



Universitat Autònoma de Barcelona

Vicerectorat d'Investigació

Comisión de Ética en la Experimentación Animal y Humana (CEEAH)

Universitat Autònoma de Barcelona
08193 Bellaterra (Cerdanyola del Vallès)

La Comisión de Ética en la Experimentación Animal y Humana (CEEAH) de la Universitat Autònoma de Barcelona, reunida el día **28-06-2019**, acuerda informar favorablemente el proyecto con número de referència **CEEAH 4781** y que tiene por título "**Local Indicators of Climate Change Impacts**" presentado por **Victoria Reyes García**

<p>Elaborado:</p> <p>Nombre: Nuria Perez Pastor Cargo: Secretària de la CEEA de la UAB Fecha: Firmado digitalmente por NURIA PEREZ PASTOR Fecha: 2019.07.05 13:47:23 +02'00'</p>	<p>Aprovado:</p> <p>Nombre: José Luis Molina González Cargo: President de la CEEAH de la UAB Fecha: JOSE LUIS MOLINA GONZALEZ - DNI 36561625C Firmado digitalmente por JOSE LUIS MOLINA GONZALEZ - DNI 36561625C Fecha: 2019.07.05 17:46:07 +02'00'</p>
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1. Title

Local Indicators of Climate Change Impacts

2. Brief project description

What are the localized impacts of climate change on biophysical systems and livelihoods? Researchers agree that current assessments of the localized impacts of climate change are partly limited by a paucity of grounded data, calling for the exploration of new data sources. By exploring an untapped source of grounded data: local knowledge systems, this project will assess 1) localized manifestations and 2) perceived impacts of climate change, and 3) locally developed adaptation strategies.

It is increasingly recognized that people with a long history of interaction with the environment have developed intricate and complex knowledge systems that allow them to detect both changes in climatic variability and the effects of these changes in the local biophysical systems and livelihoods. Based on local knowledge, place-based communities are already responding to climate change impacts by the development and implementation of local adaptation strategies. However, insights from such knowledge systems continue to be largely absent both in climate change research and in global climate policy fora.

Over the course of five years (Jan 18-Dec 22), I will direct a team who will collectively work on the development, test, and implementation of a systematic protocol that, combining insights from community-based environmental monitoring and citizen science, will allow us to collect a wealth of data on i) direct, observable impacts of climate change on biophysical systems (e.g., shrinking glaciers, coastal erosion, phenological changes) and ii) perceptions of the effects of climate change on local livelihoods (e.g., agricultural systems, fisheries, pastures availability) and iii) local adaptation strategies.

Once the protocol is ready, I will create and train a large network of data collection partners such as PhD students, postdocs, and local practitioners who will implement it in a full range of climate data-deficient regions and enter the data in an online platform designed for that end. The analysis of such data will allow discerning both general trends and geographically and socially distributed patterns of the actual climate change impacts on biophysical systems and local livelihoods. To increase impact, at the end of the project, I will extend the network to researchers, practitioners and local peoples who will continue to engage in the collection of data following the approach proposed here even after funding from this project ends. We will request ethics approvals from ethics committees of the research institutions where partners are based. These approvals will be sent to the ERCEA, and the CEEAH will be kept informed. Partners who belong to an institution without Ethics committee will follow the procedures outlined here.

Findings from this research will help promote local knowledge systems as a valid source of evidence for understanding local impacts of climate change, and thus as complementary to other sources of knowledge in the design of effective mitigation and adaptation policies.

Research area

Anthropology-Sociology

3. Principal Investigator

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Acreditació No

4. Objectives

The overarching goal of this research is to explore the potential of local knowledge systems to document local indicators and perceptions of climate change and local adaptation strategies. Specific research questions are:

1) What are the local manifestations of climate change? Current assessments of the localized impacts of climate change are limited by a paucity of grounded data. Place-based communities can provide first-hand, detailed descriptions of complex responses of the biophysical systems to climate change. While such information might not necessarily match other data sources (e.g., modeling), it might both broaden the spatial coverage and provide alternative sources of information on the fine-scale environmental responses to climate change, thus helping answer this urgent question.

2) How are climate change impacts perceived by place-based communities? Climate change impacts are not equally distributed neither geographically nor socially. For example, while sea-level rise potentially affects all people living close to sea level, biophysical (e.g., tidal influence, island size and relief) and socio-cultural conditions (e.g., wealth, livelihood strategies) mediate how people are impacted and how they perceive these impacts. So, beyond impacts on the biophysical system, the design of mitigation and adaptation policies requires a better understanding of how people experience climate change impacts. Climate change impacts can have drivers other than climate change. Additional data on drivers' others than climate change that interact with climate change affecting the perceived impacts will also be collected (e.g. the increase use of pesticides, interacting with the increase of drought, having an impact on soil fertility).

3) How do local communities respond to climate change impacts and what are the constraints and barriers for adaptation? To achieve successful adaptation, it is vital that the implementation of adaptation strategies follows a bottom-up approach in which local knowledge steer adaptive actions.

4) Have local knowledge systems been affected by the increasing integration of market? If yes, in what way has it been affected? If not, what makes local knowledge systems resistant? This would contribute to the comprehension of the local knowledge systems per se, and to further consolidate the potentials of local knowledge systems to other disciplines.

5) How do scientific and local knowledge on climate change complement, contradict and correspond to each other? The importance of local knowledge in enhancing the understanding of climate change and its impacts is increasingly recognized. Exploring the complementarities between different knowledge systems by simultaneously assessing biophysical proxies and local knowledge on climate change can enhance our understanding of climate change impacts and empower both scientists and local people to develop strategies to mitigate and cope with climate change.

A specific group within LICCI will dig into the effects of climate change on crop diversity and the respective adaptation strategies. Specifically, changes in crop species and landraces will be documented, identifying the main factors driving these changes, assessing the perceived impact of climate changes on livelihoods and identifying possible adaptation actions.

5. Methods

The protocol will combine insights from interviews, surveys and citizen science. Data will be collected by 50 partners (external PhD students and postdocs) who will implement the protocol in different climate data-deficient regions. Following ERC regulations, researchers hired by UAB should

follow ethics procedures presented here. LICCI partners who have ethical clearance for their home institution will need to submit such form to participate. LICCI partners who belong to an institution without Ethics committee will follow the procedures outlined here.

The protocol for data collection includes:

1) Semi-structured interviews with local experts. Data include 1) a summary of local livelihoods, 2) a community time-line, 3) a local calendar, and 3) a list of local impacts associated to climate change and local adaptation strategies. The information will be anonymous.

2) Focus group discussion to i) identify the most important climate change impacts and ii) discuss how each affects local resources and livelihoods. Researchers will process information from FGD and submit a list of indicators of climate change impacts. FGD will not be recorded, data will be anonymous.

3) Face-to-Face individual surveys with randomly selected adults documenting their knowledge of climate change impacts. Researchers need to submit coded survey responses.

LICCI partners will be responsible for coding and entering the data. Data will be accompanied by some metadata (e.g., location, sampling, subsistence mode, date of observation).

The online platform will collect information from climate change impacts in the form of observation entries made by users who voluntarily agree to participate (“users”). Users will have several privacy options for each entry - ranging from completely private (data will only be accessible by the user), to public (data will be visible to anyone, including non-registered visitors). The entries will contain general information like title, description, location, temporal reference of the observation and information specific to the type of observation (e.g., name of the species affected by climate change). Entries will be submitted by registered users who, upon registration, will need to provide an email address and a user name (which does not need to be their real name). To evaluate distribution of participation globally, we will derive the geolocation of contributors. Registered users will be asked to provide optional profile information (not required for registration), such as age, gender, institutional affiliation, or location.

Biophysical data on climate variation and change will be obtained from different sources, in the highest spatial and temporal resolution available. These data includes meteorological information from weather stations, outputs from regional or global climatic models, and, in some sites, may also include direct measurements of biophysical indicators, such as the size of agricultural plots, the number of plant species cultivated, the width of tree rings (that respond to inter-annual climate variation), or plant vouchers. If such measures are obtained, this will be done after consultation and agreement with local communities and after obtaining all necessary authorizations from institutions or authorities that mediate access to this kind of information. Biophysical samples will remain in the country where the data were obtained. No export of biophysical items will be conducted under the LICCI project.

6. FPIC forms

Information sheets

Annex 1, Annex 3

Signed consent forms

Si Annex 2, Annex 3

7. Compensation

Do you foresee economic compensation for the participants in this research?

No

8. Data management

This research will collect non-sensitive personal data (e.g., full name, village of residency, age, level of education, occupation, main livelihood, income, possessions, memberships and the like) and data on local indicators of climate change impacts and adaptation strategies through individual and household surveys. Consent forms (see Annex) will be used to solicit consent from participants and these will be signed on either paper or digitally on tablets provided by the project. Consent forms will be destroyed 5 years after the end of the project.

Personal data and sensitive documents will be entered by project participants on a separate cloud storage designed for that purpose. To guarantee security and sovereignty over the data, this storage will be hosted at the UAB. Data on local indicators of climate change will be uploaded in a web-based platform. Personal data will be accessible only to team members and data partners who have provided and collected the data.

Before uploading data on local indicators of climate change in the web-based platform, I will double check that LICCI partners have effectively removed the names of people and villages, top and bottom-code variables, and remove any other identifier that would allow a user to identify a subject by the data. No publication will identify subjects by name or include the name of the villages where data were collected. Personal data will not be shared with any other researcher outside the team willing to re-use data collected through this project.

For more information see Annex 4

9. Feedback and community engagement

I will require that each person participating in the project carries out two workshops. The first workshop will be oriented to share and discuss research results with participants. The second workshop will be oriented to present research results to local leaders, members of local institutions, and municipal government representatives.

The approach will allow the dissemination of results among villagers and the receiving of local interpretation of our data. Disseminating results among villagers is a way of thanking them for their participation in the research. I have used this approach in my previous research and I have found that it increases local support for the project. Participants will also benefit from this research in a number of intangible ways. In my past research I worked with elders in co-authoring a book on ethnobotanical knowledge and encouraged my team to take similar actions (i.e., alphabetization books, radio programs, calendars with local events, registering local songs). The materials prepared have empowered participants because of the recognition that their knowledge has value. I also found that collecting information about local knowledge generated interest among villagers and linked different generations in the collection, use, and transmission of this knowledge.

In parallel, the online platform will be accessible to anyone with internet connection, which in turn will be a way to return the results to some communities that will be able to keep track of the research outputs in the long term.

The research will improve awareness at the national and international levels about indigenous issues and could stimulate policy decisions that will improve services in these remote communities. The villagers' quality of life may also benefit in the long-term from the expressed interest of the outside world.

INFORMATION SHEET

Local Indicators of Climate Change Impacts

The LICCI project at the Universitat Autònoma de Barcelona, Spain would like to learn about changes you have observed in the local environment and how these changes affect your daily life. For this, we would like to interview you or your community members for a short while and invite you to participate in some meetings. We will use data generated in this study only for research purposes and will not be used for commercial purposes. This study is being conducted with many households in different countries. This research is funded by the European Research Council and the funds are administered by the Universitat Autònoma de Barcelona.

Procedures and duration: LICCI partners will be visiting your area for a certain period of time. The partners will visit you or your community members several times to ask questions about the changes in the environment they have witnessed (e.g., changes in plants, or in animal behaviour or abundance, or changes in the soil, the water, and the ice) and how these changes affect them. Each visit may take about one hour. Should you or your community members decide to take part in the study, we will also ask you (a) questions on personal details (e.g., age, schooling, work) and changes in the environment you have seen and (b) to participate in community meetings where we will be discussing about changes in the environment. All these methods are widely used by researchers and entail minimal risks.

Data protection: Your personal data will only be available to the project's key personnel and will be completely confidential (i.e., no one will be able to identify you). Any publications or reports will not identify any respondents by name. Data will not be used for any purpose other than scientific publications and conference presentations. We will not allow the data to be used for any commercial purpose. We will always ensure that third parties cannot identify the person who provided data. Aggregated information on local changes in the environment will be uploaded in a web-based platform, so anyone interested can consult it.

Participation: Participation in the research is strictly voluntary, and all the participants are being asked to give their Free, Prior and Informed Consent before the start of the research. You also have the right to withdraw from the research at any time you may wish to without any consequence. There are no individual payments for participating in the study, but we believe that the research project might help empower individuals and villages because this research helps in valuing local knowledge and bringing attention to how indigenous and local people are being affected by climate change impacts.

Benefit-sharing: Information will be used to inform scientists and the public in general about indigenous and local peoples and how their knowledge can help in better understanding of climate change impacts and climate change adaptation. We will also share the information both within and between the different groups participating in the research. The project will help outsiders to gain a better appreciation of indigenous knowledge and observations. At the end of fieldwork, we will share the knowledge gained through this research with participants in a workshop in which we will present our preliminary results.

INFORMED CONSENT FORM (Focus Group Discussion)

We are asking for your participation, because you live in one of the villages selected for our study. You do not have to participate if you do not wish so, and you are welcome to decline to proceed at any time without any consequence. Participation in this study is strictly voluntary. The only alternative to participation is not to participate. There are no penalties to people who decide not to participate, or who started to participate and later decided to withdraw.

During this activity, we will not collect any personal data. Moreover, any publications or reports derived from this study will not identify any individual by name. Data will not be used for any purpose other than scientific publications. The information the group provides on local impacts of climate changes in the environment will be uploaded in a web-based platform, so anyone interested can consult it.

Information will be used to inform scientists and the public in general about which changes your community see in the local environment and how they affect you. At the end of fieldwork, we will carry out a workshop to inform you and all the villagers about our research results. We will invite participants, village leaders, members of local institutions, and municipal government representatives. In the workshop, we will present our preliminary results and ask you whether you think that what we found is accurate.

Victoria Reyes-Garcia is the responsible for the project, and you might as her any questions about the project or the procedures. She might visit the village, but you can always write to her at Institut de Ciència i Tecnologia Ambientals, Universitat Autònoma de Barcelona, 08193 Cerdanyola del Vallès, Spain. You may also call at 00 34 93 581 8976 or send an e-mail to Victoria.reyes@uab.cat. If you have questions about your legal rights as a research subject, you may contact: proteccio.dades@uab.cat. To contact her, you should ask the researcher living in the village who will have complete instructions and will do it on your behalf at no cost to you.

By agreeing to participate and giving consent, you are not waiving any of your legal rights, claims, or remedies. You may sign the form yourself or ask for someone else to sign on your behalf.

I have read (or someone has read to me) the information in the consent form. I have had an opportunity to ask questions and all my questions have been answered to my satisfaction. By signing this consent form, I willingly agree to participate in this study.

Name of subject (type or print):

.....

Signature of subject or legal representative

Date (must be signed prior to entry)

I have explained the research to the subject and answered all of his/her questions. I believe that he/she understands the information described in this consent form and freely consents to participate.

Name of Investigator/research team member (type or print):

.....

Signature of investigator/research team member

Date

INFORMED CONSENT FORM (Individual)

We are asking for your participation, because you live in one of the villages selected for our study. You do not have to participate if you do not wish so, and you are welcome to decline to proceed at any time without any consequence. Participation in this study is strictly voluntary. The only alternative to participation is not to participate. There are no penalties to people who decide not to participate, or who started to participate and later decided to withdraw.

The personal data we might collect through this project will only be available to the project's key personnel and be completely confidential. Any publications or reports will not identify you by name. Data will not be used for any purpose other than scientific publications. Personal data will not be sold, given, or pass in any other way to third parties that might use it with any other purpose than research. Even in this case, we will ensure that third parties can not identify the person who provided data. The information on local changes in the environment will be uploaded in a web-based platform, so anyone interested can consult it.

Information will be used to inform scientists and the public in general about which changes you see in the local environment and how they affect you. At the end of fieldwork, we will carry out a workshop to inform you and all the villagers about our research results. We will invite participants, village leaders, members of local institutions, and municipal government representatives. In the workshop, we will present our preliminary results and ask you whether you think that what we found is accurate.

Victoria Reyes-Garcia is the responsible for the project, and you might ask her any questions about the project or the procedures. She might visit the village, but you can always write to her at Institut de Ciència i Tecnologia Ambientals, Universitat Autònoma de Barcelona, 08193 Cerdanyola del Vallès, Spain. You may also call at 00 34 93 581 8976 or send an e-mail to Victoria.reyes@uab.cat. If you have questions about your legal rights as a research subject, you may contact: proteccio.dades@uab.cat. To contact her, you should ask the researcher living in the village who will have complete instructions and will do it on your behalf at no cost to you.

By agreeing to participate and giving consent, you are not waiving any of your legal rights, claims, or remedies. You may sign the form yourself or ask for someone else to sign on your behalf.

I have read (or someone has read to me) the information in the consent form. I have had an opportunity to ask questions and all my questions have been answered to my satisfaction. By signing this consent form, I willingly agree to participate in this study.

Name of subject (type or print): _____

Signature of subject or legal representative

Date (must be signed prior to entry)

I have explained the research to the subject and answered all of his/her questions. I believe that he/she understands the information described in this consent form and freely consents to participate.

Name of Investigator/research team member (type or print): _____

Signature of investigator/research team member

Date

INFORMED CONSENT FORM (Representatives)

We are asking for your participation because you are a recognized representative of the group selected for our study. We would like to ask you to grant us access to visit the communities of the [*indigenous group name*] and ask them to participate in our study. We will respect your decision and guidance and we will not visit communities that you consider should not be included in this study. Participation in this study is strictly voluntary. The only alternative to participation is not to participate. There are no penalties to people or communities who decide not to participate, or who started to participate and later decided to withdraw.

The personal data we might collect through this project will only be available to the project's key personnel and will be completely confidential, as data will be anonymized. Any publications or reports will not identify participants by name. Data will not be used for any purpose other than scientific publications and conference presentations. Personal data will be kept secret and not used even with research purpose. We will ensure that third parties cannot identify the person who provided data. The aggregated information on local changes in the environment will be uploaded in a web-based platform, so anyone interested can consult it.

Information will be used to inform scientists, policy-makers and the general public about which changes the member of your community see in the local environment and how they affect the people you represent. At the end of fieldwork, we will carry out a workshop to inform you and other local representatives (i.e., village leaders, members of local institutions, and municipal government representatives) of research results. We will present our preliminary results and ask you whether you think that what we found is accurate.

Victoria Reyes-Garcia is the overall responsible for the project and XXXX (Your name). the local responsible. You might ask any of them any questions about the project or the procedures. You can contact them either personally when they are in the villages or at Institut de Ciència i Tecnologia Ambientals, Universitat Autònoma de Barcelona, 08193 Cerdanyola del Vallès, Spain. You may also call at 00 34 93 581 8976 or send an e-mail to Victoria.reyes@uab.cat, or XXXXX (Your e-mail). If you have questions about your legal rights as a research subject, you may contact proteccio.dades@uab.cat. To contact her, you should ask the researcher living in the village who will have complete instructions and will do it on your behalf at no cost to you.

By giving consent for us to visit indigenous villages, you are not waiving any of your legal rights, claims, or remedies. You may sign the form yourself or ask for someone else to sign on your behalf.

I have read (or someone has read to me) the information in the consent form. I have had an opportunity to ask questions and all my questions have been answered to my satisfaction. By signing this consent form, I willingly give my consent for researchers to visit [*indigenous group*] villages from which I am the legal representative.

Name of subject (type or print):

Signature of subject or legal representative

Date (must be signed prior to entry)

I have explained the research to the subject and answered all of his/her questions. I believe that he/she understands the information described in this consent form and freely consents to participate.

Name of Investigator/research team member (type or print):

Signature of investigator/research team member

Date

TERMS OF USE OF THE LICCI PLATFORM

In the LICCI project we want to learn about changes you have observed in the local environment and how these changes affect your daily life.

Registering and contributing data to the platform implies your free informed consent to participate and transfer data to this research under the following conditions:

1. Any user has the right to withdraw from the investigation at any time, without this entailing any negative consequence for the participant and with the possibility to withdraw the data they have contributed.
2. Users will be able to decide to have public or private profiles, meaning that the personal data provided when completing the user profile will be treated with confidentiality if the user wishes to do so. The user's email will be kept private and will only be used to send notifications related to the platform, but users can decide not to receive notifications and change these settings in their profile. All users have the right to submit claims to the Catalan Data Protection Authority and contact the person responsible for data protection through telephone 935862774 or email proteccio.dades@uab.cat.
3. The information collected on local indicators of climate change impacts will be shared with the general public through the Internet, although the users will be able to decide if their contributions are made public or not. If made public, the data will be licensed under a Creative Commons copy-license.
4. The information collected will be used to inform scientists and the general public about which climate related changes people see in the local environment and how they affect them. The data on local indicators of climate change impacts that is made public by the contributors will be downloadable by anyone under the platform license agreement. The user profile data will not be downloadable.

If you have any doubts or questions about the project and/or your participation, you can contact the Institut de Ciència i Tecnologia Ambientals, Universitat Autònoma de Barcelona, 08193 Cerdanyola del Vallès, Spain. You may also call at 00 34 93 581 8976 or send an e-mail to Victoria.reyes@uab.cat. If you have questions about your legal rights as a research subject, you may contact the Ethics Committee of the Universitat Autònoma de Barcelona: ceeah@uab.cat or proteccio.dades@uab.cat.