An Urban Information System framework for Planning Metropolitan Regions: The Case Study of Housing in Mumbai Metropolitan Region, India.

A Data Management Plan created using DMPonline

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Project abstract:

In a fast urbanizing world, there has been a transition in the urbanization trajectory of the developing countries. The move towards megaregions, mega city-regions, urban agglomerations (UAs) is observed and documented in highly urbanized countries and China. India's urbanization exhibits unique characteristics in comparison to other countries. While population concentration and clustering of economic activity is well documented, little work has analysed this clustering as independent spatial units. The absence of a spatial plan at the regional level, and redundancy of the master plan adds a further layer of complexity in developing an analytical framework for these large spatial units. Owing to the sluggish growth in urbanization level, there is a lack of focus in proactively understanding the development of urban clusters in India. Moreover, detailed empirical enquiry of an urban agglomeration and its synthesis with the policy apparatus in India is a gap in the planning literature. The lack of regional focus on planning for urban economic development initiatives within India, warrants the need for an analytical framework. An analytical framework that informs the decision makers at regional level about the spatial structure, functional geography, patterns of deprivation, environmental footprint, and other useful planning indicators is virtually absent within the planning literature. A regional focus on planning for urban economic development within urban agglomerations is less developed within India, and there is lack of robust research that provides a thorough understanding of these issues. There is a need to deepen existing understanding of informing policies by incorporating analysis that considers functional specialization and spatial complementarities within and beyond urban agglomerations (Hall and Pain, 2006). An empirical framework that gauges the multi-dimensional dynamics of these units is lacking. The developments in Geographic Information Systems(GIS) and the resulting ability to use large datasets efficiently, provides a new avenue for using empirical methods within these UAs With the proliferation of these UAs worldwide, the literature that examines an urban agglomeration has recently surged in countries like UK, US, Germany and more recently in China. The concept of urban agglomeration is dynamic, complex, and fuzzy and highly context dependent. Nonetheless, much of the approaches exercised are rooted in the North American and West European urban experience. Not only this, the literature tends to focus itself to the understandings of the definitional issues, processes, causes, drivers, and consequences. There is inadequate work that has focussed on the analytical thinking and interaction of constituents of these clusters within their operational contexts. The literature on urban agglomerations has examined the functional dynamics and inter-city interactions within these spatial units. However, much of the research centres around global city-region specific empirical focus. The cases discussed within this literature are well established urban areas that display a relatively high level of interconnectivity and integration within the global economy. In addition to this, they have sufficiently well-developed spatial data infrastructure that can readily be used for analysis. However, these assumptions tend to blur as the complexities involved amplify when cases outside the Euro-American context are considered. The developments in Geographic Information Systems and the resulting ability to use large datasets efficiently provides a new avenue for using empirical methods within these urban agglomerations. The research develops an information system

in the form of a web-mapping portal for metropolitan planning in the city of Mumbai in India. The portal is a compilation of the different indicators that emanate from the literature review. It focuses specifically on housing indicators at the lowest level of disaggregation for six different districts within the city region of Mumbai. This is then followed by detailed focused group discussions and interviews of officials from the urban local bodies to check the viability of such an information system to enhance the delivery of initiatives.

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Manchester Data Management Outline

- Yes

No

- Yes - only institution involved
- Acquire new data
- University of Manchester Research Data Storage Service (Isilon)
- < 1 TB

Photos and Videos may take up some space.

- No
- 10 - 20 years
- No sensitive or personal data

No personal data will be available to anyone except this investigator.

- No
- No
- Not applicable
- Yes

Amish Sarpotdar and Cecilia Wong

10/05/2019

Project details

The research project is undertaken to provide inputs to strenghten strategic spatial planning in India. The project develops an urban information system that is integrated and rooted with the policy realities of Mumbai. Itfocuses on affordable housing which is a critical issue not just in India, but throughout the world.

Data Protection Act, GDPR, Indian Laws.

Responsibilities and Resources

Amish Sarpotdar

1 T of storage space.

Data Collection

The project employs most of the data that is freely available in public domain throught the government of India and the municipal government of Mumbai. Apart from this, the project involves semi-structured interviews and focused group discussions with 'elites'. These elites constitute of decision makers and policy consultants currently working with the government or former employees. The interviews maybe recorded visually if the participant consents.

The data will be collected in the form of oral or video recordings. These recordings will then be safely stored on the university server unless they are transcribed back into written form.

Documentation and Metadata

The files will be stored in a consistent format. The files will be saved in Name_Function_Date format.

Ethics and Legal Compliance

The participants in the qualitative data analysis will sign a consent form. The consent form will clearly state the use of data during and post the completion of the project. Prior ethical approval from the school review committee is also sought for the completion of the clearance of this project.

The University will own the copyright and IP rights of the database being created as per the Universities Intellectual Property Rights Policy; http://documents.manchester.ac.uk/display.aspx?DocID=24420
The anonymised data will be licence under the Creative Commons Attribution 4.0 International Public License.

Storage and backup

The Data collected on the field will be backed up at an interval of 7-10 days. The Data collected on the field will be stored in an external hard drive during the duration of the fieldwork. This hard disk will be encrypted as per the UoM policy. The data will then immediately be transferred to the University of Manchester's P drive. The researcher has access to more than 10GB of storage in the p drive which can be increased if needed. If the data exceeds the storage capacity of the P drive the data will then be backed up on the Reasearch Data Storage. Thus the backup of the data will be on three places, the encrypted hard disk(temporarily) and the University of Manchester's p drive and then the University of Manchester's Research Data Storage.

The research does not use any sensitive data or confidential data and thus has limited risks.The data collected will be anonymised/psedonymised immediately after the interviews and focus groups are undertaken. As mentioned above the data collected on the field will be transferred from the encrypted hard disk to the University of Manchester's P drive through the desktop computer and an the researchers own laptop. Once safely on the hard disk, the data will be deleted from the personal laptop of the researcher. The data is organised in a systemised file storage manner.

The researcher and the supervisor will have the sole access to the data. There will be technical access controls in place such assuch as user privileges and password protected documents.
The storing of personal identifying information will be separately and securely stored (RDS) from data relating to research participants. There is no plan to use any paper records or digitisation of paper records. (only the signed consent forms)

Selection and Preservation

The data collected in the field will be retained/preserved/reused only for a period of 30months. This covers the entire duration of the research degree and a few more months.

At the end of the research the data will be preserved for not more than 2 years as mentioned above.

Data Sharing

The secondary data that is already in public domain will be hosted on a website and will be freely available after a significant time has elapsed from the submission of the PhD. The rest of the data will not be made available without specific requests before the end of the PhD, however after the end of the PhD the data can be made freely available one year after publishing the results. This is clearly stated in the consent form.

The data is used only to write the thesis. The consent form clearly indicates how the data will be shared during and post the research degree. The consent form also indicates the timeframe of sharing the data. Thus, data sharing restrictions will be minimised.