

VOLUNTARY MAPPING AND MONITORING FOR TRANSFORMATIVE, LOCALLY-OWNED CLIMATE ACTION

POLICY RECOMMENDATIONS

For UN Member States

- Invest in opportunities for volunteers, particularly youth, to get involved in climate mapping and monitoring to promote awareness, skills, and sustainable behaviour as part of a cost-effective, all-of-society approach.
- Ensure that volunteering for climate action is inclusive with the training and equipment required to produce reliable data.
- Develop an enabling environment of laws, policies, and norms to protect volunteers and empower them to fully contribute to climate action.

For UN Agencies

- Support multi-stakeholder efforts to develop and coordinate effective systems for collection, analysis, and dissemination of volunteer-collected climate data.
- Create platforms for volunteer groups, particularly from the Global South, to share innovative approaches to mapping and monitoring climate-related risk.
- Generate further evidence on the added value, best practices and capacity gaps of volunteerism as a people-centred approach to climate resilience.

For Civil Society and Private Sector

- Innovate with technologies and systems that enable volunteers to more effectively map and monitor environmental hazards while overcoming access barriers.
- Invest in inclusive programmes and schemes so that all people in all places can contribute.
- Ensure that local cultural norms and practices are leveraged for increased community ownership and more effective climate action.

As our climate changes rapidly, it brings major new risks for communities. Across all societies, volunteers are at the forefront of responding to and coping with shocks, using local knowledge, networks, and capacities to build community resilience. But the scale and unpredictability of future risks, rising inequalities, and low capacities mean that new support is required to sustain this people-centred approach to climate resilience.

As part of the **United Nations Volunteers (UNV) programme's 2018 State of the World's Volunteerism project (SWVR 2018)**, this brief focuses on one way in which volunteers contribute to climate action – mapping and monitoring environmental risks. It discusses how volunteering can, with the right support, drive efforts to promote locally-owned resilience building and climate action as part of an all-of-society approach.

Participatory, cost-effective means of implementation

The 2030 Agenda for Sustainable Development acknowledges volunteerism as an important means of implementation. The Sustainable Development Goals (SDGs) and the Paris Agreement both recognize that participatory approaches to data collection are important to evaluate progress, hold stakeholders to account, and fill urgent knowledge gaps to inform decision-making and raise awareness.

Estimates of the scale and scope of global volunteering are difficult to provide, but one study calculated a figure approaching one billion, though this is likely to underestimate informal volunteering (Salamon et al, 2011). Many of these volunteers are already involved in mapping and monitoring climate and environmental data (Theobald et al, 2015). This includes a long history of mass involvement in wildlife conservation as well as a recent proliferation of new volunteer-led efforts to map and monitor other climate change-related environmental risks such as air, soil, and water quality. These new efforts have been triggered by growing awareness and often enabled by powerful and cheap new mobile and open technologies.

Mobilizing volunteers to map and monitor environmental data is a cost-effective, large-scale approach to managing risks that impact communities (De Coning, 2016). But this is not the only added value that volunteerism brings. Volunteering provides people with opportunities to determine their own priorities and to move from being passive recipients to active agents of their own development. Voluntary action can be holistic and transformational, and can lead to more effective, inclusive, locally-owned approaches to climate mitigation and adaptation.

However, there are challenges to tackle before the full potential can be realized. Volunteers remain under-resourced and under-capacitated leading to low levels of trust in the data that they generate (Cohn, 2008). Systems and coordination mechanisms need to be put in place to ensure that data can be used effectively. Access to volunteering opportunities, including associated skills, training and support is currently not available or accessible to all types of people (UNV, 2015). Most alarmingly, across the world volunteers are being persecuted as civic space shrinks and environmental defenders are killed in record numbers (Global Witness, 2017).

Volunteering for locally-owned climate action

Involvement in mapping and monitoring climate change at the local level helps communities to develop a sense of opportunity from challenges and ownership of the solutions. Community volunteers know the local context best and are highly motivated because the issues they are monitoring directly impact themselves. Grassroots volunteer initiatives build on local networks, solidarity, and expressions of volunteerism (UNV, 2015). These initiatives make communities more robust by reducing dependency on outside support and creating layers of 'redundancies' (Arnold et al, 2014). For example, in the 2008-2013 UN joint programme on community-based adaptation,

UNV mobilized a wide range of community volunteers, utilizing indigenous knowledge to foster voluntary action and local ownership of development goals (UNDP, 2012).

At the same time, by tackling global climate challenges, volunteers can also link up with wider initiatives to give their communities access to new networks and resources. Since climate change crosses national boundaries, voluntary mapping and monitoring can also create opportunities for new intra- and inter-community cooperation.

Monitoring drought collectively in Sudan

Climate change is increasing the frequency of drought in the Horn of Africa. In Sudan, the Wadi El Ku Management Project initiated by the UN Environmental Agency (UNEP) and funded by the European Union (EU) works with communities surrounding the most important water source in arid North Darfur. By involving farmers, pastoralists, and women, it has worked with strong cultural norms of volunteerism, mutual aid and self-help in Darfur communities to use volunteers to assess water levels, provide basic services, and advocate for a holistic approach to managing the local environment. These volunteers play invaluable 'connective', 'collaborative' and 'inclusive' roles - linking communities with government institutions and improving relations between communities that share resources (Unpublished UNV field research for SWVR 2018).

Multi-stakeholder engagement to improve reliability

Community-level volunteerism is a great resource but requires support and integration to be used effectively to support wider initiatives. As well as sometimes producing unreliable data, local volunteers may be disconnected from coordinated efforts, sometimes leading them to get in the way (Hahn and Nykvist, 2017). Multiple sectors and stakeholders - including local authorities, as well as the scientific, technology, and business communities - must work together with local

Support to overcome access barriers

While volunteering offers opportunities to transform the situation of those who are most vulnerable, access to volunteering opportunities may be unequal for marginalized groups, meaning that their perspectives are missing as volunteer-led efforts are scaled up. Coordination and investment are vital to enable everyone to volunteer outside of their own cultural, ethnic, or socio-economic groups, or to undertake non-traditional roles - such as women and girls' leadership roles in climate and citizen science in some societies. Appropriate support from the public sector, private companies, and civil society can create an environment in which volunteerism can challenge established roles and divisions and capacitate the vulnerable and most marginalized to become agents of change.

civil society on effective volunteer coordination and infrastructure. This includes the provision of training: for example, the NGO Earthwatch trained 7,500 corporate employees to become 'FreshWater Watchers' to provide scientists with valuable water quality data (Earthwatch, 2017). It also includes cooperation between volunteers and local authorities such as in the Netherlands where volunteer-generated air quality data was cross-referenced with official static monitoring stations for validation (EC, 2015). It further includes introducing platforms that collate data from different groups, such as the recently launched 'Global Mosquito Alert' platform that brings together volunteer mosquito monitoring initiatives from around the world to track mosquito-borne viruses through distributed networks and cloud computing (ECSA, 2017).

Bottom-up accountability and decision-making

Volunteers producing reliable data can lead to greater citizen participation in decision-making processes and accountability. It can also produce bottom-up collective action that pressures authorities to act on climate change and become more responsive to the needs of excluded groups and individuals (UNV, 2015). And when volunteer-led monitoring efforts come together across borders and the data is carefully collated, mapped, disseminated and displayed, it can produce the major social and political shifts required for impactful and sustained climate action.

Volunteering for more inclusive, climate resilience

Engaging in volunteering is also one of the ways in which the most vulnerable people can choose and shape their responses to climate risks. Many studies have shown how vulnerable and disempowered groups in a community are often the most likely to suffer from stresses and shocks (Winderl, 2014). While local volunteers can sometimes ensure that the impact of climate issues on all people in a community are mapped and monitored, it is important that vulnerable groups are not just seen as victims but also active contributors. Volunteering can empower these groups to overcome "learned helplessness" to develop "learned hopefulness" as they have more active engagement with risks and solutions (Zimmerman, 1990).

Therefore engaging in volunteer mapping and monitoring offers opportunities for vulnerable and marginalized members of a community to communicate their own concerns, needs, and knowledge of risks, which is an important part of inclusive resilience-building (GFDRR, 2015). It can also potentially enhance social cohesion by providing opportunities for people-to-people interaction that can strengthen mutual trust and understanding between social groups that would not normally associate (Barrera, 1986).

Holding polluters to account in China

The Chinese environmental NGO, Friends of Nature (FON), relies on volunteers to collect data to hold polluters to account. FON has initiated over 30 legal proceedings against factories or industries (FON, 2016) that have paved the way for a new Chinese environmental litigation law enacted in January 2015 (Chen, 2015). Volunteers build the foundation of the FON's legal cases by collecting water, soil, and air quality samples and documenting the actions of polluters. This volunteer-led method has inspired other NGOs in over 10 Chinese provinces to do volunteer-led mapping and monitoring of pollution and led policy makers and local authorities to recognize the value of volunteers in China's environmental protection work. (Thornhill et al, 2017).

Inclusive 'early warning' in Burundi

In Burundi, the biodiverse Kibira forest and National Park region face deforestation and erosion caused by climate change, and have a highly vulnerable local population. With the support of Red Cross Burundi, communities have set up volunteer programmes to map and monitor as part of an early warning early response system. Recognizing that women, youth, and marginalized groups are more vulnerable to shocks and stresses, and that volunteering provides voice, agency, and capacity to those that are disempowered, the volunteer groups follow an inclusive approach. Women and youth volunteers are dominant in the volunteer groups which promotes risk awareness, particularly to vulnerable community groups (Unpublished UNV field research for SWVR 2018).

The next generation – learning while inspiring others to act

Volunteering for climate action is educational, reconnecting people with nature, raising their awareness about climate issues, and inspiring volunteers and others to change their behaviour and take action (Ballard et al, 2017). One in five young people globally volunteer through organizations (Commonwealth Secretariat, 2016), with many more volunteering informally in their communities.

Volunteering can transform the capacities of young people to create future climate action leaders while harnessing the creativity of youth to inject dynamism into climate action and inspire others to act. Some examples include: community youth volunteers in Myanmar mapping strengths and weaknesses to make inclusive resilience plans (ActionAid, 2014) and youth volunteers in California monitoring coastal biodiversity and communicating their results to spread awareness to other young people (Ballard et al, 2017).

Supporting volunteering for climate action

Volunteerism has driven climate action for decades and made communities more resilient for millennia. This brief acknowledges how volunteers are already mapping and monitoring climate change at scale. But it also shows how in addition to providing valuable data, volunteering can be transformative for volunteers and communities through raising awareness, promoting norms of trust and cooperation within and between communities, and harnessing the creative energy of youth for climate action. It also discusses how inclusive volunteering can ensure that the development needs of all communities and every individual are properly assessed and met.

The brief stresses that all actors need to do more to recognize and build upon the added value that volunteers bring. Data solutions that harness citizens' inputs, while being trusted and valued by mainstream actors, are critical for the SDGs. Many innovative and cost-effective volunteer-led environmental data solutions are being piloted, including in the Global South. With rapid internet and smart phone uptake, open sourcing, and with low-cost monitoring equipment increasingly available, many are having the positive attributes of volunteerism enhanced and multiplied by powerful new technologies. These new solutions need to be evaluated, shared, and scaled up.

Yet as climate action gains momentum and technologies offer powerful new tools, volunteers remain under-capacitated, environmental advocates are being killed at an alarming rate, and civic space for volunteering is being shut down. Governments, the UN system, businesses, NGOs, and communities need to do more to support, protect, and empower volunteers to take climate action that goes "further, faster, and together".

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This brief was produced as part of the 2018 State of the World's Volunteerism project. A full paper on this theme will be published in 2018.

The **State of the World's Volunteerism Report (SWVR)** is a UN flagship publication that advocates and informs the role of volunteerism in peace and development efforts. Published by the United Nations Volunteers (UNV) programme, the next SWVR is on strengthening community resilience and will be launched on 5 December 2018. **For more information about the project, visit www.unv.org/swvr or contact the SWVR team at unv.swvr@unv.org**

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