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Development and demonstration of a participatory offline visualization tool for use by rural stakeholders in developing countries

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Development and demonstration of a participatory offline visualization tool for use by rural stakeholders in developing countries

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Abstract: When implementing rural development projects in developing countries, project implementing agencies collect large amount of data from stakeholders. However, the data is rarely shared with the stakeholders. This gap is being recognized in recent times and Governments are mandating that such data be made available to stakeholders, through acts such as 'Right to Information' act in India. However, this is not being done in an easily accessible manner. For example, data is very often made available through online portals whereas most rural stakeholders are barely semi-literate and have to come to nearby towns for access to internet and computers (e.g. 'internet café'). In this paper, we report results from our work on taking data back to farmers in 3 villages, as part of a large-scale project by the Government to promote natural farming in Andhra Pradesh state of south India. Instead of a 'pull' approach being adopted by the Government, where public come in search of data, we took a 'push' approach where data is taken 'to their door step'. As internet is not easily available in villages, an 'online download tool' was developed for use by local facilitators to go to nearby town periodically and automatically download data from project website using web crawling and REST technologies. This data is shown to rural stakeholders for discussion and decision making in village-level group meetings, and also made available to them for subsequent individual, independent access through 'rural information kiosks'. As most of them are semi-literate, an easy-to-use map-driven 'offline visualization tool' was developed for their use using Django, PostGIS and Quantum GIS technologies. Data downloaded from multiple scattered screens on the project website was integrated into one 'dashboard'. Another important requirement is that the data being provided is also of use to the stakeholders. Towards this goal, data about who has so far adopted project-promoted natural farming practices, how they have benefited, what are the problems they faced and how did they solve these problems, are being shared with the stakeholders. This is also making it possible to verify and clean the data during group meetings. Usability trials were carried out with various categories of stakeholders and the feedback was used to further refine the tools. Use of these tools will now be extended to other project villages in the state.

***Keywords**:* Public Participation, Visualization, Offline, Django, Quantum GIS.