**Appendix 1**

**SURVEY QUESTIONAIRE**

**HOUSEHOLDS SURVEY**

**Researcher:**

**Project: Sustainable** **organized green space development in Indian cities**

**Sub-project: Environmental justice and social inclusivity in organized green space development in Indian cities**

**Purpose**

This survey is a part of the overarching project sustainable organized green space development in Indian cities, in which the researcher is engaged. The purpose of the survey is to collect information from households on the various aspects of environmental justice and social inclusivity related to the development of organized green spaces in Indian cities. The data that will be gathered from this survey and the results thereof shall be used solely for academic and research purposes. All ethical considerations and appropriate survey methods will be adhered to. The willingness and availability of the survey participants will be first sought before conducting the survey. Due anonymity of the respondents will be kept during the whole process of the project and under no circumstances, personal and professional information related to the respondents will be shared with anybody without the consent of the respondents. No animals and birds or any other living organisms will be used during the survey. Proper care will be taken to not harm or influence respondents in any form including physically, emotionally, mentally and psychologically**.**

Any respondent can withdraw his or her consent from the survey during any time of the survey and the project.

**Kind regards**

**SURVEY QUESTIONAIRE**

**HOUSEHOLDS SURVEY**

**Code: HSSG… Date of survey:**

**Researcher:**

**Project: Sustainable organized green space development in Indian cities**

**Sub-project: Environmental justice and social inclusivity in organized green space development in Indian cities**

**General information**

1. Name of the respondent:
2. Age: 3. Gender:
3. Occupation
4. Location:

City

Ward/ suburb:

Street

House/Flat No:

1. Do you have organized green spaces near your house or workplaces? Yes/No
2. What kind of organized green spaces are available? Please name: ……………………
3. Where do you access organized green spaces? Near to home/ Near office/ central areas/ Neighborhoods/ any other
4. Do you use organized green spaces in your city? Yes/No
5. If yes, what kind of organized green space do you generally use? Please name:
6. If yes, how often do you use: Every day/Once a week/ More than once a week/ Never
7. For what purpose you use the green space: Relaxation & recreation/ outdoor physical or health-related activities (walking, jogging, exercise, yoga, swimming, etc.)/ Festivals/ social gatherings/ picnic/ any other

**Section-1**

**Perceptions on the current provision, development, and management of organized green spaces in the cities**

1. How do you rate the various attributes related to the current provision, development, and management of organized green spaces in your city as given in Table 1? You are kindly required to rate based on your perceptions.

Please provide your responses on a scale of 1 and 5 (1–very low, 2-low. 3–fair, 4–high and 5–very high).

Please provide tick marks (√) in the appropriate cell against the attribute in Table 1.

Table 1. Responses on the current provision, development, and management of organized green spaces

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Attributes** | **1** | **2** | **3** | **4** | **5** |
| 1 | General allocation of land for organized green space |  |  |  |  |  |
| 2 | Adequate allocation of land for organized green space |  |  |  |  |  |
| 3 | Development of organized open space |  |  |  |  |  |
| 4 | Fair and equitable distribution in different areas of the city |  |  |  |  |  |
| 5 | Provision of organized green space in accordance with environmental considerations |  |  |  |  |  |
| 6 | Accessible to all classes of society |  |  |  |  |  |
| 7 | Usage by all classes of society |  |  |  |  |  |
| 8 | Availability of adequate and relevant amenities in the organized green space |  |  |  |  |  |
| 9 | Misuse of organized green spaces (e.g., poorly managed and maintained, spaces are used for dumping of wastes or encroachments) |  |  |  |  |  |
| 10 | Management and governance |  |  |  |  |  |
| 11 | Operation and maintenance |  |  |  |  |  |

**Section- 2**

**Factors influencing environmental justice and social inclusivity in the development of organized green space in Indian cities**

1. What is your perception of the influence of the following factors (given in Table 2) on the environmental justice and social inclusivity in organized green space development in your city? Please provide your answer in the form for either **Yes** or **No**.

Please provide tick marks (√) in the appropriate cell against the factor in Table 2.

Table 2. Responses on whether the factors influence environmental justice and social inclusivity in organized green space development in your city

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Factors** | **Yes** | **No** |
| 1 | Demographic characteristics |  |  |
| 2 | Social receptiveness |  |  |
| 3 | Crime/ fear of crime |  |  |
| 4 | Community feeling towards the availability and use of green spaces |  |  |
| 5 | Infrastructure and services for accessing green spaces |  |  |
| 6 | Propensity to use of open spaces |  |  |
| 7 | Socio-economic inequality |  |  |
| 8 | Preference for outdoor activities |  |  |
| 9 | Community engagement and participation |  |  |
| 10 | Unequal distribution of green spaces |  |  |
| 11 | Demand for land for real estate |  |  |
| 12 | Land value |  |  |
| 13 | The economic return of the land |  |  |
| 14 | Cost of development of organised open spaces |  |  |
| 15 | Cost of management and maintenance of open spaces |  |  |
| 16 | Cost of infrastructure development |  |  |
| 17 | User fees |  |  |
| 18 | Employment opportunities through the creation of commercial activities |  |  |
| 19 | Aesthetic and beautification |  |  |
| 20 | Creation of public congregation areas |  |  |
| 21 | Providing space for recreation for different age and gender categories |  |  |
| 22 | Providing space for outdoor and sporting activities |  |  |
| 23 | Creation of urban forests, and national parks |  |  |
| 24 | Creation of urban gardens, neighbourhood parks and tot lots |  |  |
| 25 | Reduction of pollution |  |  |
| 26 | Creation of central parks |  |  |
| 27 | Complementing different land use |  |  |
| 28 | Solid waste management |  |  |
| 29 | Sustainable built environment |  |  |
| 30 | Urban groundwater management |  |  |
| 31 | Management of microclimate |  |  |
| 32 | Creation of urban activities |  |  |
| 33 | Creation of Buffer zones |  |  |
| 34 | Accessibility of green spaces |  |  |
| 35 | Creation of a healthy environment (space for airflow) |  |  |
| 36 | Hegemony and attitude of political leaders and governing authorities for green space development and pressure on planners |  |  |
| 37 | Spatial development framework |  |  |
| 38 | Availability of land |  |  |
| 39 | Size of organised green space |  |  |
| 40 | Standards and norms for urban land use and urban activities |  |  |
| 41 | Patronage and sponsorship of organised green spaces by private companies |  |  |

1. How do you rate the influence of the various factors on environmental justice and social inclusivity in the development of organized green spaces in your city as given in Table 3? You are kindly required to rate based on your perceptions.

Please provide your responses on a scale of 1 and 5 (1–very low, 2-low. 3–fair, 4–high and 5–very high).

Please provide tick marks (**√**) in the appropriate cell against the attribute in Table 3.

Table 3. Responses on the influence of the various factors on environmental justice and social inclusivity in the development of organized green spaces

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Factors** | **1** | **2** | **3** | **4** | **5** |
| 1 | Demographic characteristics |  |  |  |  |  |
| 2 | Social receptiveness |  |  |  |  |  |
| 3 | Crime/ fear of crime |  |  |  |  |  |
| 4 | Community feeling towards the availability and use of green spaces |  |  |  |  |  |
| 5 | Infrastructure and services for accessing green spaces |  |  |  |  |  |
| 6 | Propensity to use of open spaces |  |  |  |  |  |
| 7 | Socio-economic inequality |  |  |  |  |  |
| 8 | Preference for outdoor activities |  |  |  |  |  |
| 9 | Community engagement and participation |  |  |  |  |  |
| 10 | Unequal distribution of green spaces |  |  |  |  |  |
| 11 | Demand for land for real estate |  |  |  |  |  |
| 12 | Land value |  |  |  |  |  |
| 13 | The economic return of the land |  |  |  |  |  |
| 14 | Cost of development of organised open spaces |  |  |  |  |  |
| 15 | Cost of management and maintenance of open spaces |  |  |  |  |  |
| 16 | Cost of infrastructure development |  |  |  |  |  |
| 17 | User fees |  |  |  |  |  |
| 18 | Employment opportunities through the creation of commercial activities |  |  |  |  |  |
| 19 | Aesthetic and beautification |  |  |  |  |  |
| 20 | Creation of public congregation areas |  |  |  |  |  |
| 21 | Providing space for recreation for different age and gender categories |  |  |  |  |  |
| 22 | Providing space for outdoor and sporting activities |  |  |  |  |  |
| 23 | Creation of urban forests, and national parks |  |  |  |  |  |
| 24 | Creation of urban gardens, neighbourhood parks and tot lots |  |  |  |  |  |
| 25 | Reduction of pollution |  |  |  |  |  |
| 26 | Creation of central parks |  |  |  |  |  |
| 27 | Complementing different land use |  |  |  |  |  |
| 28 | Solid waste management |  |  |  |  |  |
| 29 | Sustainable built environment |  |  |  |  |  |
| 30 | Urban groundwater management |  |  |  |  |  |
| 31 | Management of microclimate |  |  |  |  |  |
| 32 | Creation of urban activities |  |  |  |  |  |
| 33 | Creation of Buffer zones |  |  |  |  |  |
| 34 | Accessibility of green spaces |  |  |  |  |  |
| 35 | Creation of a healthy environment (space for airflow) |  |  |  |  |  |
| 36 | Hegemony and attitude of political leaders and governing authorities for green space development and pressure on planners |  |  |  |  |  |
| 37 | Spatial development framework |  |  |  |  |  |
| 38 | Availability of land |  |  |  |  |  |
| 39 | Size of organised green space |  |  |  |  |  |
| 40 | Standards and norms for urban land use and urban activities |  |  |  |  |  |
| 41 | Patronage and sponsorship of organised green spaces by private companies |  |  |  |  |  |

1. Please provide any specific comments you want to make relating to environmental justice and social inclusivity in organized green space development.

Thank you for participating in the survey.

**Appendix 2**

**EXPERTS (DELPHI) SURVEY**

**Researcher:**

**Project: Sustainable organized green space development in Indian cities**

**Sub-project: Environmental justice and social inclusivity in organized green space development in Indian cities**

**Purpose**

This survey is a part of the overarching project sustainable organized green space development in Indian cities, in which the researcher is engaged. The purpose of the survey is to collect information from households on the various aspects of environmental justice and social inclusivity related to the development of organized green spaces in Indian cities. The data that will be gathered from this survey and the results thereof shall be used solely for academic and research purposes. All ethical considerations and appropriate survey methods will be adhered to. The willingness and availability of the survey participants will be first sought before conducting the survey. Due anonymity of the respondents will be kept during the whole process of the project and under no circumstances, personal and professional information related to the respondents will be shared with anybody without the consent of the respondents. No animals and birds or any other living organisms will be used during the survey. Proper care will be taken to not harm or influence respondents in any form including physically, emotionally, mentally and psychologically**.**

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Kind regards

**EXPERTS (DELPHI) SURVEY**

**Code: ESSGR01… Date of survey:**

**Researcher:**

**Project: Sustainable organized green space development in Indian cities**

**Sub-project: Environmental justice and social inclusivity in organized green space development in Indian cities**

**Round 1**

1. What are the relevant and important strategies that should be considered to improve environmental justice and social inclusivity in green space development in Indian cities? Please respond according to your perception and experience.
2. How would these strategies you have suggested improve environmental justice and social inclusivity in the development of organized green space in Indian cities? Please provide reasons as relevant.

Thank you for participating in the survey.

**EXPERTS (DELPHI) SURVEY**

**Code: ESSGR02… Date of survey:**

**Researcher:**

**Project: Sustainable organized green space development in Indian cities**

**Sub-project: Environmental justice and social inclusivity in organized green space development in Indian cities**

**Round 2**

1. Please rate the influence of the various strategies mentioned below (Table 1). below to improve environmental justice and social inclusivity in the development of organized green spaces in Indian cities? You are kindly required to rate based on your perceptions.

Please provide your responses on a scale of 1 and 5 (1–very low, 2-low. 3–fair, 4–high and 5–very high).

Please provide tick marks (√) in the appropriate cell against the attribute in Table 3.

Table 1. Influence of various strategies to improve environmental justice and social inclusivity in the development of organized green spaces

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Strategies | 1 | 2 | 3 | 4 | 5 | Justification for the rating if any |
| Community-led green space development and management |  |  |  |  |  |  |
| Ensuring a fair distribution of green spaces among different social areas |  |  |  |  |  |  |
| Improved accessibility including digital accessibility for green space use |  |  |  |  |  |  |
| Connecting green spaces to health benefits |  |  |  |  |  |  |
| Mandatory linkage of built infrastructure with provision of green spaces |  |  |  |  |  |  |
| Linking green space with micro-climate and environment |  |  |  |  |  |  |
| Current scenario for green space land use allocation |  |  |  |  |  |  |

Thank you for participating in the survey.

**Appendix 3**

**Related to Research methods**

**Table A.** Descriptive of the profile of respondents

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Respondents attributes** | **Bhubaneswar** | **Cuttack** | **Kolkata** | **Total** |
| Total questionnaires administered | 260 | 175 | 235 | 670 |
| Total valid responses received | 244 (93.85%) | 162 (92.57%) | 204 (86.68%) | 610 (91.04%) |
| **Category of respondents** |  |  |  |  |
| Local residents (Permanent) | 217 (88.93%) | 146 (90.13%) | 183 (89.71%) | 546 (89.51%) |
| Temporary residents (tenants) | 27 (11.07%) | 16 (9.87%) | 21 (10.29%) | 64 (10.49%) |
| **Gender** |  |  |  |  |
| Male | 148 (60.65%) | 101 (62.34%) | 118 (57.83%) | 367 (60.16%) |
| Female | 96 (29.35%) | 61 (37.64%) | 86 (42.17%) | 243 (39.84%) |
| **Age** |  |  |  |  |
| 18-25 | 57 (23.37%) | 42 (25.93%) | 46 (22.55%) | 145 (23.77%) |
| 26-40 | 91 (37.29%) | 57 (35.19%) | 74 (36.27%) | 222 (36.39%) |
| 41-60 | 69 (28.28%) | 46 (28.39%) | 63 (30.89%) | 178 (29.18%) |
| ≥61 | 27 (11.06%) | 17 (10.49%) | 21 (10.29%) | 65 (10.66%) |

Table B. Wards/ Residential areas in which Household surveys conducted

|  |  |  |
| --- | --- | --- |
| **Bhubaneswar** | **Cuttack** | **Kolkata** |
| Bomikhala | Jobra | Kestopur |
| Bramunda | CDA (sector 6 and 9) | Howrah |
| Kapileswar | Madhu Patna | Jadavpur |
| Chandrasekharpur | Tulasipur | Barrackpur |
| Sahid Nagar | Ranihat | New Town |
| Unit 2 | Mangalabag | City centre 2 |