

Por una comunidad resiliente ante **inundaciones**

El Instituto Nacional de Recursos Hidráulicos (INRH) coordina el proyecto FORSAT con la participación del Instituto de Meteorología (INSMET), el Estado Mayor Nacional de la Defensa Civil (EMNDC), la AMA, los gobiernos de Villa Clara y Sancti Spíritus, así como otras instituciones nacionales y locales. El PNUD acompaña esta iniciativa, que financia el Programa de Preparación ante Desastres del Departamento de Ayuda Humanitaria de la Comisión Europea.



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POR UN MEJOR FUTURO URBANO



CONSIDERACIONES METODOLÓGICAS PARA EL ESTUDIO DE PERCEPCIÓN DE RIESGO EN LA POBLACIÓN CUBANA. INUNDACIÓN POR INTENSAS LLUVIAS



Financiado por
Unión Europea
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Ayuda Humanitaria



Al servicio
de las personas
y las naciones



CONSIDERACIONES METODOLÓGICAS

PARA EL ESTUDIO DE PERCEPCIÓN DE RIESGO EN LA POBLACIÓN CUBANA. INUNDACIÓN POR INTENSAS LLUVIAS



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METHODOLOGICAL CONSIDERATIONS FOR THE STUDY OF RISK PERCEPTION IN THE CUBAN POPULATION.

FLOOD DUE TO HEAVY RAINS



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Al servicio de las personas y
las naciones

AUTHORS

AMA AND A GROUP OF EXPERTS ON SOCIAL ASPECTS OF HVR STUDIES

MSc. Elizabet Godefoy Núñez
MSc. Noemí Esther Acosta Guillén
MSc. Ida Inés Pedroso Herrera
B. Lilia Núñez Moreno
MSc. Pablo Bayón Martínez
Dr.C. Cristina López-Calleja Hiort-Lorenzen
MSc. Virginia Huergo Silverio
MSc. Wiliam Hernández Mondejar

CITMA VILLA CLARA PROVINCIAL DIRECTION

B. Claudia Cruz Lorenzo

CITMA SANCTI SPIRITUS PROVINCIAL DIRECTION

MSc. Félix Pentón Hernández

UNDP

MSc. Inalvis Rodríguez Reyes

UNDP COORDINATION TEAM

Eng. Liliana Pino Carballido
Ach. Rosendo Mesías González
B. Dayana Kindelán Peñalver
B. Elvilayne Vidal Medina

EDITION

Lilian Sabina Roque

GRAPHIC DESIGN

DI. Liván Valdés Pérez

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PRESENTATION

With the aim of protecting more than 39,000 people (of them, 19,325 women and 19,783 men, 8,577 children, 6,360 older female adults and 6,666 older male adults), and the economic resources located in areas vulnerable to flooding due to heavy rains in Zaza and Agabama river basins, the project to Strengthen the Hydro-meteorological Early Warning System (FORSAT) is implemented. It is led by the National Institute of Hydraulic Resources, implemented by the United Nations Development Programme (UNDP) and funded by the Disaster Preparedness Program of the Humanitarian Aid and Civil Protection Department of the European Commission (DIPECHO).

This cooperation project is carried out in the provinces of Villa Clara and Sancti Spíritus and increases the effectiveness of the Hydro-meteorological Early Warning System (EWS) in its four components:

1. Monitoring of heavy rains
2. Flood risk assessment to make timely decisions with a view to protecting people and goods of the economy
3. The issuance of the public warning to carry out the afore mentioned protection.
4. The development of a proper preparation to give an effective response to these hydro-meteorological events.

The intervention strategy deployed by FORSAT has focused on:

- The strengthening of institutions linked to the four phases of EWS, with high-tech equipment and technical training
- Support for the updating of key instruments in risk management, such as the Hazard, Vulnerability and Risk Studies, and the Disaster Reduction Plans
- Support to governments for strengthening their management capacity

- Carrying out community work, through support and accompaniment to key entities such as schools, universities, the Federation of Cuban Women (FMC), and the Red Cross.
- The promotion of knowledge management and the generation and publishing of different materials: management tools, studies carried out, methodologies and communicative products for population awareness.

Attention to gender equality is a subject present in FORSAT, in all the components of the EWS and from the beginning of the conformation and implementation of the project strategy.

Within component 2 (the risk assessment), particular attention is paid to the conformation of the Hazard, Vulnerability and Risk Studies (known as HVR studies). On the one hand, the updating of information regarding the danger of flooding due to heavy rains was supported in the 16 communities where the project is implemented. On the other hand, the methodology of this research was reviewed and enriched in regard to the social area and perception studies, which was approved by the Scientific Advisory Board of the Environment Agency (AMA) and the Group of Experts of the Social Aspects in the HVR Studies. As a result, this publication is made available to you: "Methodological Considerations for the Study of Risk Perception in the Cuban Population. Floods due to Heavy Rain".

The manual is the result of the AMA leadership in this research and the effective alliance created with the National Institute of Hydraulic Resources (INRH); the Provincial Direction of the Ministry of Science, Technology and Environment (CITMA) of Villa Clara and Sancti Spíritus; the governments and the FMC of both territories, as well as the support of the United Nations Development Programme (UNDP). For the first time, it is systematized in a single document and the relevant aspects of the risk perception study methodology, the population survey and the instructions for its application are published, also emphasizing the strengthening of the gender approach inclusion in the study.

Although the manual refers to the flooding hazard due to heavy rains, it has been proposed to integrate the lessons learned and the results of the study with the analysis made by Cuba in relation to other hazards, such as drought.

We hope that in your hands, actors and key players who carry out the HVR studies, this manual will be useful and will continue revealing the contributions of this tool to the efficient management of Early Warning Systems, a successful Cuban experience of great interest to other countries which has been recognized by Latin American institutions involved in disaster risk management.

FORSAT general coordinator



Fortalecimiento del Sistema
de Alerta Temprana
Hidrometeorológico

ASPECTOS RELEVANTES DE LA METODOLOGÍA

PARA EL ESTUDIO DE LA VULNERABILIDAD SOCIOAMBIENTAL
Y LA PERCEPCIÓN DE RIESGO ANTE LA INUNDACIÓN
POR INTENSAS LLUVIAS EN LA POBLACIÓN CUBANA



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AMA

**RELEVANT ASPECTS OF THE METHODOLOGY FOR THE
STUDY OF SOCIAL ENVIRONMENTAL VULNERABILITY
AND RISK PERCEPTION IN CASE OF FLOODS DUE TO
HEAVY RAINS IN THE CUBAN POPULATION.**

ASPECTOS RELEVANTES DE LA METODOLOGÍA

**PARA EL ESTUDIO DE LA VULNERABILIDAD SOCIOAMBIENTAL
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Social vulnerability and risk perception.

Notes from a gender perspective

Within the framework of the Project to Strengthen the Hydro-meteorological Early Warning System (FORSAT), the Environment Agency decided to carry out a flood study due to heavy rains. Considering that Cuba, in recent years, has been significantly affected by the frequency of adverse occurring weather events, it was found necessary to establish the analysis and assessment of the population perceptions in this subject to reveal the concerns of the population groups in the different territories of the country.

One of the contributions of the project to the study has been to strengthen the inclusion of the gender approach, since the analysis of its results will make it easier to identify the perceptions of women and men, their evaluation of the differentiated risk impact, as well as their participation in their management. The results of the study will be used as indicators of the public preferences and lifestyles of the population, and will allow to deepen aspects of the social component, which is very useful to design communication strategies to favor better disaster risk management.

Currently the social aspects of the Hazard, Vulnerability and Risk Studies are developed from a comprehensive and multidisciplinary approach, where demography, geography, sociology, psychology and mathematics play a relevant role. This responds to the fact that the interconnection of categories such as population, social vulnerability, geographical space and risk perception is significant for the development of a conceptual and methodological base that authentically defines these concepts.

These conceptual definitions allow us to reflect, describe and address relevant aspects for the study of socio-environmental vulnerability and the perception of risk in case of flood due to heavy rains in the Cuban population. The methodology used is simple and focused on a practical vision that makes it possible to insert the perception of risk within the calculation of social vulnerability, according to the methodological guidelines of the Hazard, Vulnerability and Risk Studies (HVR). The concept used for the examination

of social aspects in disaster risk studies has designed a tool (the survey) to study the risk perception at different scales and circumstances. The methodology is flexible and adaptable to the circumstances of every territory and creates a procedure to collect information and data that can be understood and easily replicated by anyone who approaches this topic.

From the hazard studies, social vulnerability is defined as the degree of exposure of a family, territory or region, given the probability of materialization of the hazard and the insufficiency or ability to protect. This vulnerability is conditioned by natural, social, organizational, attitudinal, motivational or cultural training characteristics, which constitute strengths or not when it comes to offering answers or resistance to the potential impacts of disasters. This implies that in a hazardous situation with high social vulnerability (high population density, large number of people with disabilities, low risk perception, etc.) the risk¹ increases. It has also been found that the vulnerabilities of women and men are different according to their sex / gender system and that gender inequalities (different opportunities, accesses, recognitions, assessments and results between women and men, distance, disadvantage, discrimination between them) also constitute social vulnerabilities.

Thus, social vulnerability is determined by the political, economic, cultural and social conditions that exist before the dangerous flood event occurs due to heavy rains and, at the same time, allows it to face the contingency in a differentiated manner. Therefore, it is essential to link the analysis of social vulnerability with demographic analysis and geographic space.

To expand the social dimension, vulnerability indicators should be linked to the geographical features of the occupation space. This space or zone can be marked by the degree of knowledge or not (individual, family or community) of the specific hazard. These indicators are associated with knowing:

- The characterization of the community zone (high-rocky or low-swampy, flooded or not, and to what level it is flooded).
- The identification of the house location (low relief position or in the old course of a river, now urbanized or interrupted by human action).

¹ Risk Assessment Group of Environment Agency (2014): *Cuba metodologías para la determinación de riesgos de desastres a nivel territorial*. PNUD, Cuba, p. 96.

- The house occupies the fluvial margin, in a low position, vulnerable to floods.
- The identification within a river basin and the operation of the runoff in the high-medium-low part.
- The intensity of the phenomenon, the characteristics of the vulnerability, the analysis of the early warning reports, taking into account the place, and the specific event.
- The condition of the homes, the sources of water supply, food and medication, in a personal and / or institutional way.
- Personal, family and community management in the collection of household and solid wastes, which have repercussions on the floods and other health risks that accompany it.
- The knowledge of the population, their attitude and behavior in the evacuation zone, according to the magnitude of the hazard and the imminent risk.

In addition to the indicators of social vulnerability in relation to the geographical space commented by Pablo Bayón Martínez in his paper "The social dimension of risk perception studies in the framework of the HVR: a geographical view", presented in the Workshop on Risk Perception held on September 2013, we consider that another aspect to take into account is the knowledge about the abilities and experiences of women, and whether they are on equal terms with men, if they are recognized or made aside, and if they are limited or encouraged.

In essence, the most vulnerable people from the social point of view are those who have their residence in places with a high physical-geographic exposure to disasters and with difficulties such as:

- Unsafe livelihood system.
- Scarce personal (health, education), material (reserves, savings) and social resources (social capital, networks, information) to deal with the catastrophe.
- Little political role (social participation) and insufficient to encourage the necessary protection by the State.
- Discrimination or lack of empowerment according to their sex / gender or other sociodemographic condition.

- Low perception of risk.

Barrenechea (2000) defines that vulnerability reflects intermediate situations between two extreme sides: social exclusion and inclusion, categories that go beyond the economic aspects of poverty and also include political, social and cultural aspects, especially in underdeveloped countries.

The term "risk perception", as an indicator of social vulnerability, refers to the judgments, attitudes and values of people in the face of danger sources, which can be overestimated or underestimated by the population. From the psychological and social point of view, risk is a social construction, generated from life experiences. (Perera, M., 1998). It is the product of the incidence of economic and social factors, personal experience, available information, the media, cultural specificities, idiosyncrasies, beliefs, myths, values and the degree of knowledge about the topic of hazards. We must also bear in mind the context in which people move, which defines the notion of risk itself (Núñez, L. et al., 2008, pp. 2-25) as well as gender constructions (masculinities and femininities) that make women's and men's risk perceptions qualitatively different.

Other specialists coincide with this position, for example, Rohrmann (2008) conceptualizes the risk perception as the judgments and evaluations that are made about the hazards to which people are exposed, the goods or the environments. For Rohrmann the risks are theoretical schemes constructed from different contexts. On the other hand, Cassullo (2008, quoted by Mikulic, Isabel María et al., 2015, p.411) suggests that risk estimation is a complex process that depends on factors such as: the context in which information about the Risk is presented and the manner in which the risk is described, the personal and cultural characteristics.

Perception influences the elaboration of judgments and evaluations, in the same way it impels someone to make decisions and carry out actions that respond to the stimuli of the environment.

From the perspective of the social sciences, the study of risk perception includes the distinction between perception of risk and perception of danger, although sometimes it is used indistinctively, that is, the notion of danger as a source or risk of real loss (Kaplan and Gricck, 1981, quoted by Puy, 1994), not so much in their probabilistic sense.

To have a measurement of social vulnerability is not a simple task, for theoretical and practical reasons, but taking into account the characteristics of risk perceptions we can approach its knowledge, according to the classification differentiated into: high, average and low.

Gender, as a sociocultural construction of the identity of women and men and as a category for the relational analysis of women and men in society and development, also acquires an important relevance, defining and delimiting those attitudes that promote equality between women and men in risk management and those that undermine the role of female sex / gender in tasks related to this management.

As pointed out, it is important to consider the gender perspective in the HVR studies, from which it is possible to identify: a) the needs, situations and different potentials of women and men; b) the roles they generally assume due to the presence of sexist stereotypes and to suppose more "feminine or masculine" activities and spaces, within specific contexts and in communities affected by the danger of flooding due to heavy rains; and c) how all this relates to their perceptions, vulnerabilities and risk response.

Integrating the gender perspective also makes it possible for studies to characterize the network of cultural symbols, ruling concepts, institutional patterns and subjective identity elements that are linked to disaster risk management.

From this perspective it is essential to pay attention to the aspects that produce the social construction of risk, to make visible the inequalities between men and women, besides identifying, pointing out and interpreting the causes of the differences and inequalities that exist between men and women in specific societies. At the same time, based on this analysis, it will be possible to establish a commitment to transform inequalities as a political option and take advantage of the disaster risk management scenario to contribute to the equity and equality of women and men.

Studies conducted in Cuba show that women hold management positions in disaster risk management, in companies and state entities. A hundred of them work as specialists in the different levels of the National General Staff of Civil Defense (EMNDC), many of them have functions within the reduction of disasters, at provincial, municipal and neighborhood or community level, and others make their contribution from research and scientific centers. To all this

work is added the work carried out by the health brigades formed by the Federation of Cuban Women (FMC) since 1962, with the function of providing first aid in humanitarian situations.

Women play an important role in the different stages of the disaster reduction cycle. Its leadership is confirmed at all times: by informing the population in an emergency situation, by preventing and educating about natural phenomena and their behavior; by disseminating the basic knowledge for confronting hazards, in community mobilizations and in taking hygienic-sanitary measures; by controlling the most vulnerable families, and supporting evacuation and recovery efforts.

66% of the heads of Civil Defense in the country are women. Many are leading Risk Reduction Management Centers and responsible for Early Warning Points in their territories; others have responsibilities in their communities in circumstances of disasters to avoid as a priority the loss of human lives and economic goods².

Paying attention to gender approach then contributes to generate and have data and statistics disaggregated by gender that provide more information about the knowledge, emotions, needs, vulnerabilities, attitudes and behaviors of women and men when facing weather phenomena and disaster risk management. In addition, it allows us to identify the inequalities between women and men that are generally invisible (because they are considered natural, normal and there is no awareness of them).

The years after the triumph of the Revolution introduced policies and measures aimed at modifying the social behavior of women and men, which directly affects a disaster situation. In this sense, it is worthwhile to rescue the evaluations on communication and responsibility in the family and in community life faced by men and women.

A distinctive feature of Cuban women is their ability to adapt and survive emergencies. They are the ones that organize the evacuation in the neighbor's house, the bedrooms and how to distribute food. But it is also relevant to recognize that disasters can provide the opportunity to establish new relationships between women and men that favor justice and the balanced development of women and men.

² La mujer cubana y las metas del milenio. Website Radio Habana Cuba. Available at:

http://www.ensap.sld.cu/bvgenero/sites/files/14_WEB_MCM.pdf

In this sense, it is important to pay attention, for example, to the degree of aging population in the country, which requires particularizing the situation of caring-women, some of them elderly women, who must be evacuated to guarantee the care and necessary conditions of other priority people for evacuation, such as children, pregnant women and sick people. The protection of women who live alone with their children and those who live in situations of greater vulnerability is also a priority.

Risk perception and demographic characteristics

The methodology includes the quantitative and qualitative analysis, when studying the numerical analysis of simple frequencies, the mathematical statistical methods and the evaluation of the criteria through different scales (Núñez, L. et al., 2008, pp. 1-26).³ It aims to characterize the perceptions, establish groups by levels of perception (high / medium / low) and compare results with previous moments at the provincial, municipal and people's council levels.

To explore risk perception in a quantitative way, **the survey** was designed, a research instrument used based on the methodological definition of dimensions, variables and indicators to be studied in the social aspects of the Hazard, Vulnerability and Risk Studies (HVR), detailed in the next chapter. The elaborated instrument has closed and open questions. The open questions were formulated so that the subjects freely express their ideas without having to choose from a set of possible pre-established answers, guaranteeing a broader range of criteria and evaluations. The survey is easy to apply, is common to all the provinces that participate in the study, and allows the analysis at the territorial level, also comparable at national level.

The analysis of the population describes the demographic composition of the provinces and municipalities, which should include the distribution of the population by age, level of education and accumulated experience. The number of people potentially exposed is a very useful information when planning the action in emergency and preventive policies. The disaggregation of these people by gender (male or female, or as long as they are analyzed as women and men) is essential to make decisions that contribute to greater gender equality in risk management and in correspondence with sustainable development.

³ Risk perception studies apply the methodology since 2006, year in which it was drafted by the Social and Psychological Research Center (CIPS).

Population density refers to the exposure, in the sense of concentration or dispersion, of people in the territory facing the possibility of occurrence or during the impact of the "dangerous" phenomenon. These criteria contribute to taking measures in the supplies and services in times of emergency to mitigate the damages after the event.

The relationship between the economically inactive population (under 18 years old and people over 65 years old) with respect to the total active population (15-64 years), shows the burden on the adult's availability in a certain population and its importance in the diagnosis of vulnerability. All this is about the relationship between the three age groups, and therefore a greater potential dependence will be indicative of greater vulnerability.

On the other hand, in the operational planning of the different moments of disaster risk management: prevention, response and recovery, this relationship is essential to previously estimate the number of people who would be in charge of others in the decision making process and for the concrete actions to be carried out.

For studies of disaster risk perception, it is important to have data regarding the age distribution of the population (children, youth, adults, elderly), to take into account the "weaknesses" or potential "capabilities" in each of them to face hazardous situations.

In a dangerous situation, adults are supposed to combine physical energy and knowledge to make decisions. Another segment of the population, young people, have the physical capacity, but with inexperience or low decision-making capacity. The last segment, the elderly, supposes a high capacity for decision making, having few or lack of physical capacity. All these differences, strengths, knowledge, abilities of people according to their age also reflect differences according to their sex and gender construction, as women or men.

This information is necessary for the design of education and communication actions and different strategies depending on the population group to which it is addressed, whether they are young people, adults or potentially active elderly people. At the same time, the criteria for living conditions at the household level must be conceived, based on the satisfaction or not of the basic needs and the ways of action in the respective social life.

Indicators are used such as: level of income per family groups, family support system, number of rooms (degree of overcrowding), etc.⁴

It is important to keep in mind that Cuba is a country with low fertility, below replacement level since the 70s, and has a low infant mortality and a high life expectancy at birth, only comparable with first world countries. However, there is a high degree of aging population that occurs irreversibly. In 2012, 18.3% of its population was aged. This group of 60 and over has experienced uninterrupted growth.⁵

Most of the provinces have more than 15% of their population aged⁶. According to official projections for 2030, 31% of the population will be in this population group. This constitutes a challenge in terms of social security, economic sustainability, development of health sectors, services in general and work relationships. It is important to consider the progressive increase of the economically dependent population opposing the population in productive ages. The active population will decrease steadily from 2018.⁷

Other indicators to take into account are the fertility levels in mothers over 30 years of age and teenagers, as well as internal migration, which is identified with a high number of sending municipalities (105 of the 168, in 2011). Meanwhile, international migration is an indicator that manifests itself with negative balances since the 30's of the last century, an element that does not coincide with similar demographic scenarios.

The analysis of the population is the main focus for studies of risk perception by natural hazards, a topic that has been addressed in specific indicators at the province, municipality, popular council, neighborhood or community levels. These indicators have been: gender, age, level of education obtained,

⁴ To widen knowledge on the topic, refer to: Cortés, Noemí, S.A. Cuba: Mujeres en el vórtice de los desastres.

Available in <http://rotativo.com.mx/noticias/internacionales/432692-cuba-mujeres-en-el-vortice-de-los-desastres/>

⁵ See population pyramids of the population and household's census on 1970, 2002 and 2012. In *Informe Final Censo de Población y Viviendas, 2012*.

⁶ See percentage of population older than 60 years old in regard to total population. In *Informe Final Censo de Población y Viviendas, 2012*.

⁷ See graph: Evolución de la estructura por edades de la población, años seleccionados, elaborado con datos de la ONE. Anuario Estadístico de Cuba www.one.cu (Bayón, 2013)

occupational situation, work sector, occupational category, residence time in the people's council, size of the family group, number of children up to 13 years old, number of elderly people 65 years old and housing conditions.

In this sense, all the mentioned characteristics make people less or more capable to face disasters without risk to their lives and to recover after them. In fact, this is how the relationship between the population and its behavior against vulnerabilities (physical, structural, etc.) is shaped to reduce risks. Similarly, analyzing the perception of risk as an indicator of the study of social vulnerability can interpret the degree of preparedness of the actors to face the possible threats of natural phenomena.

The data entry of the survey applied will be made through the digital design of the survey with the computerized Data Entry program of the SPSS (Statistic Package Social Sciences), version 4.0.

The analysis of the information will be done with the IBM SPSS Statistics version 22.0 program. The detailed study of the data will be carried out with the original variables and with others that will be recoded according to the interest of the investigation. The variables will be crossed with demographic indicators (gender, age, level of education, occupation, time of residence in the popular council, size of the family group, etc.) to obtain contingency and frequency tables, as well as multiple answers.

This program allows to perform recodifications and build scales for three values, and obtaining a total perception taking into account the results of all the questions and the levels of danger perception in each of them.

Each answer was assigned the following score: Group I was assigned the score of 1 point; Group II, the score of 2 points; and Group III, the score of 3 points. At the end, the amount of points obtained for each answer is summed. In this way there is a minimum and a maximum of points to reach, so it allows structuring three groups of general perception facing the risk of flooding due to heavy rains.

Group I of high perception: Higher level of elaboration of judgments and importance before the flood risk due to heavy rains. People know how hazards can affect them and the area where they live, know what to do in case of being impacted by hydro-meteorological hazards and have confidence in the protection provided by the institutions.

Group II of average perception: Intermediate level of elaboration of judgments and importance before the risk of flooding by intense rains. It groups people with some cognitive deficiencies and/or practices in relation to hydro-meteorological hazards, and they keep confidence in the protection provided by the institutions.

Group III of low perception: No level of elaboration of judgments and importance before the flood risk due to intense rains. Here are the respondents who do not know how the hydro-meteorological hazards can affect them or do not know how to act if they are impacted by them. This is the most exposed sector, therefore, the most vulnerable.

Dimensions, variables and indicators to be studied the social aspects of HVR studies

dimensions	variables	indicators
Demographic characteristics	Gender	• Female • Male
	Age	• Amount in years
	Marital or civil status	• Married • Joined • Divorced • Widow/widower • Single • Separated
	Level of instruction obtained	• Elementary • High/secondary school • Technician • Pre-university • University • Qualified worker • None
	Occupational situation	• Worker • Farmer • Student • House wife/husband • Retired • Pensioned • Unemployed

	Salaried worker and farmer by sector	• State • In cuban mercantile companies • Joint venture • Permanently or temporarily contracted in agricultural activities • Foreign enterprises • Free-lance
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DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

dimensions	variables	indicators
Demographic characteristics	Salaried worker and peasant by sector (cont.)	• In UBPC • Hired by non-agricultural private households • In CPA • In other cooperatives • Small farmer associated or not to CCS • Unpaid family helper • Usufructuary of the land associated or not to CCS • Partner of a non-agricultural cooperative • Other
	Total number of people in the family group	• Total amount • Male amount • Female amount
	Person with greater authority at home and why it is considered as such	• The person interviewed • Another male person • Another female person

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

		• Because she/he is the owner of the house • Because she/he is the person who makes the greatest economic contribution to the home • Because she/he is the oldest person • Because she/he is the person with the highest level of education • Because she/he is the man of the house • Because she/he is the woman of the house
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dimensions	variables	indicators
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DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

Demographic characteristics	Person with greater authority at home and why it is considered as such (cont.)	• Others • Does not know • Does not answer
	Number of children in the family	• Children 0 to 9 years old (total amount) • Number of children from 0 to 9 years old • Number of girls from 0 to 9 years old • Children from 10 to 16 years old (Total amount) • Number of children from 10 to 16 years old • Number of girls from 10 to 16 years old
	Number of older adults in the family	• Adults over 65 to 79 years old (total amount) • Number of male adults over 65 to 79 years old • Number of female adults over 65 to 79 years old • Adults older than 80 and over (total amount) • Number of male adults older than 80 years old and over • Number of female adults older than 80 years old and over.

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

	Amount of people with disabilities in the family	• Total amount of disabled people • Number of male disabled people • Number of female disabled people
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dimensions	variables	indicators
Demographic characteristics	Type of disability	• Motor-physical • Visual • Hearing • Mental (psychiatric problems) • Multiple • Chronic renal failure • Mental retardation • None of the above • Other • Does not know • Does not respond
	Constructive conditions of the house	• Good • Regular • Bad • Uncertain • Does not know

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

	Living time at the people’s council	• Less than 1 year • From 1 to 5 years • From 6 to 9 years • More than 10 years • Permanent since born
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dimensions	variables	indicators
Knowledge of flood risk due to heavy rains	Occurrence of damages	• yes • No • Does not know
	Type of affectations had	• House flooding • Moisture on the floor and walls • Food contamination • Partial or total collapse of the house • Loss of food • Loss of household goods • Difficulties for water consumption due to contamination • Death by drowning • Death by other causes • Loss of productive or domestic animals • Accumulation of garbage or solid waste • Loss of crops • Other • Does not know • Does not answer

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

	Considerations about possible future effects	• Yes • No • Does not know • Does not answer
	Evaluation of the behavior of the population (how they felt) during the hazard	• (trusting - distrustful) • (quiet - restless) • (safe - unsafe) • (serene - anguished)

dimensions	variables	indicators
Knowledge of flood risk due to heavy rains	Own perception with conditions to face the danger (take measures that diminish or mitigate the impacts of the flood)	• yes • No • Does not know • Does not answer • (qualitative assessment)
	Future action of the population to face hazard	• Would you do the same as the previous time • Would you take other measures • Does not know • Does not answer
	Knowledge of possible flood areas in your community	• Yes • No • Does not know • Does not answer
	Areas of possible flooding	• Roads • Electrical networks • Sewerage system

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

		• Railway tracks • Water supply ducts • Others (gas, communications) • Housing and community facilities
	Causes of the intensity of flood due to heavy rains	• Caused by human beings • Supernatural causes • The non-adoption of measures by the population • Natural causes • Other • Does not know • Does not answer

dimensions	variables	indicators
Knowledge of flood risk due to heavy rains	Preventive measures against floods due to heavy rains	• Keep rivers, ditches and canals clean • Carry out pruning and cutting tree actions • Build houses away from riverbed or river floodplain • Build housing in high areas and with easy drainage • Clean sewerage of houses and external patios • Keep street and sewer clean

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

	Preparedness measures to face heavy rain	• Other • Does not know • Does not answer • Keep informed • Clean the roofs and drainages • Secure furniture, electric appliances, ceilings, TV antennas and homes • Guarantee the operation of medical clinics • Store water • Secure food, medication and other necessary supplies • Organize evacuation if necessary • Evacuate state and private animals • Protect productive animals and pets
--	--	--

dimensions	variables	indicators
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DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

Knowledge of flood risk due to heavy rains	Preparedness measures to face heavy rain (cont.)	• Protect health and education facilities or warehouses and other important resources • Other • Does not know • Does not answer
dimensions	variables	indicators
Hazard management activity (Disasters Reduction Plans)	Management strategies	• Evaluation of measures and trust in the following people and institutions: »Provincial and municipal Defense Council »Community organizations »Executives of work centers »Principals of study centers »Mass Media »Family (male or female) »Friend (male or female) »Neighbor (male or female) »Others » Nobody »Does not know »Does not answer

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

dimensions	variables	indicators
Hazard management activity (Disasters Reduction Plans)	Personal collaboration in the community to reduce the effects of flooding through information received from the mass media	• Communication of measures • Sanitation work • Animal evacuation • Harvesting of done crops • Preparing the community evacuation • Collaboration with friends and neighbors in the evacuation • Implementation of measures guided by the competent bodies, example: unplug electricity, close house gas inlets • Participation in the construction and / or repair of housing • Other • Does not know • Does not answer

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

	Evaluation of the government, social and service institutions work before, during and after the flood	Evaluation of Good, Fair, Bad or Does not know about: • Information from the mass media • Support and attention received by relatives • Compliance with sanitary measures • Protection measures adopted by the People's Power • Medical care • Coordination between different mass organizations • Personal behavior
--	---	--

dimensions	variables	indicators
Social vulnerability	Gender condition of women and men	Socio-demographic data of women and men (disaggregated according to them and seen in relation) related to: •age •civil status •level of instruction • occupational situation • sector where you are a worker • if you are the person with the highest authority • why it is considered the most authoritative person

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

		• if you are a person with a disability • level of knowledge about flood risk • level of impact on flood risk • collaboration provided in the community • preventive measures taken • preparedness measures taken • guiding and trust in institutions and people to prevent damage caused by danger (family, friend, neighbor)
--	--	--

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

dimensions	variables	indicators
Social vulnerability	Perception on those who offered more cooperation, whether women or men, in different aspects analyzed	Women or men collaborated more in: • showing concern about the flood • visiting house by house • evacuating faster • Guiding to the population • showing more training or knowledge • Collaborating in the evacuation tasks • Paying attention to the informative notices by different means of information • Other • Does not know • Does not answer
	Factors affecting a bigger cooperation from men	• Assignment of tasks outside the People’s Council • Care for sick or disabled people • Lack of initiative and willingness for cooperation • They were in recreational and leisure activities • They had physical and health limitations

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

		• Other • Does not know • Does not answer
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dimensions	variables	indicators
Social vulnerability	Factors affecting a bigger cooperation from women	• They were with kids • They were with older, disabled or sick people • They had physical or health limitations • There were taboos, beliefs or opinions on cooperation • There is lack of motivation and willingness to cooperate • Disaster risk positions were assigned to men • Other • Does not know • Does not answer
	Negative actions from men in a flood event	• Qualitative analysis on negative actions from men • Does not know • Does not answer
	Negative actions from women in a flood event	• Qualitative analysis on negative actions from women • Does not know • Does not answer

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

dimensions	variables	indicators
Social vulnerability	Physical-geographic	• Relief, location of your home in a low area • Constructions and / or architectural modifications that increase flood intensity • Lack of or difficulties with the water supply for consumption • Closeness of your home to the course of a river, floodplain or old river bed • Poor housing condition • Closeness to the coastal area • The community does not cooperate with sanitation • Proximity to dams and / or drainage channels • Other • Does not know • Does not answer

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

dimensions	variables	indicators
Characteristics of the evacuation	Knowledge of whether they should be evacuated or not	• Yes • No • Does not know • Dos not answer
	Provision for the evacuation of the family	• Yes • No • Does not know • Does not answer
	Compliance with directed evacuation	• Yes • No • Does not know • Does not answer
	Knowledge about the people who should be evacuated	• Pregnant women • Children under 16 years old • People who live in risk places • Men and women with disabilities or health problems • Nobody, because people are in safe places • Does not know • Does not answer

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

	Causes for evacuation	• Protection of your life and that of family members • Because the area is uncommunicated • Protection of houses and personal belongings • Bad house condition, is not safe • Other • Does not know • Does not answer
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dimensions	variables	indicators
Characteristics of the evacuation	Knowledge of your community evacuation plan	• Yes • No • Does not know • Does not answer

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

	Measures to be taken before the evacuation	• Bring food • Evacuate productive and domestic animals to safe places • Prepare a medication kit with medicines • Stay informed • Collect and distribute the crops • Bring water • Take care of the hygiene and cleanliness of the evacuation room • Wear the necessary clothes • Prioritize children under 16 years of age • Prioritize pregnant women, disabled people and the elderly • Protect equipment and personal items • Does not know • Does not answer
--	--	--

DIMENSIONS, VARIABLES AND INDICATORS TO BE STUDIED IN THE SOCIAL ASPECTS OF HVR STUDIES (TO BE CONTINUED)

	Suggestions to decrease the negative effects of floods	• Suggestions, identification of people's actions to reduce the effects (qualitative responses) » Before the flood due to heavy rains » During the flood due to heavy rains » After the flood due to heavy rains » Does not know » Does not answer
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Ayuda Humanitaria



Al servicio
de las personas
y las naciones



Fortalecimiento del Sistema
de Alerta Temprana
Hidrometeorológico



VIGILAR



DECIDIR



AVISAR



PROTEGER

ENCUESTA A LA POBLACIÓN

SOBRE EL RIESGO DE INUNDACIÓN

POR INTENSAS LLUVIAS



Survey to the population on flood risk due to heavy rains

FOLIO

The Environment Agency (AMA) and the Delegations of the Ministry of Science, Technology and Environment (CITMA) of Sancti Spíritus and Villa Clara, through the project for Strengthening the Hydro-meteorological Early Warning System (FORSAT), are conducting a study to evaluate the level of population perception in the face of flood due to heavy rains and their impacts, with the aim of improving the prevention and response strategy. We appreciate your valuable collaboration and we guarantee the anonymous nature of your answers.

SECCIÓN I. DATOS DE LA PERSONA ENCUESTADA

1. PROVINCIA	2. MUNICIPIO	3. CONSEJO POPULAR

4. SEXO	MASCULINO ☐	FEMENINO ☐	5. EDAD _____ AÑOS
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6. ESTADO CIVIL Y/O CONYUGAL. <i>Debe marcar una opción.</i>		
CASADO/A ☐	UNIDO/A ☐	DIVORCIADO/A ☐
VIUDO/A ☐	SOLTERO/A ☐	SEPARADO/A ☐

7. NIVEL DE INSTRUCCIÓN VENCIDO. <i>Debe marcar una opción.</i>			
PRIMARIA ☐	SECUNDARIA ☐	TÉCNICO MEDIO ☐	PREUNIVERSITARIO ☐
SUPERIOR ☐	OBRAERO CALIFICADO ☐	NINGUNO ☐	

8. SITUACIÓN OCUPACIONAL. <i>Debe marcar una opción.</i>		
TRABAJADOR/A ☐	CAMPESINO/A ☐	ESTUDIANTE ☐
AMO/A DE CASA ☐	JUBILADO/A ☐	PENSIONADO/A ☐
DESOCUPADO/A ☐		

Si marcó la opción de trabajador/a asalariado/a o campesino/a responda la pregunta 9.
Si no, pase a la pregunta 10.

9. SI ES TRABAJADOR/A ASALARIADO/A O CAMPESINO/A, ESPECIFIQUE EL SECTOR. <i>Debe marcar una opción.</i>			
ESTATAL ☐	EN SOCIEDADES ☐	EN ASOCIACIÓN ☐	CONTRATADO/A ☐
	MERCANTILES	MIXTA	PERMANENTEMENTE O TEMPORAL EN ACTIVIDADES AGROPECUARIAS
	CUBANAS		
EN FIRMAS ☐	CUENTA PROPIA ☐	EN UBPC ☐	CONTRATADO/A POR ☐
EXTRANJERAS			PRIVADO NO AGROPECUARIO EN HOGARES
EN CPA ☐	EN OTRAS ☐	PEQUEÑO/A ☐	AYUDANTE FAMILIAR ☐
	COOPERATIVAS	AGRICULTOR/A	NO REMUNERADO/A
		ASOCIADO/A	
		O NO A CCS	
USUFRUCTUARIO/A DE LA TIERRA ☐	SOCIO/A ☐	OTRA ☐	
ASOCIADO/A O NO A CCS	DE COOPERATIVA	¿CUÁL? _____	
	NO AGROPECUARIA	_____	

SECCIÓN I. DATOS DE LA PERSONA ENCUESTADA (CONTINUACIÓN)

10. CANTIDAD TOTAL DE PERSONAS QUE INTEGRAN SU NÚCLEO FAMILIAR.			
CANTIDAD _____	CANTIDAD SEGÚN SEXO:	MASCULINO _____	FEMENINO _____

11. ¿CUÁL ES LA PERSONA DE MAYOR AUTORIDAD EN SU HOGAR? *Debe marcar una opción.*

LA PERSONA ☐ OTRA PERSONA ☐ ESPECIFIQUE EL SEXO: MASCULINO ☐ FEMENINO ☐

ENTREVISTADA

[illegible]

SECCIÓN I. DATOS DE LA PERSONA ENCUESTADA (CONTINUACIÓN)

13. CANTIDAD TOTAL DE NIÑOS/AS EN SU NÚCLEO FAMILIAR. <i>Puede marcar varias opciones.</i>			
DE 0 A 9 AÑOS _____	CANTIDAD SEGÚN SEXO:	MASCULINO _____	FEMENINO _____
DE 10 A 16 AÑOS _____	CANTIDAD SEGÚN SEXO:	MASCULINO _____	FEMENINO _____

14. CANTIDAD TOTAL DE PERSONAS ADULTAS MAYORES EN SU NÚCLEO FAMILIAR. <i>Puede marcar varias opciones.</i>			
DE 65 A 79 AÑOS ____	CANTIDAD SEGÚN SEXO:	MASCULINO ____	FEMENINO ____
DE 80 Y MÁS AÑOS ____	CANTIDAD SEGÚN SEXO:	MASCULINO ____	FEMENINO ____

15. CANTIDAD TOTAL DE PERSONAS CON DISCAPACIDAD QUE VIVEN EN SU NÚCLEO FAMILIAR			
CANTIDAD _____	CANTIDAD SEGÚN SEXO:	MASCULINO _____	FEMENINO _____

Si en su núcleo familiar viven personas con discapacidades, responda la pregunta 16 sobre el tipo de discapacidad. Si no, pase a la pregunta 17.

16. TIPO DE DISCAPACIDAD. <i>Puede marcar varias opciones.</i>					
FÍSICO MOTORA	☐	VISUAL	☐	AUDITIVA	☐
MENTAL (PROBLEMAS PSQUIÁTRICOS)	☐	MÚLTIPLE	☐	INSUFICIENCIA RENAL CRÓNICA	☐
RETRASO MENTAL	☐	NINGUNA DE LAS ANTERIORES	☐		
OTRAS ☐ ¿CUÁLES? _____ _____ _____ _____ _____ _____ _____ _____ _____ _____					
NO SABE ☐ NO RESPONDE ☐					

SECCIÓN I. DATOS DE LA PERSONA ENCUESTADA (CONTINUACIÓN)

17. ESTADO CONSTRUCTIVO DE LA VIVIENDA. *Debe marcar una opción.*

BUENO ☐ REGULAR ☐ MALO ☐ TIENE DUDAS ☐ NO SABE ☐

18. TIEMPO DE RESIDENCIA EN EL CONSEJO POPULAR. <i>Debe marcar una opción.</i>		
MENOS DE 1 AÑO	☐	DE 1 A 5 AÑOS ☐ DE 6 A 9 AÑOS ☐
MÁS DE 10 AÑOS	☐	PERMANENTE DESDE QUE NACÍÓ ☐

[illegible]

SECCIÓN II. PREGUNTAS RELACIONADAS CON EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS

19. ¿HA TENIDO USTED O SU FAMILIA AFECTACIONES POR ALGUNA INUNDACIÓN?
Debe marcar una opción.

SÍ☐

NO☐

NO SABE☐

Si la respuesta es afirmativa responda la pregunta 20, si es negativa pase a la pregunta 21.

20. ¿PODRÍA DECIR QUÉ TIPO DE AFECTACIONES TUVO? *Puede marcar varias opciones.*

INUNDACIÓN DE LA VIVIENDA	☐	HUMEDAD EN EL PISO Y LAS PAREDES	☐
CONTAMINACIÓN DE LOS ALIMENTOS	☐	DERRUMBE PARCIAL O TOTAL DE LA VIVIENDA	☐
PÉRDIDA DE ALIMENTOS	☐	PÉRDIDA DE ENSERES DOMÉSTICOS	☐
DIFICULTADES PARA EL CONSUMO DE AGUA POR SU CONTAMINACIÓN	☐	MUERTE POR AHOGAMIENTO	☐
PÉRDIDAS DE ANIMALES PRODUCTIVOS O DOMÉSTICOS	☐	MUERTE POR OTRAS CAUSAS	☐
PÉRDIDA DE COSECHAS	☐	ACUMULACIÓN DE BASURA O DESECHOS SÓLIDOS	☐

OTRAS☐

¿CUÁLES?

NO SABE☐

NO RESPONDE☐

21. ¿QUÉ CAUSAS CONSIDERA USTED PUEDEN INCIDIR EN QUE LA INUNDACIÓN POR LLUVIAS SEA MÁS INTENSAS? *Puede marcar varias opciones.*

CAUSAS PROVOCADAS POR EL SER HUMANO	☐	CAUSAS SOBRENATURALES	☐	LA NO ADOPCIÓN DE MEDIDAS POR PARTE DE LA POBLACIÓN	☐
-------------------------------------	--------------------------	-----------------------	--------------------------	---	--------------------------

CAUSAS NATURALES

☐

OTRAS☐

¿CUÁLES?

NO SABE☐

NO RESPONDE☐

SECCIÓN II. PREGUNTAS RELACIONADAS CON EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS (CONTINUACIÓN)

22. ¿HA REALIZADO USTED ALGUNA DE LAS SIGUIENTES TAREAS PARA REDUCIR EL IMPACTO DE LA INUNDACIÓN? Puede marcar varias opciones.

MEDIDAS PREVENTIVAS ANTE LA INUNDACIÓN POR INTENSAS LLUVIAS

MANTENER LA LIMPIEZA DE RÍOS, ZANJAS Y CANALES ☐

CUMPLIR CON LA PODA Y TALA DE LOS ÁRBOLES ☐

CONSTRUIR VIVIENDAS ALEJADAS DEL CAUCE O LLANURA DE INUNDACIÓN DEL RÍO ☐

CONSTRUIR VIVIENDAS EN ZONAS ALTAS Y CON FÁCIL DRENAJE ☐

DESTUPIR LOS TRAGANTES DE LAS CASAS Y PATIOS EXTERIORES ☐

MANTENER LA LIMPIEZA DE CALLES Y ALCANTARILLAS ☐

OTRAS ☐ ¿CUÁLES? _____

NO SABE ☐

NO RESPONDE ☐

23. ¿TIENE USTED CONOCIMIENTO DE LAS ÁREAS QUE SE INUNDAN EN SU COMUNIDAD? Debe marcar una opción.

SÍ ☐

NO ☐

NO SABE ☐

NO RESPONDE ☐

Si la respuesta es afirmativa responda la pregunta 24, si es negativa pase a la pregunta 25.

24. ¿PODRÍA SEÑALAR QUÉ ÁREAS CONSIDERA USTED QUE SE PUEDEN INUNDAR? Puede marcar varias opciones.

CARRETERAS ☐ REDES ELÉCTRICAS ☐ RED DE ALCANTARILLADO ☐

LÍNEAS FÉRREAS ☐ CONDUCTOS DE ABASTECIMIENTO DE AGUA ☐ OTRAS (GAS, COMUNICACIONES) ☐

VIVIENDAS E INSTALACIONES COMUNITARIAS ☐

SECCIÓN II. PREGUNTAS RELACIONADAS CON EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS (CONTINUACIÓN)

25. ANTE EL AVISO DE CICLÓN TROPICAL (HURACÁN O TORMENTA), ¿QUÉ MEDIDAS CONSIDERA NECESARIAS PARA ENFRENTAR UNA POSIBLE INUNDACIÓN POR INTENSAS LLUVIAS? *Puede marcar varias opciones.*

MEDIDAS PARA LA FASE DE PREPARACIÓN ANTE UNA POSIBLE INUNDACIÓN POR INTENSAS LLUVIAS

[illegible]

SECCIÓN II. PREGUNTAS RELACIONADAS CON EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS (CONTINUACIÓN)

26. SEÑALE EN CADA CASO, DE LAS SIGUIENTES PERSONAS E INSTITUCIONES, ¿QUIÉNES LE ORIENTAN Y EN QUIÉNES CONFÍA PARA PREVENIR LOS POSIBLES DAÑOS PROVOCADOS POR LA INUNDACIÓN POR INTENSAS LLUVIAS? *Puede marcar varias opciones en cada columna y fila.*

PERSONAS E INSTITUCIONES	LE ORIENTAN	LE TIENE CONFIANZA
CONSEJO DE DEFENSA PROVINCIAL Y MUNICIPAL	☐	☐
ORGANIZACIONES DE LA COMUNIDAD	☐	☐
DIRECTIVOS/AS DEL CENTRO DE TRABAJO	☐	☐
DIRECTIVOS/AS DEL CENTRO DE ESTUDIO	☐	☐
MEDIOS DE COMUNICACIÓN MASIVA	☐	☐
FAMILIAR. ESPECIFIQUE EL SEXO	MASCULINO ☐ FEMENINO ☐	MASCULINO ☐ FEMENINO ☐
AMIGO/A. ESPECIFIQUE EL SEXO	MASCULINO ☐ FEMENINO ☐	MASCULINO ☐ FEMENINO ☐
VECINO/A. ESPECIFIQUE EL SEXO	MASCULINO ☐ FEMENINO ☐	MASCULINO ☐ FEMENINO ☐
OTRAS PERSONAS ☐ ¿CUÁLES? _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____		
NINGUNA ☐		
NO SABE ☐		
		NO RESPONDE ☐

SECCIÓN II. PREGUNTAS RELACIONADAS CON EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS (CONTINUACIÓN)

27. ¿QUÉ COLABORACIÓN BRINDÓ EN SU COMUNIDAD PARA DISMINUIR LAS AFECTACIONES ANTE LA INUNDACIÓN POR INTENSAS LLUVIAS? *Puede marcar varias opciones.*

AYUDÓ A COMUNICAR Y TRANSMITIR A LA POBLACIÓN LAS MEDIDAS QUE DEBEN TOMARSE ANTE LA INUNDACIÓN POR INTENSAS LLUVIAS

1

TRABAJÓ EN EL SANEAMIENTO DE LA COMUNIDAD

□

PARTICIPÓ EN LA EVACUACIÓN DE ANIMALES

7

PARTICIPÓ EN LA RECOGIDA DE COSECHAS A TÉRMINO

7

AYUDÓ EN LA PREPARACIÓN DE LA EVACUACIÓN DE LA COMUNIDAD

7

COOPERÓ EN LA EVACUACIÓN DE SU VIVIENDA O DE OTRAS VIVIENDAS DE AMIGOS/AS, VECINOS/AS

--	--

REALIZÓ ALGUNAS MEDIDAS ORIENTADAS POR LOS ÓRGANOS COMPETENTES, COMO:
DESCONECTAR LA ELECTRICIDAD Y CERRAR LAS LLAVES DEL GAS EN LAS CASAS

7

PARTICIPÓ EN LA CONSTRUCCIÓN Y/O REPARACIÓN DE VIVIENDAS

9

OTRAS ☐ ¿CUÁLES? _____

1

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, leaving small margins at the top and bottom. There are no vertical margin lines, and the page is completely blank except for the lines themselves.

NO SABE ☐

7

NO RESPONDE ☐

9

SECCIÓN II. PREGUNTAS RELACIONADAS CON EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS (CONTINUACIÓN)

29. DIGA QUÉ POSIBLES CAUSAS IMPIDIERON QUE FUERA MAYOR LA COOPERACIÓN BRINDADA POR LOS HOMBRES. <i>Puede marcar varias opciones.</i>	
SE LE ASIGNARON TAREAS MÁS URGENTES O DIFÍCILES FUERA DEL CONSEJO POPULAR	☐
DEBÍAN CUIDAR A LOS/LAS ANCIANOS/AS, LOS/LAS ENFERMOS/AS Y LOS/LAS DISCAPACITADOS/AS DE SUS FAMILIAS	☐
TENÍAN FALTA DE INICIATIVA Y DE VOLUNTAD PARA COOPERAR	☐
ESTABAN EN ACTIVIDADES RECREATIVAS Y DE OCIO	☐
TUVIERON LIMITACIONES FÍSICAS Y DE SALUD PARA COOPERAR	☐
OTRAS ☐ ¿CUÁLES? _____	

NO SABE ☐	NO RESPONDE ☐

30. DIGA QUÉ POSIBLES CAUSAS IMPIDIERON QUE FUERA MAYOR LA COOPERACIÓN BRINDADA POR LAS MUJERES. <i>Puede marcar varias opciones.</i>	
ESTABAN EN EL HOGAR CON LOS/AS NIÑOS/AS	☐
DEBÍAN CUIDAR A LOS/LAS ANCIANOS/AS, LOS/LAS ENFERMOS/AS Y LOS/LAS DISCAPACITADOS/AS DE SUS FAMILIAS	☐
TUVIERON LIMITACIONES FÍSICAS Y DE SALUD PARA COOPERAR	☐
EXISTÍAN TABÜES, CREENCIAS O VALORACIONES QUE IMPIDIERON SU COOPERACIÓN	☐
TENÍAN FALTA DE INICIATIVA Y DE VOLUNTAD PARA COOPERAR	☐
LOS CARGOS RELACIONADOS CON LOS RIESGOS DE DESASTRES POR INUNDACIÓN ESTABAN OCUPADOS POR HOMBRES	☐
OTRAS ☐ ¿CUÁLES? _____	

NO SABE ☐	NO RESPONDE ☐

SECCIÓN II. PREGUNTAS RELACIONADAS CON EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS (CONTINUACIÓN)

32. ¿CÓMO EVALÚA LOS SIGUIENTES ASPECTOS ANTES, DURANTE Y DESPUÉS DE LA INUNDACIÓN POR INTENSAS LLUVIAS? <i>Debe marcar una sola opción en cada etapa: antes, durante y después.</i>					
		BIEN	REGULAR	MAL	NO SABE
LA INFORMACIÓN RECIBIDA POR LOS MEDIOS DE DIFUSIÓN MASIVA SOBRE LAS MEDIDAS A ADOPTAR	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
EL APOYO Y ATENCIÓN RECIBIDA POR FAMILIARES	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
LAS MEDIDAS DE PROTECCIÓN Y AYUDA ADOPTADAS POR EL PODER POPULAR	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
LA ATENCIÓN MÉDICA	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
LA COORDINACIÓN ENTRE LAS DIFERENTES ORGANIZACIONES DE MASAS	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
EL CUMPLIMIENTO DE LAS MEDIDAS SANITARIAS	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
SU PROPIA ACTUACIÓN	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐

33. ¿CÓMO SE SINTIÓ USTED AL ENFRENTAR LA INUNDACIÓN POR INTENSAS LLUVIAS? <i>Evaluar en una escala de 1 a 5, leer alternativas y debe marcar una sola opción en cada una de ellas.</i>						
	1	2	3	4	5	
CONFIADO/A	☐	☐	☐	☐	☐	DESCONFIADO/A
TRANQUILO/A	☐	☐	☐	☐	☐	INTRANQUILO/A
SEGURO/A	☐	☐	☐	☐	☐	INSEGURO/A
SERENO/A	☐	☐	☐	☐	☐	ANGUSTIADO/A

[illegible]

SECCIÓN III. PREGUNTAS RELACIONADAS CON FUTURAS INUNDACIONES POR INTENSAS LLUVIAS

34. ¿CONSIDERA POSIBLE QUE EN EL FUTURO USTED Y SU FAMILIA PUEDAN SER AFECTADOS/AS POR ALGUNA INUNDACIÓN POR INTENSAS LLUVIAS? <i>Debe marcar una sola opción.</i>			
SÍ ☐	NO ☐	NO SABE ☐	NO RESPONDE ☐

35. DE LOS SIGUIENTES FACTORES, ¿CUÁLES SON LOS QUE MÁS INFLUYEN EN LAS POSIBLES AFECTACIONES QUE PUDIERAN SUFRIR USTED Y SU FAMILIA? <i>Puede marcar varias opciones.</i>	
RELIEVE, UBICACIÓN DE SU VIVIENDA EN UNA ZONA BAJA ☐	CONSTRUCCIONES Y/O MODIFICACIONES ARQUITECTÓNICAS QUE MAXIMIZAN LA INTENSIDAD DE LA INUNDACIÓN ☐
CERCANÍA DE SU VIVIENDA AL CURSO DE UN RÍO, PLANO DE INUNDACIÓN O ANTIGUO CAUCE DE UN RÍO ☐	MAL ESTADO DE LA VIVIENDA ☐
CERCANÍA A PRESAS Y/O CANALES DE DRENAJE PLUVIAL ☐	CARENCIA O DIFICULTADES CON EL ABASTO DE AGUA PARA EL CONSUMO HUMANO ☐
CERCANÍA A ZONA COSTERA ☐	ACUMULACIÓN DE DESECHOS DOMÉSTICOS Y ESCOMBROS EN ÁREAS DE LA COMUNIDAD ☐
ESTADO DE REDES DE DRENAJE PLUVIAL (INEXISTENTES, INSUFICIENTES, TUPIDAS) ☐	ESTADO DE LAS REDES DE ALCANTARILLADO (INEXISTENTES, INSUFICIENTES, TUPIDAS) ☐
LOS HOMBRES NO COOPERAN EN LA HIGIENIZACIÓN ☐	LAS MUJERES NO COOPERAN EN LA HIGIENIZACIÓN ☐
LA COMUNIDAD NO COOPERA EN LA HIGIENIZACIÓN ☐	
OTRAS ☐ ¿CUÁLES? _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	
NO SABE ☐	NO RESPONDE ☐

SECCIÓN III. PREGUNTAS RELACIONADAS CON FUTURAS INUNDACIONES POR INTENSAS LLUVIAS (CONTINUACIÓN)

36. EN EL FUTURO, ANTE UN EVENTO DE INUNDACIÓN POR INTENSAS LLUVIAS ¿CÓMO USTED ACTUARÍA?
Debe marcar una sola opción.

HARÍA LO MISMO QUE LA VEZ ANTERIOR ☐

¿TOMARÍA OTRAS MEDIDAS? ☐

¿CUÁLES? _____

NO SABE ☐

NO RESPONDE ☐

37. ¿CONSIDERA QUE TIENE CONDICIONES PARA TOMAR LAS MEDIDAS ADECUADAS QUE DISMINUYAN O MITIGUEN LOS IMPACTOS DE LA INUNDACIÓN POR INTENSAS LLUVIAS? *Debe marcar una sola opción.*

SÍ ☐ ¿POR QUÉ? _____

NO ☐ ¿POR QUÉ? _____

NO SABE ☐

NO RESPONDE ☐

SECCIÓN III. PREGUNTAS RELACIONADAS CON FUTURAS INUNDACIONES POR INTENSAS LLUVIAS (CONTINUACIÓN)

38. ¿CONSIDERA QUE ANTE LA OCURRENCIA DE UN EVENTO DE ESTA NATURALEZA, USTED Y SU FAMILIA DEBEN EVACUARSE? *Debe marcar una sola opción.*

NO RESPONDE ☐

Si la respuesta es afirmativa responda la pregunta 39, si es negativa pase a la pregunta 40.

39. ¿PODRÍA DECIR POR QUÉ CONSIDERA QUE DEBEN EVACUARSE? *Puede marcar varias opciones.*

7

7

7

7

OTRAS ☐ ¿CUÁLES? _____

NO RESPONDE ☐

40. ¿ESTÁ PREVISTA LA EVACUACIÓN DE SU FAMILIA? *Debe marcar una sola opción.*

NO RESPONDE ☐

41. ¿CUMPLE CON LA EVACUACIÓN UNA VEZ QUE SE ORIENTE? *Debe marcar una sola opción.*

NO RESPONDE ☐

SECCIÓN III. PREGUNTAS RELACIONADAS CON FUTURAS INUNDACIONES POR INTENSAS LLUVIAS (CONTINUACIÓN)

42. ¿QUÉ PERSONAS DEBEN SER EVACUADAS ANTE LA INUNDACIÓN POR INTENSAS LLUVIAS?

Puede marcar varias opciones.

LAS MUJERES EMBARAZADAS	☐
LOS NIÑOS Y LAS NIÑAS MENORES DE 16 AÑOS DE EDAD	☐
LAS PERSONAS QUE VIVEN EN LUGARES DE RIESGO (CAUCES O EMBALSES DE LOS RÍOS, ZONAS BAJAS)	☐
LOS HOMBRES Y LAS MUJERES QUE PRESENTAN DISCAPACIDADES Y/O PROBLEMAS DE SALUD	☐
NADIE, PORQUE LAS PERSONAS ESTÁN EN LUGARES SEGUROS	☐
NO SABE	☐
NO RESPONDE	☐

43. ¿CONOCE USTED QUE EXISTE UN PLAN DE EVACUACIÓN DE SU COMUNIDAD?

Debe marcar una sola opción.

SÍ ☐ NO ☐ NO SABE ☐ NO RESPONDE ☐

44. ¿PUEDE USTED DECIR LAS PRINCIPALES MEDIDAS QUE DEBEN TOMARSE ANTE LA EVACUACIÓN POR UN EVENTO DE INTENSAS LLUVIAS? Puede marcar varias opciones.

LLEVAR ALIMENTOS	☐
EVACUAR A LOS ANIMALES PRODUCTIVOS Y DOMÉSTICOS HACIA LUGARES SEGUROS	☐
LLEVAR UN BOTIQUÍN CON LAS MEDICINAS	☐
MANTENERSE INFORMADO/A	☐
RECOGER Y DISTRIBUIR LAS COSECHAS	☐
LLEVAR AGUA	☐
CUIDAR LA HIGIENE Y LA LIMPIEZA DEL LOCAL DE EVACUACIÓN	☐
LLEVAR LAS ROPAS NECESARIAS	☐
PRIORIZAR A NIÑOS Y NIÑAS MENORES DE 16 AÑOS DE EDAD	☐
PRIORIZAR A MUJERES EMBARAZADAS, PERSONAS DISCAPACITADAS Y ANCIANOS/AS	☐
PROTEGER LOS EQUIPOS Y OBJETOS PERSONALES	☐
NO SABE	☐
NO RESPONDE	☐

SECCIÓN III. PREGUNTAS RELACIONADAS CON FUTURAS INUNDACIONES POR INTENSAS LLUVIAS (CONTINUACIÓN)

45. ¿TIENE ALGUNA SUGERENCIA, PROPUESTA O CRITERIO QUE PERMITA DISMINUIR LOS EFECTOS NEGATIVOS DE LA INUNDACIÓN POR INTENSAS LLUVIAS? *El encuestador/a escribe la respuesta de el/la encuestado/a y debe aclarar al final a qué momento se refiere el/la encuestado/a.*

SÍ ☐

¿CUÁLES? _____

NO ☐

Puede marcar varias opciones.

ANTES DE LA INUNDACIÓN POR INTENSAS LLUVIAS

☐

DURANTE LA INUNDACIÓN POR INTENSAS LLUVIAS

☐

DESPUÉS DE LA INUNDACIÓN POR INTENSAS LLUVIAS

☐

NO SABE

☐

NO RESPONDE

☐

ESPACIO PARA COMENTARIOS GENERALES ADICIONALES, SI EL/LA ENCUESTADO/A O EL/LA ENCUESTADOR/A LO DESEA.

MUCHAS GRACIAS
FECHA _____



Fortalecimiento del Sistema
de Alerta Temprana
Hidrometeorológico

INSTRUCCIONES PARA LA APLICACIÓN DE LA "ENCUESTA A LA POBLACIÓN SOBRE EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS"



VIGILAR



DECIDIR



AVISAR



PROTEGER

SECCIÓN I: DATOS DE LA PERSONA ENCUESTADA (CONTINUACIÓN)

10. CANTIDAD TOTAL DE PERSONAS QUE INTEGRAN SU NÚCLEO FAMILIAR: _____

CANTIDAD SEGÚN SEXO: MASCULINO _____ FEMENINO _____

11. ¿CUAL ES LA PERSONA DE MAYOR AUTORIDAD EN SU HOGAR? Debe marcar una opción.

LA PERSONA ENTREVISTADA ☒ OTRA PERSONA ☐ ESPECIFIQUE EL SEXO: MASCULINO ☒ FEMENINO ☐

12. ¿POR QUE ES LA PERSONA DE MAYOR AUTORIDAD EN EL HOGAR? Puede marcar una o más opciones.

ES LA PERSONA DE MAYOR EDAD ☐ ES LA PERSONA DE MAYOR ECONOMÍA ☐ ES LA PERSONA DE MAYOR EXPERIENCIA ☐

ES EL HOMBRE DE LA CASA ☒ ES LA MUJER DE LA CASA ☐ OTRAS ☐ ¿CUALES?

SECCIÓN II: DATOS DE LA POBLACIÓN ENCUESTADA (CONTINUACIÓN)

13. CANTIDAD TOTAL DE PERSONAS ENTREVISTADAS: _____

CANTIDAD SEGÚN SEXO: MASCULINO _____ FEMENINO _____

14. CANTIDAD TOTAL DE PERSONAS ENTREVISTADAS CON DISCAPACIDAD QUE VIVEN EN SU NÚCLEO FAMILIAR: _____

CANTIDAD SEGÚN SEXO: MASCULINO _____ FEMENINO _____

15. ¿CUAL ES LA PERSONA DE MAYOR AUTORIDAD EN SU HOGAR? Debe marcar una opción.

LA PERSONA ENTREVISTADA ☒ OTRA PERSONA ☐ ESPECIFIQUE EL SEXO: MASCULINO ☒ FEMENINO ☐

16. ¿POR QUE ES LA PERSONA DE MAYOR AUTORIDAD EN EL HOGAR? Puede marcar una o más opciones.

ES LA PERSONA DE MAYOR EDAD ☐ ES LA PERSONA DE MAYOR ECONOMÍA ☐ ES LA PERSONA DE MAYOR EXPERIENCIA ☐

ES EL HOMBRE DE LA CASA ☒ ES LA MUJER DE LA CASA ☐ OTRAS ☐ ¿CUALES?

SECCIÓN III: DATOS DE LA POBLACIÓN ENCUESTADA (CONTINUACIÓN)

17. ¿CUAL ES LA PERSONA DE MAYOR AUTORIDAD EN SU HOGAR? Debe marcar una opción.

LA PERSONA ENTREVISTADA ☒ OTRA PERSONA ☐ ESPECIFIQUE EL SEXO: MASCULINO ☒ FEMENINO ☐

18. ¿POR QUE ES LA PERSONA DE MAYOR AUTORIDAD EN EL HOGAR? Puede marcar una o más opciones.

ES LA PERSONA DE MAYOR EDAD ☐ ES LA PERSONA DE MAYOR ECONOMÍA ☐ ES LA PERSONA DE MAYOR EXPERIENCIA ☐

ES EL HOMBRE DE LA CASA ☒ ES LA MUJER DE LA CASA ☐ OTRAS ☐ ¿CUALES?



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Al servicio
de las personas
y las naciones



AMA

Instructions for the application of the “Survey to the population on flood risk due to heavy rains”

INSTRUCCIONES PARA LA APLICACIÓN DE LA “ENCUESTA A LA POBLACIÓN SOBRE EL RIESGO DE INUNDACIÓN POR INTENSAS LLUVIAS”

Dear colleague:

We appreciate your contribution in the study that is carried out. We provide the instructions to follow for the correct application of the survey and highlight the composition of the questionnaire for a better understanding. We appreciate you follow the instructions to guarantee the quality of the results. The application of the survey depends on the context of each territory. The pollster must have good institutional support to reduce possible resistance during the application of the tool. This work is carried out in the Ministry of Science, Technology and Environment (CITMA) through partnerships in the territories with local institutions such as: universities, civil society organizations, the Federation of Cuban Women (FMC), social workers, research centers, CITMA specialists at municipal level and others.

It is worth highlighting the role played by the José Martí Pérez University (UNISS), center belonging to the Ministry of Higher Education in the province of Sancti Spíritus which has the Chair of Women. The UNISS, together with the Environmental Unit of this province, supports the updating of the Hazard, Vulnerability and Risk Studies (HVR), and its availability is important to contribute to the application of the "Survey to the population on flood risk due to heavy rains "and the preparation of the report analyzing their results. Its objective is to promote the development of research as an element of Higher

Education and thus raise the scientific level of teachers and students and teaching quality.

stages of the survey application process and its results

OBTAINING AND PROCESSING DATA

1. Apply surveys by pollsters in people's councils agreed in the sample design carried out by AMA.
2. Fill in all the boxes correctly and complete all the questions that appear on the form.
3. Prepare the database by province according to the size of the sample and allow to enter all the information collected in the questionnaires. This work must be done by the digitizing people, who are in charge of entering the data in the SPSS Data Entry Builder program to obtain a Data Document (.sav) file with all the cases surveyed.
4. Collect the information from the questionnaires and enter them in the database or digital template of the survey prepared in SPSS Data Entry Builder.

ANALYSIS AND INTERPRETATION OF RESULTS

5. Open the file obtained with the SPSS Statistics Data Document (.sav).
6. Process the data and the scales according to the coding document of the scales and summarize the information of the questionnaire in tables and graphs with the SPSS program.
7. Make the report and obtain the conclusions of the study in correspondence with the objectives set. (Note that the analysis of the survey is done at the provincial level).

Remember other important aspects to be considered and that were mentioned in the section "relevant aspects of the HVR study's methodology":

- The analysis of the information will be done with the original variables and with others that will be recoded according to the interest of the investigation. The variables will be crossed with demographic indicators (gender, age, level of education, occupation, living time in the People's Council, size of the family group, etc.) to obtain contingency and frequency tables, as well as multiple answers.
- The program we use makes it possible to perform recodes and build scales for three values; in addition, it allows obtaining a total perception of the results of all the questions and the levels of hazard perception in every one.
- Each response was assigned the following score: Group I, the value of 1 point; Group II, the value of 2 points; and Group III, the value of 3 points. At the end, the amount of points obtained for each response is summed. In this way there is a minimum and a maximum of points to reach, so three groups of general perception can be structured before the flood risk due to heavy rains.

Group I of high perception: Higher level of elaboration of judgments and importance before the flood risk due to heavy rains. People know how hazards can affect them and the area where they live, know what to do in case of being impacted by hydro-meteorological hazards and have confidence in the protection provided by the institutions.

Group II of average perception: Intermediate level of elaboration of judgments and importance before the risk of flooding by intense rains. It groups people with some cognitive deficiencies and/or practices in relation to hydro-meteorological hazards, and they keep confidence in the protection provided by the institutions.

Group III of low perception: No level of elaboration of judgments and importance before the flood risk due to intense rains. Here are the respondents who do not know how the hydro-meteorological hazards can affect them or do not know how to act if they are impacted by them.

This is the most exposed sector, therefore, the most vulnerable.

Instructions for using the questionnaire

1. Keep in mind that the questionnaire is applied at home, one survey per family group. Only in very exceptional cases would a survey be applied to more than one person in the family (for example, if it is applied to a woman and the man of the house asks so emphatically and vice versa).
2. The questionnaire also applies to people who are residents of the people's council, and who will therefore be affected by floods due to heavy rains.
3. It is important that you consider and properly schedule when the survey will be applied. It should be done at times allowing people of all possible occupations be at home, not just housewives. In any case, the survey will only be representative for the variables amount of population and quantity according to gender (women and men).
4. Read the form carefully and prepare yourself well as an interviewer, before applying the questionnaire.
5. Fill the form completely, do not leave un answered questions because this influences the quality of the study results.
6. Try not to fold, crease or damage the questionnaires. The material (paper) of the survey can deteriorate and lose the written legibility.
7. Properly install the Data Entry and SPSS programs on your computer or where data entry and survey processing is to be done.
8. List the folio number consecutively for all the surveys that will be applied in the province. In the enumeration process start with 1, 2, 3 ... Do not write zeros to the left, for example 01.
9. Carefully read the instructions of the questionnaire to the interviewee, to find out if he/she is willing to answer it. Remember to reiterate the anonymous character of the survey (do not share the name of the person).
10. Tell the person interviewed that there are questions in which only one answer is possible and others in which several answering alternatives can be given by multiple choice selection. Please point out that in each case the specification of this aspect will be expressed (if it is one or several possible answers). Be careful, if it is a multiple-choice question, read the different

possibilities of answer to guarantee that all the ones chosen by the interviewee are checked.

Composition of the questionnaire

The survey is composed of three sections and its format facilitates the work of the interviewers. The advantage of applying this technique is having its ability to collect data on flood risk due to heavy rains.

SECTION I. DATA OF THE PERSON SURVEYED

GENERAL REMARKS

1. All the data registered in the survey must be filled, which will enrich the answers and the results in terms of sociodemographic characteristics.
2. The study includes questions related to data of people, in this sense we have the interest in disaggregating according to male or female sex. The interviewer should inquire about the gender in each case.
3. All the closed questions have an option referred to "another, which?", So that the respondent expresses his/her criterion of not agreeing with the options mentioned in the questionnaire.
4. All questions have the option of "does not know" for the person who does not know about the subject being investigated.
5. All questions have the option of "does not answer" because the respondent may not issue any criteria, which won't mean they do not know.
6. All open questions should state the clear and precise response of the respondent. This will allow gathering more information from a qualitative point of view.
7. The blank spaces that the survey has after each section are for the use of the interviewers, to place the comments or notes that they consider, both their own criteria and that of the respondent. They can also reflect precise and objective findings or observations, or some clarification that they consider interest for the time when the analysis of the study results is carried out.
8. Comments can be completed in the presence of the person interviewed (if it is additional information that he/she provides on a topic) or can be included after completing the application of the questionnaire (if it is the opinion of the interviewer about the process of conducting the survey). Inaccurate or permeated comments of subjectivity should not be written since the validity required in the analysis of the results would be lost.

SPECIFIC REMARKS

Question 1 (Province). Write the name of the province where the study is conducted.

Question 2 (Municipality). Write the name of the municipality where the respondent lives.

Question 3 (People's Council). Write the name of the People's Council where the respondent lives.

Question 4 (Gender). Mark female or male as appropriate.

Question 5 (Age). Write the age (number of years completed) of the respondent.

Question 6 (Marital and / or civil status). Mark the option that corresponds to the marital status of the person surveyed. You must choose only one option.

- Married
- Joined
- Divorced
- Widow/widower
- Single
- Separated

Question 7 (instruction level obtained). Mark the option that corresponds to the level of instruction expired of the person surveyed. Single choice must be chosen.

- Elementary
- High/ secondary school
- Technician
- Pre-university
- University
- Qualified Worker
- None

Question 8 (Occupational situation). Mark the option that corresponds to the occupational situation of the person surveyed. You must choose only one option.

- Worker
- Farmer
- Student
- Housewife/husband
- Retired
- Pensioned
- Unemployed

Question 9 (Specific sector of salaried worker or farmer). This question is asked if the person surveyed marked the option of salaried worker or peasant, if not, go to question 10. You must choose only one option.

- State
- In Cuban mercantile companies
- In joint venture
- Contracted permanently or temporarily in agricultural activities
- In foreign enterprises
- Free lance
- In UBPC
- Hired by non-agricultural private households
- In CPA
- In other cooperatives
- Small farmer associated or not with CCS
- Unpaid family helper
- Usufructuary of the land associated or not to CCS
- Non-agricultural cooperative partner
- Other, which one?

Question 10 (Total number of people composing the family group). You must first write the total number of people and then the number of males and females separately. As in all questions where the number of people is investigated, the

study is interested in knowing the gender, how many are female and how many are male.

It is very important that you express to the person interviewed, at least once or twice, that this information is relevant because you want to know not only about people in general but about women and men, generally identified by the female or male sex. Thank people for their patience in mentally recounting the number of people according to gender and make sure that the sum of the female and male is equal to the total number of people.

If some interviewed person states that in his/her family (or community) there are people who cannot be identified with the male or female gender, you can add this answer in another box created and filled out manually by you. For example, it would look like this: 11 people: 4 males, 6 females and 1 other sex.

It is very necessary and important that you do not devalue the intention of the survey to ask about the sex of the people. It is also necessary to show no discomfort or other attitude (negative or positive) because there are people who may include in gender another response different to the most traditional and common one (female and male).

Question 11 (Who is the most authoritative person in your household?). You must mark only one choice.

- The person interviewed
- Other person (must specify sex: male or female)

Question 12 (Why is it the person with the greatest authority at home?). Several alternatives can be marked since a person can be considered the most authoritative in the home for several reasons.

- Is the owner of the house
- Is the person who makes the greatest economic contribution to the home
- Is the oldest person
- Is the one with the highest level of education
- Is the man of the house
- Is the woman of the house
- Other, which ones?

- Does not know
- Does not answer

Question 13 (Total number of children in your family). The total number of children must be written and the amount must be specified according to gender in each household surveyed.

- From 0 to 9 years old Amount according to sex: male or female
- From 10 to 16 years old Amount according to sex: male or female

Question 14 (Total number of adults in your family). The total number of elderly persons must be written and the amount must be specified according to gender in each household surveyed.

- From 65 to 79 years old Amount according to sex: male or female
- 80 years and over Amount according to sex: male or female

Question 15 (Total number of people with disabilities living in the family group).

The total number of people with disabilities in the family group must be written and specify the amount according to gender: male or female.

Question 16 (Type of disability). This question is asked if the respondent expressed in question 15 that there are people with disabilities in his/her family group.

- Motor physical
- Visual
- Hearing
- Mental (psychiatric problems)
- Multiple
- Chronic renal failure
- Mental retardation
- None of the above
- Other, which ones?
- Does not know
- Does not answer

Different types of disability can be marked and the classification can be made from this instruction that collects the alterations. In case of doubts in the name of the disability, the following are the classifications:

major physical-motor disability

- Paralysis of an upper or lower limb.
- Hemiplegia, paraplegia or tetraplegia. Amputation of upper or lower limbs.
- Disorders in the coordination of movements (involuntary, tremors) and state of muscle tone (increase or decrease).
- Severe disorders of the nervous system (muscular dystrophies, severe gait disorders).
- Alterations of the osteomyoarticular system or absences of limbs or other anatomical region, serious deformities of the spine. Dwarfism, severe disfigurement alterations.

visual disability

- Total blindness: people who have no perception of light in either eye.
- Visual impairments (low vision): people with a severe visual impairment, not susceptible to surgical treatment and who, to see up close distances, require the use of glasses with magnifying glasses or glasses with a power of no less than four diopters.

hearing impairment

- Deafness: disability to perceive any sound.
- Hard of hearing: people with different levels of hearing loss that require the use of hearing aids.

mental disability

- Chronic psychosis: schizophrenia, paraphrenia and bipolar disorders.
- Dementias: refers to any type of Alzheimer's disease and vascular and mixed dementias.
- Organic or visceral disability. (Deficiencies of the functions and structure of the organs).
- Chronic renal failure. Only the person with dialysis criteria is considered.
- Mixed or multiple disabilities. When people are affected by two or more types of major disability.

Question 17 (Housing construction status). Mark the option that corresponds to the condition of the house of the person interviewed. You must choose only one option.

- Good
- Regular
- Bad
- Uncertain
- Does not know

Question 18 (Living time in the People's Council). Mark the option that corresponds with the time that the person interviewed has lived in the People's Council. You must choose only one option.

- Less than 1 year
- From 1 to 5 years
- From 6 to 9 years old
- More than 10 years
- Permanent since born

To finish Section I, there is a space to provide other personal information, if the respondent, or whoever conducts the survey, wishes so.

SECTION II. QUESTIONS RELATED TO FLOOD RISK DUE TO HEAVY RAINS

SPECIFIC REMARKS

Question 19 (Have you or your family been affected by a flood?). You must choose only one option.

- Yes
- No
- Does not know

Question 20 (Could you say what kind of affectations you had?). This question is asked if the person answered affirmatively in question 19. If not, you must go to question 21. You can choose several options.

- Housing flood
- Moisture on the floor and walls

- Food contamination
- Partial or total collapse of the house
- Loss of food
- Loss of household goods
- Difficulties for water consumption due to contamination
- Death by drowning
- Death by other causes
- Losses of productive or domestic animals
- Accumulation of garbage or solid waste
- Loss of crops
- Other, which ones?
- Does not know
- Does not answer

Question 21 (What causes do you think may provoke flooding due to heavy rains?). Several options can be chosen.

- Causes caused by the human being
- Supernatural causes
- The non-adoption of measures by the population
- Natural causes
- Other, which ones?
- Does not know
- Does not answer

Question 22 (Have you done any of the following tasks to reduce the impact of the flood?). It is very important and respondents should be encouraged and influenced to answer. Show yourself with courtesy and encourage them to collaborate. You can choose several of the measures listed or include others.

preventive measures against flooding due to heavy rains

- Keep rivers, ditches and canals clean
- Comply with pruning and cutting of trees
- Build homes away from the riverbed or river floodplains
- Build housing in high areas and with easy drainage
- Clean sewerage of the houses and external patios
- Keep the cleaning of streets and sewers systems
- Other, which ones?

- Does not know
- Does not answer

Question 23 (Are you aware of the flood areas in your community?). You must choose only one option.

- Yes
- No
- Does not know
- Does not answer

Question 24 (Could you tell which areas do you think can be flooded?). If the person answered affirmatively question 23 he/she is asked to specify. If the answer was negative, go to question 25. You can choose several of the following options.

- Roads
- Electrical networks
- Sewerage system
- Railway tracks
- Water supply ducts
- Others (gas, communications)
- Housing and community facilities

Question 25 (Before the tropical cyclone warning - hurricane or storm - what measures do you consider necessary to face a possible flood due to heavy rains?). Several of the following measurements can be marked.

measures for the preparation phase before a possible flood due to heavy rains

- Keep informed
- Clean roofs and drains
- Secure furniture, electric appliances, ceilings, TV antennas and homes
- Guarantee the operation of medical clinics
- Store water
- Secure food, medicine and other necessary supplies
- Organize the evacuation if necessary
- Evacuate state and private animals
- Protect productive animals and pets
- Protect health and education facilities or warehouses and other important resources
- Other, which ones?

- Does not know
- Does not answer

Question 26 (Indicate in each case the following people and institutions, who guides and can be trusted to prevent the possible damages caused by the flood due to heavy rains?).

You can choose several options in each column and row identified, according to who gives you guidance and who gives you confidence, or both, in disaster prevention work). In addition, you must specify the gender in case of marking family, friend, neighbors.

people and institutions

- Council of Provincial and Municipal Defense (specify if they provide guidance and / or confidence)
- Community organizations (specify if they provide guidance and / or confidence)
- Executives of the working centers (specify if they provide guidance and / or confidence)
- Principals of the study centers (specify if they provide guidance and / or confidence)
- Mass media (specify if they provide guidance and / or confidence)
- Family. Specify the male or female gender in each row as they provide guidance and / or confidence)
- Friend. Specify the male or female gender in each row as they provide guidance and / or confidence)
- Neighbor. Specify the male or female gender in each row as they provide guidance and / or confidence)
- Other people, who? (specify if they provide guidance and / or confidence)
- Nobody
- Does not know
- Does not answer

Question 27 (What collaboration did you provide in your community to reduce the effects of heavy rains?). Several options can be marked.

- Helped to communicate and transmit the measures to be taken by the population in the face of the flood due to heavy rains
- Worked on community sanitation

- Participated in the evacuation of animals
- Participated in the collection of crops done
- Helped in the preparation of community evacuation
- Cooperate in the evacuation at home or in other homes of friends, neighbors
- Performed some targeted measures, such as: turning off the electricity and closing the gas inlets in the houses
- Participated in the construction and / or repair of housing
- Other, which ones?
- Does not know
- Does not answer

Question 28 (State who provided the most cooperation in the face of flood due to heavy rains in the following aspects). You must choose an option in each alternative (women or men). This question is intended to differentiate who provided more cooperation, if women or men, to flood by heavy rains. So, women or men are marked indistinctively; both boxes cannot be checked.

- They showed concern about the flood (women or men)
- They visited house by house (women or men)
- They were evacuated more quickly (women or men)
- They oriented the population (women or men)
- They showed more training or knowledge (women or men)
- They collaborated in evacuation tasks (women or men)
- They paid attention to the informative notices by different means of communication (women or men)
- Other, which ones? (women or men)
- Does not know
- Does not answer

Question 29 (Say what possible causes did not allow greater cooperation from men). Several options can be marked. In this question, the person surveyed must identify the possible causes that prevented the cooperation provided by men from being greater.

- They were assigned more urgent or difficult tasks outside the People's Council
- They should take care for the elderly, the sick and the disabled people of their families
- They lacked initiative and willingness to cooperate
- They were in recreational and leisure activities
- They had physical and health limitations to cooperate

- Other, which ones?
- Does not know
- Does not answer

Relevant remarks that could be expressed to the person surveyed if necessary: It does not mean that men DID NOT cooperate, but that such cooperation could have been greater if there were not certain causes. The question seeks to know the causes that impede a greater participation of men.

Question 30 (Say what possible causes did not allow greater cooperation from women). Several options can be marked. In this question, the person surveyed must identify the possible causes that prevented the cooperation provided by women from being greater.

- They were at home with the children
- They should take care for the elderly, the sick and the disabled people of their families
- They had physical and health limitations to cooperate
- There were taboos, beliefs or thoughts that prevented their cooperation
- They lacked initiative and willingness to cooperate
- The positions related to flood disasters risks were assigned to men
- Other, which ones?
- Does not know
- Does not answer

Relevant remarks that could be expressed to the person surveyed if necessary: It does not mean that women DID NOT cooperate, but that such cooperation could have been greater if there were not certain causes. The question seeks to know the causes that impede a greater participation of women.

Question 31 (Exemplify what negative actions of people contribute to the increase in the effects of flooding due to heavy rains).

- Women do not... (exemplify negative actions performed by women)
- Men do not... (exemplify negative actions performed by men)
- Does not know
- Does not answer

This is an open question and the response of the respondent should be written. The question is complex but very relevant. The respondent should exemplify negative actions carried out by people who contribute to the increase in the effects of heavy rains, but should respond separately to what women and men do. In case the person interviewed says "they do the same", they should be encouraged to think about men and women separately so that they also respond separately. Only if the person interviewed insists that he sees no differences something like this should be stated: "The person reiterates that he does not know of negative actions that women and men do differently".

Question 32 (How do you evaluate the following aspects, before, during and after the flood due to heavy rains?). You must check an option in each alternative and evaluate it as good, regular, bad or do not know in each phase: before, during and after).

		BIEN	REGULAR	MAL	NO SABE
LA INFORMACIÓN RECIBIDA POR LOS MEDIOS DE DIFUSIÓN MASIVA SOBRE LAS MEDIDAS A ADOPTAR	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
EL APOYO Y ATENCIÓN RECIBIDA POR FAMILIARES	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
LAS MEDIDAS DE PROTECCIÓN Y AYUDA ADOPTADAS POR EL PODER POPULAR	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
LA ATENCIÓN MÉDICA	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
LA COORDINACIÓN ENTRE LAS DIFERENTES ORGANIZACIONES DE MASAS	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
EL CUMPLIMIENTO DE LAS MEDIDAS SANITARIAS	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐
SU PROPIA ACTUACIÓN	ANTES	☐	☐	☐	☐
	DURANTE	☐	☐	☐	☐
	DESPUÉS	☐	☐	☐	☐

Question 33 (How did you feel when facing flood due to heavy rains?). You must check an alternative in each case. The classification made by the interviewer will take into account the classification on a scale of 1 to 5, where each number means:

- 1- total confidence
- 2- some confidence
- 3- both some confidence and some distrust
- 4- some distrust
- 5- total distrust

It is suggested to the interviewer to show the table to the person surveyed and ask him what number he would indicate. That action may be easier and can even be more involving in the process.

	1	2	3	4	5	
CONFIADO/A	☐	☐	☐	☐	☐	DESCONFIADO/A
TRANQUILO/A	☐	☐	☐	☐	☐	INTRANQUILO/A
SEGURO/A	☐	☐	☐	☐	☐	INSEGURO/A
SERENO/A	☐	☐	☐	☐	☐	ANGUSTIADO/A

To finish Section II of the questionnaire, there is a space to offer other information related to the risk of flooding due to heavy rains, if the respondent or the person doing the survey wishes to do so.

SECTION III. QUESTIONS RELATED TO FUTURE FLOODS DUE TO HEAVY RAINS

SPECIFIC REMARKS

Question 34 (Do you think it is possible that in the future you and your family may be affected by a flood due to heavy rains?). You must check only one option.

- Yes
- No
- Does not know
- Does not answer

Question 35 (Of the following factors, which are the ones that most influence the possible effects that you and your family may suffer?). Several options can be checked.

- Relief, location of your home in a low area
- Architectural constructions and / or modifications that maximize the intensity of the flood
- Closeness of your home to the course of a river, floodplain or old river bed
- Poor housing condition
- Proximity to dams and / or drainage channels
- Lack of or difficulties with the water supply for human consumption
- Closeness to the coastal area
- Accumulation of household waste and debris in community areas
- State of rain drainage networks (nonexistent, insufficient, clog)
- State of sewerage networks (nonexistent, insufficient, clog)
- Men do not cooperate in sanitation

- Women do not cooperate in sanitation
- The community does not cooperate in sanitation
- Other, which ones?
- Does not know
- Does not answer

Question 36 (In the future, if a flood event due to heavy rains occurs, how would you act?). You must check only one choice.

- Would you do the same as the previous time
- Would you take other measures? Which?
- Does not know
- Does not answer

This question is very important and all respondents should be encouraged to answer it. Show yourself with courtesy and sheer them up to give an effective response.

Question 37 (Do you think that you have the conditions to take the appropriate measures that reduce or mitigate the impacts of the flood due to heavy rains?). You must check a single choice and explain why you select it. The answer of the person interviewed must be written clearly and precise.

- Yes, why?
- No, why?
- Does not know
- Does not answer

Question 38 (Do you think that in case of an event of this nature, you and your family must be evacuated?). You must choose only one option.

- Yes
- No
- Does not know
- Does not answer

Question 39 (Could you say why you think you should be evacuated?). This question is asked if the person answered question 38 affirmatively. If the answer is negative, answer question 40. Several options can be marked.

- To protect your life and that of your relatives
- To protect the house and personal belongings

- Because the house is in poor condition and there is no security
- Because the area is uncommunicated due to heavy rains
- Other, which ones?
- Does not know
- Does not answer

Question 40 (Is the evacuation of your family planned?). You must check only one choice.

- Yes
- No
- Does not know
- Does not answer

Question 41 (Do you comply with the evacuation once you are oriented?). You must choose only one option.

- Yes
- No
- Does not know
- Does not answer

Question 42 (What people should be evacuated in case of flood due to heavy rains?). You must check only one choice.

- Pregnant women
- Children under 16 years of age
- People who live in risk places (rivers or reservoirs, low areas)
- Men and women with disabilities and / or health problems
- Nobody, because people are in safe places
- Does not know
- Does not answer

Question 43 (Do you know that there is an evacuation plan for your community?). You must choose only one option.

- Yes
- No
- Does not know
- Does not answer

Question 44 (Can you say the main measures to be made in case of an evacuation due to heavy rains?). Several options can be checked.

- Bring food
- Evacuate productive and domestic animals to safe places
- Carry a medicine kit with medication
- Keep informed
- Collect and distribute crops
- Bring water
- Take care of the hygiene and cleanliness of the evacuation facility
- Wear the necessary clothes
- Prioritize children under 16 years of age
- Prioritize pregnant women, disabled people and the elderly
- Protect electrical appliances and personal items
- Does not know
- Does not answer

Question 45 (Do you have any suggestion, proposal or idea that allows to reduce the negative effects of flood due to heavy rains?). If the answer is positive, he or she should say what those suggestions are and the interviewer should write the answer.

- No
- Yes, which one is it?

After completing the application of this survey question, the answer given will be classified based on the options shown in the following table. It is suggested not to do so in the presence of the person surveyed because it would take time and pressure the interviewer. You must take into account not to go to the next stage of the process (retrieving information from the questionnaires) without completing this space.

In this case, you can check several options based on the answer given by the person interviewed.

ANTES DE LA INUNDACIÓN POR INTENSAS LLUVIAS
DURANTE LA INUNDACIÓN POR INTENSAS LLUVIAS
DESPUÉS DE LA INUNDACIÓN POR INTENSAS LLUVIAS
NO SABE
NO RESPONDE

To complete the questionnaire, there is a space for additional general comments, if the respondent wishes so, and a space to describe the date on which this person is surveyed.

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Casas et al (2003) defines that planning of social investigation using the survey technique is based on the following stages:

1. Problem identification
2. Determination and formulation of the research design
3. Stating the hypothesis
4. Selection and definition of variables
5. Selection of samples
6. Design of questionnaire
7. Organization of field work
8. Collection and processing of data
9. Analysis of data and results interpretation

Problem identification

To identify the problem to research, the starting point is a clear definition of the object of study, stating the general and specific objectives pursued with the investigation, and carry out a revision of different theoretical conceptions that already exist on the topic.

Determination and formulation of the research design

Define the objective of the research and the technique that will be used (interview-questionnaire). It must be clear what information is required, what information I need and what I am going to do with the information collected.

Selection and definition of the variables

Define the variables that are the subject of research. It is very important that the variables defined are in correspondence with the objective of the survey.

Define the indicators.

In many occasions, in order to obtain the information of a variable it is necessary to carry out several measurements. For this, the indicators are useful.

Selection of the samples to be questioned

For this stage the named sampling techniques are used, which refer to the procedures to guarantee that the individuals included in the sampling are representative of the population from which they come.

The sampling used in this case is grouped.

- Determining the number of individuals belonging to each group: people's council, age group, level of instruction obtained.
- Establishment of each group individuals that must compose the sample. This step is called proportional allocation (each group of the population is proportionally represented in the sample) and optimal (the representation of the group is measured by its diversity in the variable under study, that is, the more homogeneous groups are, the fewer cases they provide in regard to less homogeneous groups).
- Selection of the corresponding number of elements for each group at the level of people's council advice.
- The elements of the population that will be surveyed are selected, calculating the minimum size of the sample for the specified sampling error.

age group:

- Sample size: from 15 to 39 years old
- Sample size: from 40 to 64 years
- Sample size: over 64 years

Gender:

- Male
- Female

Level of instruction obtained:

- Instructional level up to elementary level.
- Average or higher average level of education
- Level of university education

Design of questionnaire

The questionnaire is the basic document used in quantitative research and contains the indicators of the variables involved in the objective of the survey in an organized way. In its preparation, it is important that the questions relate exclusively to the variables and the defined indicators.

pilot test:

Select the interviewers and prepare them adequately so that the information that is going to be collected has the necessary quality.

It can be done with a group of people, not necessarily representative of the population under study, but similar in their main characteristics.

The pilot test will allow to determine if the questions have been correctly understood by all people, if they have produced fatigue or rejection, if the duration has been excessive or any other deficiency. These deficiencies will be reflected in the results obtained.

Conduct the pilot test in a place where the sample to be taken is not contaminated. This is done with the purpose of verifying if the questions formulated are clear and the expected results can be obtained.

Organization of field work

- Continue with the selection and preparation of the interviewers.
- To guide the interviewers and the surveyors to apply the questionnaire according to the selected sampling technique.

Collection and processing of data

- Survey application by interviewer and surveyors.
- Correct filling of all the boxes and questions requesting explanation that appear in the form.

- Collect the information from the questionnaires and empty them in the database prepared in SPSS Data Entry Builder.
- Prepare the database by province according to the size of the sample. This work must be done by the digitizing people, who are in charge of entering the data in the SPSS Data Entry Builder program.

Analysis and interpretation of the results

- Process the scales according to the coding scales document and summarize the questionnaire information in tables and graphs with the SPSS program.
- Make the report and state the conclusions of the study in agreement with the objectives set.