Call for submission on human settlements and adaptation

According to the Vancouver Declaration on Human Settlements, human settlements can be defined as the totality of the human community – whether city, town or village – with all the social, material, organizational, spiritual and cultural elements that sustain it.[1] During SBSTA 44, Parties highlighted that those making submissions should "bear in mind the unique challenges and scale differences in urban, rural and remote settlements, in particular in Small Island developing States and least developed countries.[2] During SBSTA 46, Parties further underscored their interest in collecting information related to rural and coastal settlements, particularly remote settlements.[3]

We thank you in advance for filling out this template with concise, evidence-based information and for referencing all relevant sources. There are 5 sections in the template: please fill the sections that are relevant to the work of your government or organization. As you will see on the last page of the document, more detailed information on case studies, tools/methods and other knowledge resources for dissemination through the Adaptation Knowledge Portal is welcome, but optional.

Name of the organization or entity:

Indian Institute for Human Settlements

Type of organization:

Please choose as appropriate:

- ☐ Local government/ municipal authority
- ☐ Intergovernmental organization (IGO)
- ☐ National/public entity
- ☐ Non-governmental organization (NGO)
- ☐ Private sector
- ☐ Regional center/network/initiative
- ☒ Research institution
- ☐ UN and affiliated organization
- ☒ University/education/training organization

Location

City: Bangalore
Country: India

Scale of operation:

- ☒ Global
- ☒ Local
- ☒ National
- ☒ Regional
- ☐ Subregional
- ☐ Transboundary

City(ies)/Country(ies) of operation (if appropriate):

- Mega cities as well as small and medium sized cities in India (mainly)
- Research across Global South (South Africa, Uganda, Peru, Colombia, and Mexico)

[1] See: https://unhabitat.org/the-vancouver-declaration-on-human-settlements-from-the-report-of-habitat-united-nations-conference-on-human-settlements-vancouver-canada-31-may-to-11-june-1976/
[2] FCCC/SBSTA/2016/2, paragraph 15(b)(ii).
[3] FCCC/SBSTA/2017/L.7, paragraph 13.

- Contribution to global processes such as SDGs, IPCC assessment and special reports, Global Assessment of Risks (GAR)

1. Assessing sensitivity and vulnerability to climate change

Description of relevant activities/processes or research:

Please describe the activities or processes that your entity has implemented to assess sensitivity and/or vulnerability to climate change in human settlements. In case your organization carried out research on such activities/processes, please describe them.

- Conducted settlement, household and intra-household scale vulnerability assessments across rural, urban, and peri-urban Karnataka (India); focusing on (1) multiple, dynamic, and intersecting drivers of vulnerability and (2) examined how vulnerability is socially differentiated, experienced and driven by underlying structural factors.
- In the urban space, we have conducted multiple forms of mixed methods research around risk creation and accumulation (Chennai, Odisha, Andhra Pradesh, Srinagar), internal displacement (India), temporal vulnerability (Chennai, Bangalore), multi-dimensional assessment of risk to flooding (Future Proofing of Bangalore) and policy responses to mitigate these risks (IIHS Policy Papers). In rural areas, we have done extensive research on vulnerability and climate change adaptation in the state of Karnataka, Odisha.
- The research findings, in many cases, have also been discussed at national and international fora, with a focus on dissemination and uptake by policymakers. For example, our research in Bangalore identified water resource management as a key issue. Using a novel approach called Transformative Scenario Planning, we have been bringing together multiple stakeholders to discuss and envision future trajectories the city can take as well as its implications for water availability and management and how we could potentially manage water, keeping in mind the local & regional evolving context.

Description of relevant tools/methods:

Please describe the tools and/or methods that have been developed and/or used to assess sensitivity and/or vulnerability to climate change.

- We have conducted mixed methods research focusing on differential vulnerability and adaptation in settlements across the rural-urban continuum. We use household surveys, key informant interviews, gender and age differentiated focus group discussions, participatory research tools, life history interviews as some of our key research tools.
- In addition, we use geospatial analysis as a tool to assess environmental vulnerability and risks.
- Also undertake stakeholder-driven processes such as Transformative Scenario Planning (details above)

Key outcomes of the activities undertaken:

Please provide information regarding the outcomes of the activities/processes described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.

- Several policy briefs, journal articles, short reports and working papers from our research, available on the ASSAR website: www.assar.uct.za
- IIHS-focused research on climate change, engaging with policy relevant questions. Climate change issues interfacing with structural aspects of vulnerability (see related evidence at http://iihs.co.in/knowledge-gateway/policy-papers/) and lived experiences of vulnerability (for example, these cases demonstrate that exclusion of certain groups is a key element in the debate on cities: http://cases.iihs.co.in)
- Creation of and contribution to several national and subnational processes: regular Climate panel at the annual Urban Policy Dialogues at IIHS (see details from 2015, 2016 events), National Consultation on Climate Change Adaptation (multi-stakeholder event every year where the on-

going climate research is presented and discussed, notes from 2015 event available here), invited inputs into the IPCC Special Report on 1.5 deg C, IPCC AR5 and AR6 publication cycles.

- In addition, IIHS regularly conducts settlement-scale analysis across India using national census and other secondary data to understand the evolving urban dynamics. For e.g. the role of population density in its relational context with social, economic and environmental outcomes. These reports (Urban India Evidence 2015, 2016) are available on request at info@iihs.co.in.

Description of lessons learned and good practices identified:

Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).

- Having strong processes of learning and capacity building within projects and between project partners (work with a diverse set of research and practice institutions). In addition, we transmit project/research-centric insights into training & capacity building activities; such as engaging with junior to senior IAS (administration) officers at the National Training Academy in India, offering learning opportunities to young researchers who are not trained in the climate domain, engaging with operational level engineers in sensitizing them with emerging challenges at the interface of human settlements and adaptation (like the capacity building component of the latest national urban rejuvenation program in India called AMRUT).
- Having a strong focus on interdisciplinarity and methodological plurality (for example, the use of mixed methods such as structured household surveys, participatory community focus group discussions and in-depth life history interviews to study vulnerability in Karnataka; stakeholder engagement through consultations to get policy-relevant insights in humanitarian action and relocation project in Chennai).
- Flexible processes around learning, decision-making and monitoring 'success'

Description of key challenges identified:

Please describe the key challenges associated with those activities/processes or the use of those tools/methods, that policy-makers, practitioners and other relevant stakeholders interested in assessing sensitivity and vulnerability to climate change should know about.

- Small and often time-sensitive windows of opportunity for research to impact policy
- Difficult to communicate contextual nuances when decision makers want and act on generalizations
- Uncertainty around climate change and how to overcome it continues to constrain climate action
- Vulnerability Assessments continue to remain static and snapshot – IIHS has recently fed into national processes to train government officers on Vulnerability Assessments and has highlighted the need to have more longitudinal, temporally-sensitive studies.

Planned next steps (as appropriate):

Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such activities/processes?

- Scaling deep (changing behavioral norms, ways of thinking and doing) is a core part of IIHS's work on Vulnerability Assessment – we have seen some initial successes through the TSP process (discussed above).
- Scaling out: The climate project (ASSAR) is now moving towards developing some tentative Local Adaptation Plan of Actions (LAPAs) in select areas to trial some adaptation strategies.

Relevant hyperlinks:

Please provide hyperlinks to sources of information

Michael K, Singh C and Bazaz A (2017). Dimensions of Vulnerability in Rural and Urban Areas: A case of migrants in Karnataka. ASSAR Information Brief, ASSAR, South Africa. http://www.assar.uct.ac.za/sites/default/files/image_tool/images/138/South_Asia/Vulnerability%20dimensions%20in%20rural%20and%20urban%20areas%20of%20India%20-%20March%202017.pdf

Basu, R and Bazaz, A (2016). Assessing climate change risks and contextual vulnerability in urban areas of semi-arid India: The case of Bangalore. ASSAR Working Paper 3, ASSAR, South Africa http://www.assar.uct.ac.za/sites/default/files/image_tool/images/138/Info_briefs/Contextual%20vulnerability%20in%20Bangalore%20-%20CARIAA%20ASSAR%20Working%20Paper%203.pdf

Jain, G, Singh C and Malladi T (2017) Rethinking Post-disaster Relocation in Urban India. IIED Policy Brief, London UK http://pubs.iied.org/17430IIED/

Jain, G, Johnson, C, Lavell A et al. (2017) Risk-related resettlement and relocation in urban areas https://cdkn.org/resource/essential-risk-related-resettlement-relocation-urban-areas/?loclang=en_gb

2. Integrating both short-term and long-term climate considerations (including both extreme and slow onset events) into planning

According to UNFCCC decision 1.CP/16, slow onset events include sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification.[4]

Description of relevant activities/processes or research:

Please describe the activities or processes that your entity has implemented to integrate both short-term and long-term climate considerations (including both extreme and slow onset events) into planning. In case your organization carried out research on such activities/processes, please describe them.

- We have been examining how long-term and short-term climate information is used by various actors for informing their adaptation decisions. We synthesized our key initial findings from Africa and India in a journal article and video (links given below).

- We have also been undertaking field-based research on long-term implications of policy and programmatic interventions made for extreme events (including humanitarian action and rehabilitation processes). For example, through an IIED-funded study in Chennai, we have examined the long-term implications of post-disaster humanitarian action. More details at http://pubs.iied.org/17430IIED/

- Through the Transformative Scenario Planning process (described in previous section), we have convened a variety of stakeholders to discuss the complex issue of water (demand, supply, pollution, management and treatment) in Bangalore.

[4] FCCC/CP/2010/7/Add.1, para 25, footnote 3.

Description of relevant tools/methods:

Please describe the tools and/or methods that have been developed and/or used to integrate both short-term and long-term climate considerations (including both extreme and slow onset events) into planning.

- We have used mixed methods to understand the varying degrees of risk perceptions and therefore risk considerations made by households against those made by state level authorities and humanitarian actors in rural as well as urban context of Andhra Pradesh and Odisha.

- We have developed a conceptual framework to explain different ways in which momentum and demand for short-term climate information can have longer-term implications (see Singh et al. 2017 link below). Examples of success include pilot projects across India and Africa.

Key outcomes of the activities undertaken:

Please provide information regarding the outcomes of the activities/processes described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.

Description of lessons learned and good practices identified:

Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).

- Dovetailing some of our research findings towards more practice-based projects to help the research find practical applications. For example, research on rural to urban migration and its implications on well-being and adaptive capacity helped us successfully start a practice-oriented project funded by Swiss Agency for Development and Cooperation (SDC) on how cities are building climate resilience in the face of increasing migration.
- We have been providing Strategic Advisory to the National Disaster Management Authority (NDMA) based on our research work on Resilience and city-level vulnerability assessments.

Description of key challenges identified:

Please describe the key challenges associated with those activities/processes or the use of those tools/methods, that policy-makers, practitioners and other relevant stakeholders interested in integrating both short-term and long-term climate considerations into planning should know about.

Planned next steps (as appropriate):

Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such activities/processes?

Relevant hyperlinks:

Please provide hyperlinks to sources of information.

Singh, C. et al. (2017) The utility of weather and climate information for adaptation decision making: current uses and future prospects in Africa and India. Climate and

Development doi:10.1080/17565529.2017.1318744 http://rsa.tandfonline.com/doi/pdf/10.1080/17565529.2017.1318744?needAccess=true

Video: https://www.youtube.com/watch?v=nFQ0I49x378

Singh C, Unqhart P, Kituyi E. (2016) From pilots to systems: barriers and enablers to scaling up the use of climate information services in smallholder farming communities. CARIAA Working Paper #3. Collaborative Adaptation Research Initiative in Africa and Asia, IDRC, Ottawa , Canada http://idl-bnc.idrc.ca/dspace/bitstream/10625/55485/1/IDL-55485.pdf

Outputs on risk and relocation in Urban India are available at https://www.ucl.ac.uk/bartlett/development/reducing-relocation-risk-urban-areas, https://cdkn.org/resource/essential-risk-related-resettlement-relocation-urban-areas/?loclang=en_gb and http://www.preventionweb.net/publications/view/54291

3. The role of national governments in supporting adaptation at the local level

Description of relevant activities/processes or research:

Please describe activities or processes that your entity took part in, or studied, and that illustrate the role of national government(s) in supporting adaptation at the local level.

We have examined the role of several development projects the national government in India has undertaken which might have adaptation co-benefits. These include schemes such as MGNREGS for rural employment, watershed development projects, JNNURM for urban development. In line with the national agenda to mainstream climate action in development interventions, we found several ways in which mainstreaming is occurring but it tends to be highly contextual and local with significant challenges to scaling up. One of the ways in which IIHS is helping the national government in facilitating local action is through engaging in capacity building activities as well as by providing technical/knowledge support.

To give two specific examples:

- The National Infrastructural Development program for cities (AMRUT – Atal Mission for Rejuvenation and Urban Transformation) has various elements like water, sanitation, sewerage, transport and green spaces; including thinking about resilience within these broad elements. IIHS, through engagement with many State governments, is providing capacity building support to operational engineers within the broader framework of alleviating structural vulnerability in Indian cities.
- IIHS is helping the Tamil Nadu State government as a Technical Support Unit in implementing the National Mission on improving sanitation and building local capacities through multiple ways like training, knowledge support.

Description of relevant national-level policies, programmes or projects:

Please describe relevant policies, programmes, projects (or other relevant initiatives) implemented by national government(s) to support adaptation action at the local level. Information on the implementing partners and financial mechanisms established would be particularly helpful.

See above

Description of relevant tools/methods:

Please describe specific tools and/or methods that have been developed and/or used by national government(s) to support adaptation at the local level.

IIHS's engagement in Tamil Nadu through Bill and Melinda Gates Foundation (BMGF)-funded Tamil Nadu Urban Sanitation Support Programme (http://iihs.co.in/tnussp/) is an example of multiple stakeholder groups coming together to deal with urban issues such as sanitation and septage management. Through this project, IIHS supports the Government of Tamil Nadu in building generic adaptive capacity (access to improved sanitation), with critical health and well-being implications.

Key outcomes of the action undertaken:

Please provide information regarding the outcomes of the actions described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.

Description of lessons learned and good practices identified:

Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes, national-level policies, programmes or projects (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).

Description of key challenges identified:

Please describe the key challenges associated with those actions, that policy-makers, practitioners and other relevant stakeholders working either at the national or at the local level should know about.

Planned next steps (as appropriate):

Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such actions.

Relevant hyperlinks:

Please provide hyperlinks to sources of information.

Singh C, Gajjar Pahwa S, Deshpande T (2016). Policies, Projects and People: Exploring the Adaptation-development Spectrum in India. CARIAA-ASSAR Working Paper #2. International Development Research Centre, Ottawa, Canada and UK Aid, London, United Kingdom http://www.assar.uct.ac.za/sites/default/files/image_tool/images/138/Working_Papers/CARIAA-ASSAR%20working%20paper%202%20-%20Policies%2C%20Projects%20and%20People.pdf

Singh C, Michael K and Bazaz A (2017). Barriers and enablers to climate adaptation: evidence from rural and urban areas in India. ASSAR Information Brief, ASSAR, South Africa. http://www.assar.uct.ac.za/sites/default/files/image_tool/images/138/South_Asia/Barriers%20and%20enablers%20to%20climate%20adaptation%20in%20India%20-%20March%202017.pdf

Outputs from Tamil Nadu Urban Sanitation Support Programme
http://muzhusugadharam.co.in/resources/

4. Cross-cutting issues and linkages to the process to formulate and implement national adaptation plans (NAPs)[5]

Description of relevant activities/processes or research:

Please describe activities or processes that your entity took part in, or studied, and that illustrate cross-cutting issues and/or linkages to the process to formulate and implement NAPs.

Description of relevant national-level policies, programmes or projects:

Please describe relevant policies, programmes, projects (or other relevant initiatives) implemented by national government(s) that integrate local-level adaptation action into the process to formulate and implement NAPs. Information on the implementing partners and financial mechanisms established would be particularly helpful.

Description of relevant national-level policies, programmes or projects:

Please describe specific tools and/or methods that have been developed and/or used by national government(s) to address cross-cutting issues and/or foster linkages with the process to formulate and implement NAPs.

Key outcomes of the action undertaken:

Please provide information regarding the outcomes of the actions described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.

Description of lessons learned and good practices identified:

Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes, national-level policies, programmes or projects (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).

Description of key challenges identified:

Please describe the key challenges associated with those actions, that policy-makers, practitioners and other relevant stakeholders working either at the national or at the local level should know about

Planned next steps (as appropriate):

Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such actions?

[5] For additional information on NAPs, see: http://www4.unfccc.int/nap/Pages/Home.aspx

Relevant hyperlinks:

Please provide hyperlinks to sources of information.

5. City-to-city partnerships on climate change adaptation

Description of relevant activities/processes or research:

Please describe activities or processes that your entity took part in, or studied, and that contributed to fostering city-to-city partnerships on climate change adaptation.

IIHS facilitates city-to-city learning through several direct and indirect ways. Some examples are given below:

1. Institutionalization of city-based interventions and enabling knowledge exchange through generation of teaching cases and case study materials: e.g. Teaching and Learning Cases focusing on urban inclusion: http://cases.iihs.co.in
2. Use evidence generated to inform decision making – for example, Tamil Nadu Urban Sanitation Support Programme (http://iihs.co.in/tnussp/), becoming the starting point for developing the ability to deliver and engage with multiple stakeholders and institutional arrangements.
3. City exchange visits and capacity building programs for city planners and development professionals as part of our teaching programmes such as the UNDP Building Resilience course, AMRUT Training modules, as well as capacity building of a new generation of development professionals through the year-long Urban Fellowship Programme (http://urbanfellows.iihs.co.in/)
4. Delivery of a Massive Open Online Course on Sustainable Cities, which are essentially speaking to the ideas of structural vulnerabilities that persist in cities and that which result in exclusionary urbanization. Through anchoring Goal 11 of the Sustainable Development Agenda, IIHS has been strengthening policy discourses around structural vulnerabilities and facilitating city to city exchange of ideas/knowledge.

Description of relevant tools/methods:

Please describe specific tools and/or methods that have been developed and/or used to foster city-to-city partnerships on climate change adaptation.

See above

Key outcomes of the action undertaken:

Please provide information regarding the outcomes of the actions described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.

We have trained 5669 individuals since our Urban Practitioners Programme (UPP) started in 2010. These included IAS officers and key state administrators, army officers, executives from the private and joint sector, and individual practitioners. The government staff was trained across several Indian states (Odisha, Kerala, Rajasthan, Tamil Nadu, Goa, Meghalaya, Jammu and Kashmir, Jharkhand and Gujarat).

Description of lessons learned and good practices identified:

Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes (including measurability of the impacts), (b) efficiency

in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).

Description of key challenges identified:

Please describe the key challenges associated with those actions, that policy-makers, practitioners and other relevant stakeholders should know about.

Government officials tend to work in sector-based silos, mirroring their administrative setup. However, our Urban Practitioners Programme has been pushing for integrated cross-scalar and multi-sectoral knowledge sharing.

Planned next steps (as appropriate):

Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such actions?

Relevant hyperlinks:

Please provide hyperlinks to sources of information.

Teaching and Learning Cases from India and the Global South focusing on urban inclusion: http://cases.iihs.co.in

Policy briefs on cities on topics such as

- Reducing risk accumulation: http://iihs.co.in/knowledge-gateway/wp-content/uploads/2015/08/8_Risk_and_Resilience.pdf
- Environmental issues in the urban: http://iihs.co.in/knowledge-gateway/wp-content/uploads/2015/07/6_Environment.pdf
- Urban poverty: http://iihs.co.in/knowledge-gateway/wp-content/uploads/2015/06/2_Urban_Poverty.pdf
- Rental housing: http://iihs.co.in/knowledge-gateway/wp-content/uploads/2015/07/5_Rental_Housing.pdf

Further information:

Please do not hesitate to submit more detailed information on case study(ies), tool(s)/method(s) and/or other relevant knowledge resource(s) that are relevant to adaptation in human settlements. The latter will be shared through the Adaptation Knowledge Portal:

- Case study(ies)
- Tool(s)/method(s)
- Other knowledge resource(s) (online portals, policy briefs, training material, multimedia material, technical reports and scientific publications)