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## Plan Overview

*A Data Management Plan created using DMPonline*

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

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**Template:** University of Manchester Generic Template

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

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## **Manchester Data Management Outline**

### **1. Is this project already funded?**

- Yes

**Will you be applying for funding from any of the following sources? If your funder isn't listed, please enter in the free text box provided.**

No

### **3. Is The University of Manchester the lead institution for this project?**

- Yes - only institution involved

### **4. What data will you use in this project (please select all that apply)?**

- Acquire new data

### **5. Where will the data be stored and backed-up during the project lifetime?**

- University of Manchester Research Data Storage Service (Isilon)

### **6. If you will be using Research Data Storage, how much storage will you require?**

- < 1 TB

Photos and Videos may take up some space.

**7. If you have a contractual agreement with a 3rd party data provider will any of the data associated with this project be sourced from, processed or stored outside of the institutions and groups stated on your agreement?**

- No

### **8. How long do you intend to keep your data for after the end of your project (in years)?**

- 10 - 20 years

### ***Questions about personal information***

Personal information or personal data, the two terms are often used interchangeably, relates to identifiable living individuals. Special category personal data is more sensitive information such as medical records, ethnic background, religious beliefs, political opinions, sexual orientation and criminal convictions or offences information. If you are not using personal data then you can skip the rest of this section.

Please note that in line with [data protection law](#) (the General Data Protection Regulation and Data Protection Act 2018), personal information should only be stored in an identifiable form for as long as is necessary for the project; it should be pseudonymised (partially de-identified) and/or anonymised (completely de-identified) as soon as practically possible. You must obtain the appropriate [ethical approval](#) in order to use identifiable personal data.

**9. What type of person identifying information will you be processing (please select all that apply)?**

- No sensitive or personal data

**10. Please provide details of how you plan to store, protect and ensure confidentiality of the participants' information as stated in the question above.**

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

**11. If you are storing personal information will you need to keep it beyond the end of the project?**

- No

**12. Sharing person identifiable information can present risks to participants' privacy, researchers and the institution. Will the participants' information (personal and/or sensitive) be shared with or accessed by anyone outside of the University of Manchester? This includes using 3rd party service providers such as cloud storage providers or survey platforms.**

- No

**13. If you will be sharing personal information outside of the University of Manchester will the individual or organisation you are sharing with be outside the EEA?**

- Not applicable

**14. Are you planning to use the personal information for future purposes such as research?**

- Yes

**15. Who will act as the data custodian or information asset owner for this study?**

Amish Sarpotdar and Cecilia Wong

**16. Please provide the date on which this plan was last reviewed (dd/mm/yyyy).**

10/05/2019

## Project details

### What is the purpose of your research project?

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

### What policies and guidelines on data management, data sharing, and data security are relevant to your research project?

Data Protection Act, GDPR, Indian Laws.

## Responsibilities and Resources

### Who will be responsible for data management?

Amish Sarpotdar

### What resources will you require to deliver your plan?

1 T of storage space.

## Data Collection

### What data will you collect or create?

The project employs most of the data that is freely available in public domain through 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 may be recorded visually if the participant consents.

### How will the data be collected or created?

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

### What documentation and metadata will accompany the data?

The files will be stored in a consistent format. The files will be saved in Name\_Function\_Date format.

## **Ethics and Legal Compliance**

### **How will you manage any ethical issues?**

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.

### **How will you manage copyright and Intellectual Property Rights (IPR) issues?**

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**

### **How will the data be stored and backed up?**

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.

### **How will you manage access and security?**

The research does not use any sensitive data or confidential data and thus has limited risks. The data collected will be anonymised/pseudonymised 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 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**

### **Which data should be retained, shared, and/or preserved?**

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.

### **What is the long-term preservation plan for the dataset?**

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

## **Data Sharing**

### **How will you share the data?**

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.

### **Are any restrictions on data sharing required?**

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.