

# Chapter 9

## Review of Citizen Engagement in Public Service Delivery via Volunteered Geographic Information

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*Survey of Pakistan, Pakistan*

### ABSTRACT

*Citizen participation enhances public services by involving individuals in their design, implementation, and evaluation, fostering transparency and accountability. Volunteered geographic information (VGI) leverages technology, such as smartphones and GPS, for efficient, large-scale geospatial data collection, benefiting urban planning, disaster response, and environmental sustainability. Institutional support through open data policies, financial backing, and collaborative partnerships is crucial for VGI's success. OpenStreetMap exemplifies VGI's transformative potential across various sectors. However, challenges like data quality, privacy concerns, and inclusivity need addressing through robust validation systems, training, and standardized methods. Sustaining volunteer engagement and ensuring seamless data integration are essential for maximizing VGI's impact.*

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## INTRODUCTION

Citizen participation means the various modalities and possibilities through which people can directly participate in the design, implementation, and evaluation of public services (Jarke, 2021; Nabatchi et al., 2017; Waddington et al., 2019). It must be noted that this participation is very important in delivering improved public services, improving efficiency, and increasing the effectiveness of those services. Public participation is a range of activities and key levels of interaction where people can provide feedback on services, attend meetings or any events related to the community, or participate in delivering and designing the services.

Citizen participation is most informative because it allows the masses to oversee and scrutinize governmental organizations. Engagement initiatives involve people so that they can become active participants in issues that touch on their lives and emotions, enabling them to champion the voices of the population. With these, it is easier to measure the extent of congruency between the public services that are provided and the needs of the people, increasing the likelihood of the public services delivering what is expected. In addition, it cultivates increased interdependence between people and authorities, which increases social cohesion and confidence in the community to overcome obstacles or achieve objectives (Castelnovo, 2016; Fung, 2015; Ponti & Craglia, 2020).

Volunteered geographic information (VGI) refers to geographic information generated and collected by the public without force being applied to accomplish the same (Goodchild, 2007). More specifically, VGI is based on the availability of smartphones, GPS-enabled tools, and internet connections so that everyone with a certain degree of knowledge can participate in geographic mapping and data collection. VGI can be considered valuable because a large amount of geospatial data can be collected and hence can be applied in many sectors, including urban planning, emergency responses, and environmental sustainability, among others (Basiouka et al., 2015; Liu et al., 2020; Olteanu-Raimond et al., 2020). In this regard, VGI methodologies can also help engage the public in data gathering to increase their participation and responsibility. It generates a better and more informed society, which can bring important knowledge and tips related to the local setting that might not be available in other cases. The workflow of the VGI is illustrated in Figure 1.

Furthermore, compared to other common approaches to data collection, working with VGI is likely to be much more efficient. Thus, it can be of particular interest to public authorities without sufficiently large budgets. The advantages derivable from the use of VGI can enable these organizations to source other concerns or serve multiple goals by saving cost and or time. Besides, VGI presents timely information, which can be very useful, especially in emergency cases such as disasters and calamities. The inclusion and provision of proper and early information can go a long

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