USING MAPPING TECHNOLOGIES AND INFORMATION MANAGEMENT SYSTEMS TO MONITOR AND BUILD PEACE

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OVERVIEW

Geographic information systems (GIS) store, analyse and map information about the world, such as the location of buildings, travel time between two points, water access, elevation or risk level. These layers can be overlaid or presented in time series to reveal spatial relationships between different dimensions or indicators, such as the proximity of vulnerable populations to specific hazards. Historically, mapping technologies have been used by the actors in a conflict to gain strategic and tactical advantage through the use of geographic intelligence. While the military applications of maps are well documented, their peaceful applications are less well known. Due to their ability to visually communicate complex information, GIS can provide a useful platform for engagement, analysis and discussion between different stakeholders in peacebuilding efforts.

The session on mapping technologies and information management systems (IMS) provided examples of the ways in which mapping technologies are currently being used to identify and prioritize peacebuilding interventions—and to monitor and communicate their impacts. Participants reflected on the diverse needs and expectations of the peacebuilding community with regard to maps, geographic information and data platforms in order to better understand how spatial awareness could be further leveraged for good while avoiding certain pitfalls associated with access to and the use of potentially sensitive information. Key takeaways from the case studies elaborated below relate to the primary peacebuilding applications of GIS and other considerations for peacebuilders applying GIS. Suggestions from the session will be used to improve the GIS4Peace Platform hosted by GICHD. GIS4Peace provides peace practitioners with a digital platform to access relevant GIS resources and exchange experiences.

KEY TAKEAWAYS

Planning, implementing and monitoring interventions

Spatial data is one of many inputs needed to analyse conflict dynamics and assess risk. Given the complexity of fragile and conflict-affected environments, GIS can improve peacebuilders' situational awareness through the provision of spatial data. For example, GIS data is an essential component of International IDEA's Electoral Risk Management tool, which is used to prevent and mitigate election-related violence. In Kenya, the tool informed the sequencing and geographic targeting of interventions and enabled users to develop an early warning system that tracked changes in political behaviour in 2011–12.

In post-conflict contexts, maps can be used to track progress with the implementation of peace agreements. In Indonesia, for instance, Elva employed GIS to track and document community perceptions of transitional justice to help the Truth and Reconciliation Commission determine its focus in different regions. During reconstruction, GIS data can be used to map infrastructure that has been damaged or destroyed and track movements of displaced persons and returnees to estimate the demand for public services in various locations. The latter applications are already in use in eastern Ukraine, where the national government is also planning to use its new data platform to

coordinate donors and implementing organizations engaged in peacebuilding and recovery in the conflict-affected regions.

Promoting dialogue, local ownership and accountability

As a visual communications tool capable of capturing diverse and multifaceted information, maps can serve as a starting point for discussion between stakeholders with opposing perspectives or competing interests. In Myanmar maps were used to initiate dialogue between electoral stakeholders in order to mitigate the risk of violence. In Kenya, the Danish Demining Group used maps to enable inclusive dialogue on infrastructure development in the coastal region. The maps revealed that development concerns varied significantly by location, which validated the claims of certain local leaders who felt that their communities' perspectives had been marginalized. Representatives of those communities went on to use GIS data to challenge the government on its perspective regarding the impact of local infrastructure projects.

The latter example demonstrates how GIS can level the playing field between actors with varying levels of authority: it is the data not the source that determines the narrative. While data can be manipulated and exploited when available only to a powerful few, technological progress is rapidly making GIS accessible at low cost to an increasing range of stakeholders. When paired with basic technical training for users and data management support, GIS can empower local communities to take a larger role in their own development and make interveners more accountable.

Learning and challenging assumptions

Mapping can help track the results of projects and programmes in real-time, enabling interveners to adjust their approach as new information becomes available or the situation on the ground changes. The Danish Demining Group used its GIS platform to identify and promote synergies between interveners and assess the effectiveness of its own projects as they were implemented. This learning function can increase the effectiveness of interventions. In Iraq, Build Up discovered through the use of GIS that there was no spatial relationship between the water disputes that it was monitoring and physical access to water. This revelation allowed it to refocus its conflict resolution interventions on water governance, which was the root cause of the conflicts.

CONCLUSIONS AND RECOMMENDATIONS

The above-mentioned takeaways highlight the potential of GIS as a peacebuilding support tool and, through its convening power, as a peacebuilding process in itself. However, participants were careful to temper their optimism with a number of practical considerations regarding the peacebuilding applications of mapping technologies. First there is the need to keep maps and IMS platforms simple and targeted to specific purposes. Too much information can overwhelm rather than assist users to resolve problems. GIS technologies must have a user-centred design in order to provide value. Second, GIS can be used either to empower or to exploit vulnerable populations. Peacebuilders should be conscious of the sensitivities and risks that may arise from storing and sharing certain types of data. Finally, there is a variety of GIS software available at different price points. Peacebuilders should assess the appropriate balance between cost and functionality to increase accessibility to users with different means; and evaluate partnerships with, for example, the private sector that could reduce the costs associated with licence fees and system maintenance.

The discussions in this session will inform continued development of the GIS for Peace Forum (www.gis4peace.org). The Forum offers peace community members a platform to discover and access GIS resources relevant to their work, share their experiences and insights, and ultimately ensure that GIS are used to their maximum potential in support of peace.

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