**Building Information Modelling as a Tool for Capacity Building for Sustainable Housing Upgrading in Informal Settlements**

A Habitat III Side Event convened by the:

Oxford Institute for Sustainable Development

School of the Built Environment

Oxford Brookes University, United Kingdom

Date and Time, 19 October 2016, 2:00-4:00pm

Place: Room MR9 @ Casa de la Cultura Ecuatoriana "Benjamin Carrion

The success of low income housing projects in the global South, including settlement upgrading, requires the participation of all stakeholders including residents. However, traditional participatory methods are limited in involving the wider community, tend to be dominated by specific community interest groups and therefore often fail to enable genuine coproduction and bottom up decisions making. Major technical constraints here relate to tools for wider collaborative practices and information sharing. Emerging Building Information Modelling (BIM) and related mobile devices can overcome such constraints by facilitating deeper participation of residents and other community stakeholders (e.g., CBOs, NGOs) in housing and community upgrading. The technologies can greatly enhance residents’ capacities to easily participate in the design and execution of upgrading and housing projects. BIM systems can be linked to mobile devices through freely available mobile apps and cloud-based systems that now have increasing penetration among all income groups including informal communities. Accordingly residents’ requirements can be captured through their direct input into the project BIM system and merged with existing housing data to gain in-depth understanding of design optimisations and their implications for housing and occupants. This will also enable virtual assessment of design options by residents and other stakeholders that allows their informed participation in the decision making process. The proposed event, therefore, aims to introduce and critically appraise a new approach to building local community capacities through the use of BIM and mobile technologies in the design and delivery of sustainable housing and settlement upgrading. This will include demonstrating how BIM can be used to collect, analyse and model housing performance data; managing development and upgrading projects’ information; and how residents and other stakeholders can participate constructively in the lifecycle of the sustainable housing and upgrading delivery using emerging mobile/cloud BIM.

This side event will bring together local authorities, community leaders and researchers from United Kingdom, Brazil and other developing countries including Africa to brainstorm on how emerging BIM can be used to address the rapid delivery of new and upgrading projects in slum communities of developing countries.

The main presenter, Dr. Henry Abanda, a Chartered Engineer (CEng) and Senior Lecturer in Construction IT and the Chair Professor Ramin Keivani are from the Oxford Institute for Sustainable Development in the School of the Built Environment, Oxford Brookes University, United Kingdom.