanitarian sector, are needed to support the larger systems and infrastructure that enable volume and reach.

Red Cross and Red Crescent
Criteria for Resilience-Strengthening Solutions

As we enter the next generation of humanitarian solutions, we have the opportunity and responsibility to harness emerging tools and practices that people can use and adapt to strengthen their own resilience to crisis shocks. The Red Cross and Red Crescent has developed its own criteria to ensure innovations effectively improve and expand a community's ability to prepare for emergencies, help people respond to increasing risks, and assist their recovery.

Red Cross staff and local volunteers carry out community-based mapping in Cyahinda, Rwanda. New collaborative approaches in mapping, such as crowd-sourced maps, are improving the Red Cross' ability to respond to disasters and target preparedness activities. (Photo: American Red Cross)

A resilience strengthening solution...

…is multi-purpose. It is relevant and useful before, during and after emergencies as well as in daily life.

…is human-centered. It is developed in consultation with users and designed to address their wants and needs. It is therefore, by default, appropriate for the culture and lifestyle of its users and stakeholders. It is also supported by robust community outreach and education, and it is easy to learn and use.

…is accessible. It is open, inclusive and increasingly affordable for people.

…is governed by trustworthy leaders, systems and policies. It has access to relevant data and responsibly manages the data it generates.

…is scalable or replicable. It grows to accommodate demand.

…is sustainable. It is ready, reliable and permanent. It has the required financial resources to support its current use and growth, but does not compromise natural resources or the interests of future generations.

…is resilient itself. It is rugged and able to withstand weather, wear, pressure and damage. It is power-efficient and increasingly leverages innovative sources of energy. It is supported by a network of redundant products and services, with which it is interoperable. If technology, it leverages the Internet when available, but does not rely on it.

…enhances community-level knowledge and health, connection, organization, economic opportunities, access to infrastructure and services, and/or management of natural resources.

Applying principled innovation

Partnering with people affected by crises

The Red Cross and Red Crescent believes humanitarian innovation is optimized when it is led by people closest to the problem and tailored to their context. The following examples demonstrate how the Red Cross and Red Crescent applies the Fundamental Principles to support human-centered and participatory innovation.

Emerging Technology for Emerging Needs

The American Red Cross and International Federation of Red Cross and Red Crescent Societies (IFRC) designed a global initiative in 2014 to influence the design, use and cost of future technologies based on the realities of disaster survivors. The Red Cross adopted a human-centered innovation process, which began by facilitating conversations between technology makers, local organizations and residents in six disaster-prone cities in Argentina, Ireland, Kenya, South Korea, the United Kingdom and the United States. This inclusive method enabled the local actors in places like Nairobi's slums to share directly their disaster experiences—the tools and strategies they have used to effectively cope in the past along with their recurrent struggles, disappointments and frustrations. In this open dialogue, they also revealed their attitudes, understanding, questions and concerns about emerging technologies. In 2015, the Red Cross reengaged local community members to design and manage four experiments to advance the concepts they prioritized through the dialogue, including home fire sensors appropriate for slum environments. Unlike top-down technology initiatives, the iterative process is based directly on the needs expressed by local communities, and fulfilling their preferences and requirements is the priority. The fire sensor project, for example, is based on partnership and participation with community members from two informal settlements in Nairobi and Cape Town.

Community Feedback Mechanisms

Historically, humanitarian program outputs have not always aligned with community priorities, so the Red Cross and Red Crescent now routinely involves local residents in programmatic decision-making. The community outreach program set up after the Indian Ocean Tsunami in 2004 by the Indonesian Red Cross, the IFRC's beneficiary communications system developed imme-

diately following the 2010 Haiti earthquake and the accountability to beneficiary system employed in 2014 by the American Red Cross in Haiti are products of this shifting mindset. All programs provide feedback mechanisms, such as hotlines, logbooks, SMS systems and suggestion boxes, supplemented by radio, television and print communication tools, to seek community perspectives and to collect and act upon their requests and concerns. One of the key lessons from the Red Cross experience in Indonesia was to utilize multiple channels and methods, prioritizing the disabled, elderly, and other special-needs groups, who often have difficulty accessing information. Through these initiatives, communities drive humanitarian action, meaning measurable outputs are directly related to people's needs. Actively incorporating feedback mechanisms is an effective way for the Red Cross and Red Crescent to improve its programs and services and build trust with communities.

Following the Haiti earthquake in 2010, the IFRC developed TERA, a SMS messaging platform, to deliver critical yet simple messages such as early warnings of floods or how to avoid contracting cholera. (Photo: IFRC)

Reaching people in new ways

The Red Cross and Red Crescent believes humanitarian innovation is optimized when it balances complex solutions, like technology, and simple practices. The following examples demonstrate how the Red Cross and Red Crescent applies the Fundamental Principles to develop and adapt a mix of platforms, approaches and incentives.

Reconnecting Families

Among the hundreds of thousands of people who have fled from violence in South Sudan are unaccompanied children and others with low levels of literacy. In neighboring Ethiopia, Kenya, Sudan and Uganda, where the families have sought refuge, the International Committee of the Red Cross (ICRC) and local Red Cross partners have shifted their approach to reconnecting families to one that is independent of a person's ability to read. Rather than relying on long lists of names and locations, the Red Cross takes photos of people searching for their loved ones, then shows these images to displaced people in refugee camps and other locations. The books display refugees by place of origin, and not by name, to enable a partly illiterate population to more easily find relatives. By adapting traditionally higher-technology approachs like

In search of their loved ones, a group of people in Leer, South Sudan review a book containing photos of South Sudanese children located in the neighboring countries, enabling a partly illiterate population to more easily find relatives. (Photo: Pawel Krzysiek, ICRC)

internet databases to the needs of refugees, the Red Cross Snapshot Book helped restore 120 family connections in the first half of 2015.

Virtual Innovation

The ICRC wished to harness the collective experience of its staff and partners to address challenges it experiences around the world, so it developed RED Innovation as a new, distinct space for collaborative, virtual innovation. RED Innovation is a web-based platform where users ask for help with a problem, provide assistance and advice, suggest improvements, and collaborate on ideas for pilot projects. The system, launched in 2015, improves the way that the global organization works, infusing a culture of continuous innovation that helps increase the quality and efficiency of the services it provides. The ICRC plans to open the platform to other humanitarian organizations in the near future.

The Red Cross Red Crescent Climate Centre uses games to accelerate learning, dialogue and action on how to address changing climate risks. Through the participatory game "Ready!" community members in Bihar, north India, discuss and develop a disaster contingency plan. (Photo: Knud Falk, Climate Centre)

Participatory Games

The Red Cross Red Crescent Climate Centre needed a more effective way to engage with people about climate risks. In seeking new approaches, the Climate Centre found that games offered an innovative way to accelerate learning, dialogue and action on how to address changing climate risks. By design, games transform passive consumers into active players by linking decisions

with consequences in a way that is both serious and fun. Through gameplay, participants can experience complex climate systems and better understand their current or potential role in transforming them. Finding that game participants absorb and retain new information more readily, the Climate Centre and its partners have developed a participatory design process for games, co-creating more than 45 games over the past few years. The games cover a wide range of climate-driven issues and have been used in thousands of sessions, from rural Zambia to the White House.

Psychosocial Support

The IFRC Reference Centre for Psychosocial Support has innovated to apply the lessons from sports and physical activities to the field of psychosocial support—a new approach for the humanitarian sector. Designed to improve traditional psychosocial support techniques in crisis situations, a handbook published in 2014 offers carefully-planned sport activities to create a safe and friendly setting for expressing and addressing problems and fears, while helping participants gain confidence, coping skills and hope. The handbook adds value to both fields by accumulating best-practice materials and making the sharing of the lessons and activities easy. The result is a holistic, all-inclusive approach that is appropriate for use in many different cultural and geographical contexts.

A Greener Response

In prioritizing an immediate need to save lives and reduce suffering, humanitarians often overlook long-term environmental impacts, potentially putting further strain on natural resources and a community's ability to cope in the aftermath of a disaster. To promote safer recovery and reconstruction environments while also reducing its global carbon footprint, the Red Cross and Red Crescent is utilizing cross-sector partnerships, science and technology to mitigate the impact of its humanitarian programs. For example, following the 2004 Indian Ocean Tsunami, the American Red Cross partnered with the World Wildlife Fund to ensure that recovery efforts did not carry unintended negative effects on the environment. This collaboration led to the development of the Green Recovery and Reconstruction Toolkit, which includes contributions from more than 30 international experts and promotes environmentally sustainable disaster response approaches. The Red Cross and Red Crescent also began the Green Response Initiative to evaluate the impact of its response activities on the environment and establish guidelines to help ensure that efforts are environmentally sound. Guidelines include encouraging the use of alternative energy sources in logistics and response activities such as gravity-fed water supply systems, and promoting the use and reuse of appropriate and biodegradable materials. In addition, the Red Cross and Red Cres-

cent is testing techniques to safely turn human waste into fertilizer in Ethiopia and Malawi, while also testing bio-fertilizers that completely eliminate human waste. Incorporating new and innovative, environmentally sound methods for preparedness, response and recovery is not just an option for the Red Cross and Red Crescent, it is a humanitarian obligation.

Video Games

Outgrowing video footage from the Vietnam and Korean wars, the ICRC needed a more modern, efficient and realistic way to train its global staff for the work they conduct in the conflict situations. Together with Bohemia Interactive, a video game company, they adapted a military game, ARMA 3, for internal training. The virtual reality tool simulates battlefield planning in a neutral forum and presents trainees with scenarios and challenges from real life. It is also used to educate armed forces on the importance of international humanitarian law. The game is changing the nature of the ICRC's training, extending its reach by a factor of 100. The ICRC also seeks to assess how this innovative method shapes the behaviors of armed forces, hoping that it will lead to greater respect of international humanitarian law.
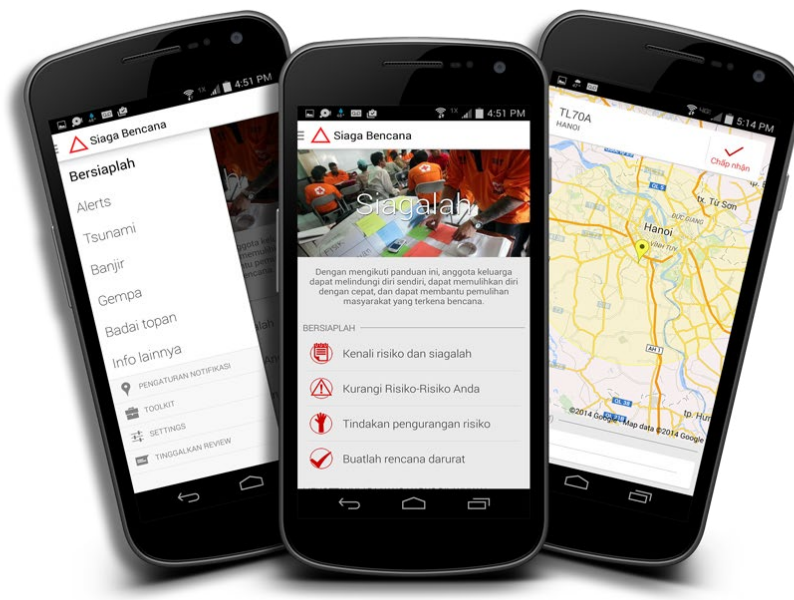
A Red Cross volunteer loads his canoe full of mangrove saplings in preparation for planting. By planting mangroves, the Red Cross is restoring an ecosystem that was severely damaged by the 2004 Indian Ocean Tsunami. Mangroves not only slow down storm surges and slow erosion, but they also absorb three times as much carbon dioxide as other trees, dissolve heavy metals like mercury from the soil and water, and provide a habitat for shrimp and oysters. (Photo: Jenelle Eli, American Red Cross)

Enabling expansion and scale

The Red Cross and Red Crescent believes humanitarian innovation is optimized when it is accessible to all who can benefit. The following examples demonstrate how the Red Cross and Red Crescent applies the Fundamental Principles to replicate and grow the most promising ideas.

Barcode Scanners

Because the first step in a relief distribution is the registration of affected people, the slow speed of manual registration often severely detracts from the efficiency of humanitarian action. Recognizing speed as a critical factor in the response following the Haiti earthquake in 2010, the Mexican Red Cross developed Mega V, a software solution that uses barcodes for fast and easy registration, relief distribution and tracking. Using barcode scanners, the time to register a family was reduced to three seconds, resulting in a dramatic improvement in the affected people's dignity, safety, security and satisfaction. After success in Haiti, the IFRC adopted and improved Mega V so that it can serve as a standard tool in relief distributions globally.

Through the Red Cross and Red Crescent Global Disaster Preparedness Center's Universal App Program approximately 60 Red Cross and Red Crescent societies have been able to develop localized first aid and hazard apps, allowing millions of people to have access to life-saving information. (Photo: Red Cross and Red Crescent Global Disaster Preparedness Center)

Mobile Apps

Growing use of smartphones has created a new platform for emergency preparedness information, but app development can be cost prohibitive and time consuming. The Red Cross and Red Crescent Global Disaster Preparedness Center's Universal App Program addressed this disconnect by pooling resources to develop localized first aid and hazard apps on behalf of approxi-

mately 60 Red Cross and Red Crescent organizations to date. The Preparedness Center provides free technical assistance, guidance and a standardized template of the mobile app, reducing many of the technical barriers. Red Cross and Red Crescent organizations can customize the template through a simple, open-source platform, demonstrating that it is possible to adapt technology to suit different cultures and risks. Today, millions of people have access to life-saving information and resources because the Preparedness Center designed a solution that broke through the barriers to app development and scaled rapidly at a low cost.

Integrated Vaccination Campaigns

In the past, health authorities managed vaccination campaigns separately from other preventative health interventions. Ten years ago, however, the Red Cross and its partners pioneered the integrated approach, preventing against four major diseases in one campaign. Families in Togo were among the first to receive three vaccinations (polio, de-worming and measles) along with an insecticide-treated bed net for malaria prevention. Never before had so many public health initiatives been integrated on such a scale, and the community's participation was record-breaking. The Red Cross ensured that people understood the services offered through public awareness campaigns, and families found great value in both the intangible benefits of the vaccines and the product—the nets—they could take home. The integrated campaign approach not

The Red Cross and Red Crescent constantly strives to improve the delivery of its health programs through innovations in the storage and delivery of vaccines, as well as in the social marketing of vaccination campaigns. (Photo: Daniel Cima, American Red Cross)

only saved time, money and other resources, but it also dramatically increased demand—the number of children under age 5 receiving lifesaving protection from serious diseases rose to 900,000. Today, the integrated campaign approach is the preferred practice of health authorities worldwide.

SMS Messages

Following the Haiti earthquake in 2010, the IFRC decided to investigate the potential of SMS as a tool to support the response and recovery operation as well as to offer early warning for future emergencies. Together with Trilogy International Partners, the IFRC developed the Trilogy Emergency Relief Application (TERA), a SMS messaging platform that doesn't require subscription. SMS messages are a powerful tool for spreading information and alerts as they use minimum network resources, are often the first service restored after a disaster, and are a source of information that people can keep on their phones and share with others. Because TERA can deliver critical messaging to anyone with a phone, it expands at scale with the benefit of precision targeting. The IFRC most recently leveraged TERA in response to the Ebola outbreak in Sierra Leone and earthquake in Nepal.

Transferring approaches between communities

The Red Cross and Red Crescent believes humanitarian innovation is optimized when ideas flow across geographies, including from developing countries to industrialized contexts, and between organizations. The following examples demonstrate how the Red Cross and Red Crescent applies the Fundamental Principles to support reverse innovation, transferrable approaches and coalitions.

Radio Programs

Learning from experience in Latin America and other regions, the Bangladesh Red Crescent established a custom community radio program in the Kurigam district in 2014. "Hello Red Crescent: We Listen To You!" is a live call-in show that rotates between radio stations. It offers listeners practical information related to disaster response and allows people to ask the Red Crescent questions on topics that interest them. Through this two-way dialogue, callers give advice to the Red Crescent on how to mitigate risk, reduce vulnerability and otherwise serve their needs, which in turn drives Red Cross and Red Crescent decisions and strategies.

Peer-to-Peer Education

Drawing from its success in rural communities in developing nations, the Irish Red Cross has implemented a community-based health and first aid approach in 10 prisons throughout Ireland. Inmates serve as Red Cross volunteers and raise the profile of community health, hygiene awareness and first aid practices among their peers. Since 2009, volunteers have adapted the approach to include practical demonstrations, awareness campaigns to reduce stigma and advocated for change in prison practice. This model of peer-to-peer education modified for a prison setting gives the inmates greater purpose and skills and also extends the reach of the Red Cross to this vulnerable population. Through evaluations, the approach has demonstrated a significant impact, including improvement within the prison environment and the prisoners' health.

Coalitions

The needs of refugees and migrant populations do not receive a great deal of attention in the United States. The American Red Cross sought to amplify the issue and unite a community of organizations speaking with disparate voices through a new partnership model. The Red Cross created an informal coalition of more than 30 organizations serving these marginalized populations. Since its inception in 2015, the group has aligned its messaging and goals, hosted game-changing policy summits and established the Humanitarian Community website that aggregates news and stories to promote their work. Now connected, the community of organizations can leverage each organization's strengths to save time and money as well as exert influence where needed. The refugees and migrants also benefit from the organizations' enhanced coordination and streamlined advocacy; awareness of each other's programs helps caseworkers provide better referrals and prevents duplications and gaps in service.

Improving decision making with data

The Red Cross and Red Crescent believes humanitarian innovation is optimized when information as well as the ways it is collected, analyzed, managed and shared improves. The following examples demonstrate how the Red Cross and Red Crescent apply the Fundamental Principles to take action based on evidence.

Innovative Financing

Recognizing that communities are often caught off guard by extreme weather and struggle to find the resources needed to prepare and respond, the German Red Cross and the Red Cross Red Crescent Climate Centre developed in 2012 an innovative financing mechanism that is triggered by the forecast of extreme events, such as storms, floods and droughts. When a forecast exceeds a certain threshold, an early warning is issued and funding is released. The funding allows communities to take action against an already agreed upon and practiced plan to prepare before the disaster strikes. By design, this innovation supports rapid, smart humanitarian action based on scientific predictions. The mechanism has been established in Bangladesh, Mozambique, Peru, Togo and Uganda, allowing the Red Cross and Red Crescent to deploy resources to help communities prepare for climate-related risks and reduce human suffering and damage.

Safety and Security

In 2010, the ICRC recognized the need to provide greater safety and security for its humanitarian transport missions. HumaNav, a satellite company, answered the call with spatial and terrestrial technologies to support tracking, navigation and data capture for humanitarian vehicles. An interoperable system, HumaNav connects ICRC vehicles and their drivers to multiple information sources to aid in real-time decision making. The addition of this tool filled the ICRC's gap and ultimately increased the effectiveness of its missions. HumaNav also incorporates feedback from ICRC to improve future versions of the system, such as adding voice controls which has ultimately created shared value between the private and humanitarian sectors.

Mobile Data Collection

Recognizing the need for faster and more efficient data collection, the Red Cross adopted Open Data Kit (ODK), which replaces pen and paper data collection by merging information collected by mobile phones into a single cloud-based or local database. ODK works in harmony with phones' existing cameras and built-in GPS, so these tools can be used to create multimedia-rich data and an expanded view of the situation at hand. ODK is open source for the purpose of scaling data collection to new users and situations, and is designed to be flexible, adaptable and easy-to-use. In situations where time is of the essence, digitized data informs faster and more accurate decision-making. This tool was successfully used in Haiti in 2010 to register people in internally displaced camps. Since then, the Red Cross has leveraged this resource in dozens of countries in Latin America, Africa and Asia.

In 2011, the Red Cross also integrated the mobile data collection platform into a malaria prevention program in Kenya, Namibia and Nigeria. Using a mobile phone-based survey, health program managers were able to quickly record coverage following a mass distribution of long-lasting insecticide-treated nets. Today, mobile data collection is the preferred approach for monitoring and evaluation within the global Red Cross and Red Crescent network.

A Nigerian Red Cross volunteer, using a mobile phone-based survey, conducts an interview in the village of Etikpe as part of a monitoring survey in Cross River State. (Photo: IFRC)

Decision-Making for Migrant Assistance Programs

The ICRC noticed a disconnect between data collection and data sharing, much to the detriment of regional decision-making for migrant assistance programs. These programs serve as an important vector through which to collect and pass information between the ICRC and its partners in Guatemala, Honduras and Mexico; they recognized an urgent need to streamline data collection in order to better respond to migrant needs. In practice, this meant using new technology like tablets, surveys and audiovisual tools, but the real innovation lay in the introduction of real-time data gathering and sharing. Now, Red Cross has access to comprehensive, up-to-date data about migration across the region, and is better able to make thoughtful, data-driven decisions about how to best protect and serve migrants.

Conclusion

Who are we innovating for?

As the humanitarian system adapts to the many ways the world is changing, be it social, political, technological, economic or environmental, it is natural to look inward and identify changes needed to improve the way we operate. Humanitarians are all under pressure to meet a wide range of needs in varying contexts faster and more affordably, and to make a lasting impact. To continue to respond rapidly, we will need flexible logistics systems. To remain accountable, we will need transparent finance systems. To prepare and manage risk in an uncertain future, we will need effective policies. A principled innovation process can certainly aid in discovering and delivering these changes on behalf of the sector.

The Red Cross and Red Crescent believes, however, that improved humanitarian systems, structure and operational practices cannot be the guiding objective. We must begin the systematic improvement of the humanitarian sector by asking individuals and communities what they need, what they want from humanitarians and what role they want to play in humanitarian action and then align our systems and structures to those dimensions. **To espouse a human-centered design approach for interventions, we must include the people who will be impacted by the reinvention of humanitarian aid in this transformative process as well.**

To sustain these improvements and changes and to effectively support local leadership, we will need additional support from other disciplines and industries. Thus, the Red Cross and Red Crescent encourages:

- **Humanitarian, development and civil society organizations** to actively seek collaboration across disciplines and industries, as well as among humanitarians at the global and local levels. This includes sharing information on innovation processes, funding, results, best practices and failures to mitigate duplication and other unnecessary setbacks.

- **Donors, including private foundations and public institutions** to offer flexible funding mechanisms that adequately support innovation through all of its phases, encourage intelligent risks, accept the possibility of failure, and promote co-creation at the community level through an iterative process.

- **Governments** to establish responsible policies that attract and incentivize innovative pursuits, impose ethical regulations on technology advancement that protect the most vulnerable, open data for humanitarian decision making, and provide citizens with education in science, technology, engineering and mathematics as well as other creative disciplines.

- **Social entrepreneurs and private businesses** to consider the Red Cross and Red Crescent Criteria for Resilience-Strengthening Solutions when developing or investing in market-based solutions for vulnerable populations.

- **Universities and think tanks** to explore new areas of research that add to our collective understanding of humanitarian problems, societal and economic dynamics, and emerging trends and solutions.

With diverse perspectives and partnerships, we can co-design not only improved humanitarian products, processes and programs, but the very best position and paradigm from which to operate in the future.

The Digital Operations Center, a social media command center, has improved the way the Red Cross monitors social conversations before and during disasters to help anticipate disaster needs and connect more people with resources during an emergency. (Photo: American Red Cross)

A Call to Action: Adopt Ethical Innovation Principles

The Red Cross and Red Crescent urges all innovators addressing humanitarian issues or working in at-risk environments to adopt a consistent set of ethical standards and principles and to apply them to their processes.

In addition to meeting people's universal need to be heard, seen and understood, a principled approach to innovation leads to greater outcomes, fewer mistakes, and saves time and money. Humanitarians will also transform as they learn to deliver benefit with greater humility and flexibility and how to cope with uncertainty as the affected communities make the decisions. They will remember the importance of maintaining neutrality, impartiality and proximity. With a principled approach, practitioners also acknowledge their own assumptions and biases, and in doing so, become more creative and effective. By contrast, innovating in absence of ethical standards and principles will undoubtedly cause confusion and inconvenience, waste resources and create additional risk and vulnerability.

A variety of efforts to develop guiding principles are already underway. For example, drawing from its own experiences in innovation, UNICEF, in collaboration with the Bill & Melinda Gates Foundation, SIDA, USAID, Global Pulse, UNDP, WFP, and UNHCR, developed the following Principles for Innovation and Technology in Development as best-practice guidelines to inform the design of technology enabled development programs.

1. **Design with the User**
2. **Understand the Existing Ecosystem**
3. **Design for Scale**
4. **Build for Sustainability**
5. **Be Data Driven**
6. **Use Open Standards, Open Data, Open Source, Open Innovation**
7. **Reuse and Improve**
8. **Do No Harm**
9. **Be Collaborative**

In addition to the Fundamental Principles of the Red Cross and Red Crescent Movement, the UN's efforts to create innovation principles form an important basis for continued collaboration to develop a consistent framework for all involved in the humanitarian innovation process. However, further development of the principles must include ethical standards, specifically regarding experimentation, informed consent, accountability, intellectual property and the role of for-profit actors in humanitarian innovation to be meaningful and guide actors through moral dilemmas. Such standards should not stymie innovation, but instead ensure that innovation is truly in the best interest of those we serve.