Risk Management in Rural Communities... a challenge in building citizenship







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CARE PERÚ

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RISK MANAGEMENT IN RURAL COMMUNITIES... A CHALLENGE IN BUILDING CITIZENSHIP

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"Thanks to CARE we've learnt how to be alert to frosts, hailstorms and floods. We also learnt to be wary of floods and how to evacuate before everything is covered by water. Through CARE we've learnt about early warning. Nature affects us and we didn't know how to defend ourselves...."

Authority from the community of Pallcapampa - Puno



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EXECUTIVE SUMMARY

The FOCAPREE project represents a holistic public policy advocacy proposal on DRR issues such as community-based Early Warning Systems and T- shelters. As a core component of the intervention, an integral capacity-building plan was elaborated, it addresses strengthening household capabilities in disaster preparedness, mitigation and response for communities located in rural areas of Puno and Cusco.

The present document describes the remembrance, appreciation/evaluation and ownership levels shown by the participants with regard to the topics dealt with during the workshops. To this end, 12 focus groups with the project beneficiaries were realised to collect the primary information needed.

As the document shows, the population reached high levels of remembrance with regard to the main issues. In each of the visited communities, participants were able to describe causes and effects of climate change, to enumerate the different types of existing risks, to illustrate the principal elements of the hazard maps, to describe the functioning of EWS and to detail the characteristics of emergency drills. As regards the appreciation of the implemented activities, both the novelty of the workshops' topics and their participative methodology were positively evaluated. Although beneficiaries validated all the topics and demonstrated to be interested in each one of them, emergency drills and hazard maps topped the ranking of their favourite activities. In regard of ownership, participants affirmed to have already put into practice some of the measures analysed during the workshops. Among these, the elaboration of community-based organisation mechanisms, the adoption of preventive measures, the management of administrative procedures with the local authorities, the implementation of environmental protection measures and the building of basic DRR infrastructures are worth being highlighted.

With the purpose of enhancing the effectiveness of the intervention, the document proposes a number of recommendations, such as the implementation of the capacity-building programme in other communities, the elaboration of advanced-level workshops in rescue, advocacy and basic infrastructure building, the development of climate change adaptation strategies in the areas of health, WASH and agriculture, the provision of communications and rescue instruments, the realisation of internships to exchange experiences and the adoption of an intergenerational approach.

INTRODUCTION

Recurrent adverse climate events and hydrometeorological hazards negatively affect the socio-economic development opportunities of the most vulnerable sectors of the Peruvian population. As a consequence, the poverty levels recorded in rural and remote areas of the country rise. Due to the lack of effective community-based disaster prevention and mitigation mechanisms and the deficient knowledge and commitment shown by local authorities on DRR, CARE Peru elaborated and implemented a holistic public policy advocacy proposal labelled FOCAPREE - Enhancing Preparedness in Shelter and Early Warning Systems in Peru – with the purpose of improving the mechanisms of disaster preparedness and response at national level. Funded by the United States Agency for International Development (USAID/OFDA-LAC) and implemented in the pilot regions of Puno, Cusco, Piura and San Martin, FOCAPREE aims to establish national guidelines for community-based Early Warning Systems as well as facilitating shelter options for different hazard scenarios. The community household capacity building plan represents an essential component of the intervention and, as such, it was implemented in 23 rural locations of Puno and Cusco.

The present descriptive qualitative investigation illustrates the systematisation of this capacity building experience by evaluating the remembrance, appreciation/evaluation and ownership levels shown by participants with regard to contents, concepts and tools used during the workshops. To this end, focus groups with beneficiaries were run in 12 communities -9 in Puno and 3 in Cusco- and interviews with officers of the project team and the local health sector were conducted. At the same time a number of secondary sources of information were analysed.

The first section presents the purpose and the methodology of the investigation. After a short description of the FOCAPREE capacity-building programme, the three following chapters analyse the remembrance, appreciation/evaluation and ownership levels shown by project participants. Conclusions and recommendations close the document

OBJECTIVE AND METHODOLOGY





The objective of the present document is to present the systematisation of the community-based capacity-building component of FOCAPREE. To this end, a qualitative evaluation of remembrance, appreciation/evaluation and ownership shown by beneficiaries was realised. To do this, the following operational definitions of the indicators were used:

- Remembrance: participants' ability to coherently remember contents, concepts and tools analysed during the workshops;
- Appreciation/Evaluation: acknowledgement of the value, importance and usefulness of contents, concepts and tools;
- Ownership: consequent elaboration, adoption and usage of contents, concepts and tools.

The present is a descriptive qualitative research (Berg, 2009) based on the analysis of primary and secondary data. On one hand, all the activity reports, methodology guidelines and capacity-building plans¹ elaborated by the FOCAPREE technical team were collected and analysed. On the other, semi-structured focus groups² with participants of the community-based capacity-building programme were run. The opinions of beneficiaries from 12 communities³ -9 in Puno and 3 in Cusco- were recorded and analysed. In addition, in order to grasp a better understanding of how projects activities were implemented, a series of unstructured interviews were conducted with CARE field specialists and subnational health sector officers.

It is important to mention that the systematisation process took place at the end of the rainy season and was used to test the actual benefit that the capacity-building process brought to the communities. Moreover, as the primary data collection was performed before the conclusion of the project activities, the focus groups represented a further occasion to strengthen the beneficiaries' knowledge on DRR.

To conduct the focus groups, a non-probabilistic sample of 12 communities was intentionally selected by virtue of their higher-than-average level of beneficiaries' participation recorded during the workshops. At the same time, in order to respect a criterion of geographic representativeness, 9 of the chosen communities belong to Puno (7 are located in the Huancané Province and 2 in the Lampa Province) and 5 to Cusco (all located in Santa Teresa District, La Convención Province). The high number of focus groups made possible the comparison of findings and the inclusion of emerging relevant topics

¹ Methodology quidelines and capacity-building plans are available in the CD-ROM

² Annex 2 illustrates the structure of focus groups

³ Annex 1 presents the list of the selected communities



in subsequent groups (Morgan, Fellows and Guevara, 2008). During the focus groups, a gender approach was adopted that ensured and encouraged the participation of women. In addition, the groups' moderator paid particular attention to avoid the instauration of any dynamic of social discrimination that could negatively affect the involvement of women. Notwithstanding the efforts, a modest level of women participation was recorded in the majority of the communities.

More people than expected took part in the assemblies organised to conduct the focus groups. On one side, this demonstrated population's high interest in FOCAPREE's activities and contributed to enrich the quality of the information gathered through the focus groups. On the other, it represented a difficulty because the number of participants in each focus group widely overtook the limit that was formerly established. In addition, although it was planned to select interviewees on the basis of their potential contribution to the focus groups (Miles and Huberman, 1984), the high turnout made this task unfeasible.

CAPACITY BUILDING PLAN





FOCAPREE is a public policy advocacy proposal that aims to fill important gaps in Disaster Preparedness and Emergency Response, such as:

- Lack of national guidelines, regulations and standards for EWS
- Lack of approved shelter options that comply with international quality standards, prior to the happening of hazards.

It was funded by USAID/OFDA-LAC and implemented by CARE Peru in the pilot regions of Puno, Cusco, Piura and San Martin. It counted with the strategic partnership of the National Civil Defence Institute (INDECI), the Ministry of Housing, Construction and Sanitation (MVCS), the Meteorological and Hydrological Service of Peru (SENAMHI), the National Humanitarian Network (RHN), the Group for Safe and Healthy Households (GVSS), the sub-national governments and the private sector. The programme embraced two different OFDA Sectors: natural and technological risks and shelter and resettlement, it had the following objectives:

- To produce national guidelines for community-based early warning systems to reduce vulnerability of people living in risk-prone areas, based on past experiences and new pilots, in alliance with INDECI and SENAMHI;
- To facilitate shelter options for different hazard scenarios/environments approved by sub national and national civil defense officials in alliance with the Shelter Cluster of the Humanitarian Network.

Considered as the core element of the first component, a capacity-building plan was formulated as a process oriented to facilitate participants' learning. As such, it had the purpose of strengthening population's capacities on disaster preparedness, mitigation and response through community-based EWS. The methodology adopted for the development of each module considered 'teaching adults' and 'recreating ancestral knowledge' as the pillars of its strategy and aimed at achieving high levels of remembrance, appreciation/evaluation and appropriation. In this scenario, learning was regarded as a process that permits people to assimilate knowledge, to develop abilities, to adopt attitudes and to build capacities.

The community-based capacity-building plan was directed to the members of 23 rural communities – 18 in Puno and 5 in Cusco – and its programme was divided into the following 4 workshops:



WORKSHOP	CONTENT
1	Climate change and basic concepts on DRR
2	Hazard identification, vulnerability and risk analysis, participative elaboration of hazard maps
3	Community-based Early Warning Systems, community organization, leadership and hazard drills
4	Contingency Plan, Community Development Plan with DRR Approach, mechanisms of citizen participation

ISSUES AND DISASTER RISK MANAGEMENT:

The issues for the capacity-building programme were selected on the basis of CARE's previous experiences on DRR. The plan was characterised by the harmonious coexistence of theoretical and practical elements and by the adoption of a gender approach, a participative methodology and a pragmatic philosophy. On one hand, this resulted in a process of constant adaptation of the contents to the proper reality of each community and, on the other hand, it contributed to promote higher levels of participation and enthusiasm among the population. As a consequence, participants had the opportunity to perceive the validity and usefulness of the tools and concepts they were analysing during the workshops, as these fitted coherently with the realities and needs they lived in their communities.

THE FIRST MODULE: The capacity building plan began by raising participants' awareness on Climate Change. At the same time participants were provided with a set of basic concepts on Disaster Risk Management that permitted them to internalise what they perceived as the effects of the Climate Change. In this way, they could find explanations to a set of diverse events, such as the intensification of hydrometeorological phenomena, the modification of biological indicators and the melting of snowcaps, among others. As a consequence, a number of commitments spontaneously emerged at family, school and community level that facilitated the adaptation to changes and the mitigation of the adverse effects produced by hydrometeorological events.

THE SECOND MODULE: The hazard identification, the vulnerability and risk analysis, and the participative construction of the hazard maps allowed participants to identify the hazards they were exposed to. Through a participative methodology, not only did they elaborate the vulnerability matrix and realise the classification of the recurrent hazards, but they also formulated project proposals to mitigate the effects of the adverse weather events. At the same time, the group of local authorities was asked to draw the hazard map and modify the location of households and other elements on the basis of the suggestions the other participants provided. Evacuation routes and safe areas were pinned on the maps and risk areas were classified into three different categories – high, medium and low – according to the intensity of the hazards and their effects on the population. At a later stage, each of the three categories was identified through crosses of different colours - red, orange and green respectively.

The hazard maps constituted the base for the implementation of the SIVICO⁴ –Sistema de Vigilancia Comunitaria– in those communities that counted with a health care provider. This activity relied on the tools developed by the Ministry of Health (MINSA, 2012) and saw the participation of sub-national health officers, local health promoters, local authorities and direct beneficiaries of the project. FOCAPREE added value to the SIVICO by including DRR information that had been collected through participative processes of vulnerability and risk analysis and activities aimed at identifying health indicators. The interactive analyses of vulnerability per familiy, allowed identify fragility and exposure levels, facilitating the adoption of practical measures. This made health sector officers, local health promoters and local authorities perceive the real importance of the hazard maps. At the same time it contributed to let them understand that SIVICO represents a fundamental management tool for the sustainable development of their communities and it showed them that instant actions needed to be taken to mitigate the negative impacts that the identified vulnerabilities could have on the communities' households.

THE THIRD MODULE: during the third workshop, participants had the opportunity to realise socio-dramas to identify different mechanisms of collective organisation to ebable participants to facethe previously identified hazards. Furthermore they identified a number of diverse signals to be used to give the alert in case of emergency and realised an indepth analysis of the 4 components of an EWS. Finally, they were taught the importance of community-based organisation and leadership.

THE FOURTH MODULE: represented the most complex stage of the whole capacity-building process, as it dealt with the contingency plans - namely what to do to face the identified hazards and how to do it. At first, the community development plan with DRR approach was elaborated as a planning, organisation and management tool aimed at promoting sectors and/or communities' development - as such, it prioritised a set of different projects with the purpose to solve the formerly identified problems.

Next, the elaboration of the development plans through participative workshops permitted formulate situation reports reconstructing the history of the communities. On the basis of this, a mid-term community-based vision was created with the purpose to set the core elements of the community sustainable development with DRR approach. The aim of the development plans was to provide authorities and population with a tool to manage the identified project proposals with different relevant actors and through diverse empowerment mechanisms, such as the participatory budgeting. Prevention and mitigation projects aiming at protecting families and their food safety are prioritised.

THE CAPACITY-BUILDING PLAN, THE THEORIES AND THE PEDAGOGICAL APPROACHES TO ADULT LEARNING:

The capacity-building plan implemented by FOCAPREE included the following theories and pedagogical approaches to adult learning:

⁴ SIVICO is a tool developed by the Ministry of Health for community surveillance of health indicators. CARE has included DRR information in it.



1. Constructivist Approach

This approach indicates that learning is a personal construction made by the learner. Such construction occurs through a mental process of comparison, relation and inference and permits an original learning through the formerly acquired knowledge, the learnt abilities and the lived experiences. For this reason, in each workshop the stage of knowledge collection was considered a starting point to build new knowledge.

2. Significant Learning

The process of learning becomes easier when the topics at stake possess inner logic and prove useful to the learner. For this reason, with the aim to keep participants' motivation high, it can be useful to investigate their previous knowledge and to provide the new information with a coherent, clear and organised structure. The presentation of the project activities to the communities, the development of the module on Climate Change and the explanation of new terms on DRR served the purpose to keep participants involved and engaged with the project.

3. Competence-based capacity building

People have to use their competences to perform different tasks and to face a wide variety of problems on a daily basis. A competence is defined as the integration of knowledge, attitudes, and intellectual and motor skills individuals use to fulfil any activity.

Competences represent all the tasks a person will be able to perform and all the problems he/she will manage to solve after taking part in the capacity-building event. For this reason, during the workshops, participants were encouraged to make commitments at individual, family and community level to improve their living conditions.

4. Participative Strategies

Capacity-building activities require a participative strategy capable of facilitating teamwork, interactive learning, knowledge exchange, collective debate and shared agreements. Even though learning is an individual task during which each participant strengthens his/her skills, a peer-to-peer horizontal interaction is established. This is the specific element that contributes to turn learning into a social process. For this reason, teamwork was considered as a fundamental learning tool and was promoted throughout the whole capacity-building plan.

5. Problematisation

In their daily life, human beings identify problems through a set of different questions, such as: How do we accomplish this? What kind of difficulties do we meet? Why do we do it this way? On the basis of the answers each person provides to these questions, solutions are proposed and put into practice.



Problematisation enables participants to detect their real problems and stimulates reasoning with the purpose of formulating innovative solutions. For example, the implementation of the hazard drills and their subsequent evaluation stimulated a collective reflection on the best locations for the emergency signals and brought to the organisation of public cleaning campaigns and evacuation-routes' maintenance events.

As a result, 1,743 individuals, 893 women and 850 men, participated in at least one workshop. In each community, participants conducted vulnerability and risk analysis, drew hazard maps, formulated Contingency Plans and Community Development Plans, placed emergency signals indicating safe areas and evacuation routes and organised hazard drills to test communities' disaster preparedness.

In the following section, the remembrance, appreciation/evaluation and appropriation levels shown by participants are analysed in detail.

MAPA PARLANTE DE LA COMUNIDAD DE BALSAPATA - PUNO



REMEMBRANCE





As it was mentioned above, the aim of 'remembrance' is to evaluate the participants' ability to coherently remember contents, concepts and tools used/analysed during the workshops. In general terms, beneficiaries had no problem in remembering all the topics considered during the training process⁵.

With regard to **CLIMATE CHANGE**, the members of the focus groups could easily detail causes and effects of the phenTomenon and, in most cases, they succeeded in linking it with the intensification of climate variability that has been recorded in their communities during the past few years. Among the main causes of the Climate Change, interviewees mentioned pollution, harmful gas emissions and deforestation.

"Nowadays the whole world is affected by the continuous changes brought about by deforestation, the burning of plastic, the industrial activity and pollution. All this is part of the climate change. That's why we are exposed to global warming, gas emissions and pollution from factories, vehicles and bonfires"

— FORMER AUTHORITY OF THE COMMUNITY OF BALSAPATA - PUNO

"In the past, it was not as warm as it is nowadays. This is an effect of pollution. For example here we pollute by burning plastics and bottles [...] we don't have to throw plastics away because they are useful. We are cutting plants and trees but this implies a loss in the amount of oxygen we can get from them"

- PARTICIPANT FROM THE COMMUNITY OF PAMPA TITIHUE - PUNO

"We analysed the Climate Change, its causes and effects. Why is this change taking place? Because in our planet developed countries and big factories damage the environment by emitting gases and fumes to the atmosphere. It is no longer as it was before, when climate was gentle and we could try to sound weather out by guessing from bugs' behaviour. Nowadays, due to this change, it doesn't work this way any longer. For example, when it is about to hail, clouds get charged and show up quickly over there. So, Climate Change occurs because of the gases and CO2 fumes that big factories emit. Furthermore people frequently throw plastics and trash on the countryside and this too is a cause of the Climate Change"

- PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

Interviewees reported an increase in temperature and rain as well as a variation in the river levels. They also highlighted the melting of snowcaps, the appearance of crop plagues and the spread of human and animal diseases as consequences of the Climate Change.

"Climate has changed due to the global warming: temperature is warmer now"

— PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO

Notwithstanding the qualitative nature of this investigation, thanks to the excellent results obtained during the focus groups, it is possible to estimate the general level of remembrance at approximately 90%



"Due to the global warming, rain and temperature are terrible nowadays. It rains too hard and, as a consequence, water is washing the black and arable soil away. Besides, the level of natural springs is increasing and, as we have noticed, this has a negative effect on us since we live in a lower area"

— PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

"Nowadays things have changed. In the past, weather was extremely favourable but it has changed quite a lot in the last few years: sun burns harder, snowcaps are melting and the level of natural springs and rivers is lowering. Everything has changed"

— PARTICIPANT FROM THE COMMUNITY OF TOTORA - CUSCO

In addition, as some mentioned, during the past few years, the Climate Change has affected community-based economies in a negative fashion.

"Climate Change is weather variability throughout time. Nowadays, the appearance of crop plagues and diseases as consequence of the high temperatures and the increase in the amount of rain has a direct impact on our economies. As an effect of global warming, snow is rapidly melting. It is no longer as it used to be and this causes slides and heavy rainfalls. Here in the Quebrada⁶ of Salcantay, the excess of hydric resources is washing the arable land away. 80% of the people who live here are farmers and, during the last few years, we have been working in tourism as well. Climate Change affects us because without good earnings, all the aspects of our lives are in danger, including our health"

— YOUNG LEADER FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

With respect to **RISK IDENTIFICATION,** participants could list all the different hazards that endanger their communities and, as the following quotations show, interviewees identified a set of different phenomena such as floods, frosts, hailstorms, droughts, landslides, lightning and strong winds.

"At times we are affected by floods, in other periods hail falls and destroy our season's yield. We also have to struggle against frosts as they ruin everything when they come. Finally we have droughts"

— PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO

"Flood is the most common hazard we have to deal with. However we are also threatened by hailstorms, frosts, droughts and lightning"

— FORMER AUTHORITY OF THE COMMUNITY OF BALSAPATA - PUNO

"This area is mainly affected by floods, hailstorms and frosts. They ruin the quinoa and all the other things"

— FEMALE PARTICIPANT FROM THE COMMUNITY OF YAPIJ PALLCAPAMPA - PIJNO

⁶ Quebrada = ravine



"Hailstorm, frost, flood, drought, rain, wind. These are the hazards we have identified in this community"

— AUTHORITY OF THE COMMUNITY OF CENTRAL HUAYTA - PUNO

Furthermore, a number of participants demonstrated to be able to enunciate hazards according to the level of threat they represent or the season during which they appear.

"Flood is at first place, since in this area we mainly suffer from it [...] we are located in between two rivers and this represents a danger because the increase in the water level makes the lake overflow [...] flood is a big risk. Hailstorm and lightning are at second place [...] All of a sudden the hailstorm comes and hail sometimes falls over the people or the animals. When it falls over our fields, it ruins the quinoa, the totora, the alfalfa, the broad beans and the barley. This too is a big risk for us, as well as the frost, that only occurs during certain years. We know it already, in February it is so strong that it burns the potatoes and destroys our harvest. Drought is the last risk and it manifests itself from the first week of July on-wards. Sometimes it stops raining till December"

— PARTICIPANT OF THE COMMUNITY OF CUCHO YANAOCO - PUNO

"Here we are in between the rivers Tsatsara and Salcantay, so floods are the principal risk. Landslides represent another problem during the rainy seasons and year after year, they always occur in the same areas. The slaughterhouse is another latent hazard. It is located at the entrance of our community and we deem its position is not good because there are plenty of rats and mosquitoes. Furthermore cattle are dirty and, since the slaughterhouse is here, our pets suffer from ticks"

— FEMALE PARTICIPANT FROM THE COMMUNITY OF SAUCEPAMPA - CUSCO

In addition, a number of interviewees identified the Climate Change as the primary cause of the notable increase in the intensity of these hazards during the past few years.

"Due to the Climate Change caused by human activities, rainfall patterns have changed sharply. The total amount of rain has decreased to inadequate levels and the hailstorms occur during atypical periods. For these reasons, excessive rainfalls cause floods in our fields. Climate change has upset our region and our communities because everything has changed. The vast majority of our fields are in loss and we are working for survival only. I think that the Climate Change damages farmers and cattle breeder quite a bit under the material aspect"

— AUTHORITY FROM THE COMMUNITY OF PAMPA TITIHUE - PUNO

"Year after year we see that frosts are increasing, hailstorms are getting stronger and rain falls so violently that they produce floods, wash our fields away, cover our pastures, damage our houses and make us fall down in the low areas. We talked of drought as well: during the months of September and November temperature increases, sun burns and spring water level gets lower and lower"

— PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO



As regards risk identification, it is important to highlight participants' ability to read and use the HAZARD MAPS. As the following quotations demonstrate, interviewees were able to identify and describe all the different elements appearing on the maps. Among these, the most important for community-based DRR planning were:

The topographic characteristics of the communities, such as rivers, mountains and lakes

"In this spot we marked that we are located at the union of two rivers, Ramis and Huancane"

— PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO

"It has its own islands. Here we placed the lake and the totora garden"

— FEMALE PARTICIPANT FROM THE COMMUNITY OF CUCHO YANAOKO - PUNO

All the infrastructures present in the communities, like community centre, health care center, schools and trails

"In the event of a flood, water passes over the road up to the school. The school is here and houses are there. The flood gets as far as this spot marked here"

— PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"In this moment we are here, in the community centre"

— FEMALE PARTICIPANT FROM THE COMMUNITY OF PAMPA TITIHUE - PUNO

"Evacuation routes indicate where we can escape [...] if we have to get our children out of school, we take them to this path"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PLINO

The houses of all the families are identified by a labelling number

"We drew this map to locate where children and the elderly live. This way we are aware of where they are, we can go to their places and evacuate them in case of danger"

– member of a community-based emergency brigade from Balsapata – Puno

"Our houses are distributed all over this map. Every family knows the location of their house and their cattle. We total 102 families here. On the map we can also see where the rivers flow and the evacuation routes we have to follow. This map identifies all the hazards"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL HUAYTA - PUNO (FREELY TRANSLATED FROM QUECHUA)

"We have drawn this map. During the workshops we located every single house and assigned a number to each one of them. Trails and risky areas are displayed as well"

- female participant from the community of Pias Huayta - Puno (freely translated from Quechua)



High, medium and low risk areas, tagged with a red, orange or green cross respectively

"We marked the risks. First comes the red colour, which indicates the presence of a high risk, then the medium risk in orange and finally the low risk, which means the absence of danger. We also registered our houses. There they are [...] Why did we tag the hazards? Because this whole area is floodable. We also have medium-level risk. Why is it medium? Because when the level of this river increases, it inundates the houses located in the lower area. That's why we used the orange colour. In the higher zones we placed green crosses because the mountains are safer"

- PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO

"We put these signals to see where the hazards can occur. Red means high risk and right now houses located in those areas are flooded. The road is a medium risk area. At the moment the houses there are getting closer to water. Low risk is where it cannot inundate and it is this area here"

- PARTICIPANT FROM THE COMMUNITY OF CUCHO YANAOCO - PUNO

"Red is a high risk, it means that the risk is bigger because the river is close and can overflow. Green indicates a safe area with no risk. Orange represents a lower risk than red"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO (FREELY TRANSLATED FROM QUECHUA)

The different kinds of hazards, such as floods, hailstorms, lightning, strong winds and plagues

"These are lightning and thunders, those are strong winds. They all represent the hazards we were talking about earlier. The drought is here because when sun shines trees run dry. Over here we have floods and drought as well"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

Systems of community health surveillance (SIVICO) with DRR approach

"SIVICO is a tool that allows us to identify households in risk and establish priorities in health care [...] the presence of red or green pins indicates whether there are pregnant mothers, young children or elderly family members. This is critical information in the event of an emergency or a disaster"

- nurse of the community of Pias Huayta - Puno

"SIVICO is useful because it helps us identify our children and our pregnant mothers. Even when other nurses come from Santa Teresa, they can see if there is any child or woman in danger"

- NURSE FROM THE COMMUNITY OF TOTORA - CUSCO



"SIVICO is an idea by CARE. Without CARE we would not have this map [...] First we did the census and then we drew it with the other participants"

- NURSE FROM THE COMMUNITY OF TOTORA - CUSCO

When trying to describe the functioning of an **Early Warning System** and illustrating the articulation of its different components, interviewees showed some difficulties. In spite of this, as following quotations show, problems disappeared when participants explained the organisation and working mechanisms of EWS in their own communities. The vast majority of the interviewees:

Highlighted that a good organisation together with the elaboration of effective measures of prevention represent fundamental components for the implementation of a EWS

"Thanks to CARE we learnt how to be alert to frosts, hailstorms and floods. In case of a hailstorm we light bonfires and shoot rockets. We also learnt to be wary of floods and how to evacuate before everything is covered by water. Through CARE we learnt about early warning. Nature affects us and we didn't know how to defend ourselves, we learnt to use rockets, pututo and bonfires to face hailstorms"

- AUTHORITY OF THE COMMUNITY OF PALLCAPAMPA - PUNO

"Early Warning System means that we have to be prepared in order to face any risk or danger"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

"EWS implies teaming up. For example here we should cooperate with all the sectors in Santa Teresa. We should locate people in strategic places so that they could give the alert in case of an emergency and warn the population living in the most vulnerable areas of the micro basin. In this way, everybody knows what's going on. If we warn people that a flood is coming, we can avoid human losses [...] through a rule painted in red, yellow and green a trained person can evaluate the river level and warn others when water reaches the red colour [...] installing a mobile or a landline phone is not an effective measure because they stop working in case of a landslide. Instead, solar cells and batteries could be used and, at the same time, a trained person should be put in charge of the equipment. This way we would have no human losses"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

Described the alarm signs and the different hazard indicators that exist in their communities, such as changes in animals' behaviour, variations in the colour or level of water and the appearance of clouds.

"In the afternoon we already know if it's going to hail. We know the different dates for winds and rainy season, So we can prepare. For example, when birds nest on the upper part of the totora, it means that the lake will fill up causing floods. If birds lay



spotted eggs, it's a sign that hailstorms will come. We own this kind of knowledge and we use it to be alert"

- PARTICIPANT FROM THE COMMINITY OF YACAHIJE - PINO

"Monitoring and warning system means that we have to be wary of the river, for example. If the river changes its colour or level and clouds appear, then it may start to rain. In this case we use plants, sheep and birds as hazard bio-indicators"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

Described the communication tools that authorities use to give the alert, such as whistles, loudspeakers, pututos, radios and flags

"EWS is a prevention tool [...] we have to be alert before an emergency occurs [...] In case of a danger we immediately use the horn or the whistle, raise the flag and meet up to organise"

- AUTHORITY OF THE COMMUNITY OF CENTRAL HUAYTA - PUNO

"The communication stage means that we communicate to each other through whistles, horns, rockets, mobile phones or radios in order to be on the alert for rainfalls, winds and hailstorms. Response is a consequence of communication"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PINO

"What do we have to do when a flood comes? I don't remember the year, but everything happened very quickly and within a few hours all was covered in water. At 6 in the morning the Huancane river overflew and at 3 pm this whole pampa was under water. That's why we have horns or whistles. We can use them to warn people when the river is overflowing or a hailstorm is approaching. We can also use whistles and mobile phones to spread the voice whenever the river is full. Only authorities use the whistles and we help each other"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF CLICHO YANAOKO - PLINO

Explained the role of SENAMHI in community-based EWS as well as the importance that weather forecasts have in disaster prevention

"We also have the SENAMHI, that warns us when rainfalls are approaching"

— PARTICIPANT FROM THE COMMUNITY OF BALSAPATA — PUNO

"Thanks to the electric power, we have television and radio. So in the mornings we listen to the forecasts and through SENAMHI we know whether it's going to rain or not"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF CUCHO YANAOCO - PUNO

Described the main prevention actions adopted, such as shooting rockets in case of intense sunshine and clear sky in order to inhibit the formation of



ice crystals and hailstorms or the evacuation of high risk areas before rivers' spillover

"If water gets out of the river, we use the horn or the whistle so people can move out immediately, meet up and flee away"

- FEMALE PARTICIPANT FROM THE COMMINITY OF PAMPA TITIHIE - PIINO

"We use all of these means of communication to give the alert when a strong wind comes: this is the horn. If the wind comes from there, then the person who stands there has to blow the horn to warn people or has to shoot a rocket in case of a hailstorm. The mobile phone can be used as well. The person that hears the whistle has to be prepared and flee away. We examined these means of communication, we can use the horn or shoot a rocket or blow the whistle [...] As a consequence we meet up to evaluate the situation and decide where to go to be safe and how to help each other [...] Through the radio, SENAMHI warns us about the weather conditions and help us"

— PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA — PUNO

As the following quotations demonstrate, interviewees could easily describe what a **HAZARD DRILL** is.

"An emergency drill is a way to be prepared to prevent risks and to know where we can evacuate"

- PARTICIPANT FROM THE COMMUNITY OF PALLCAPAMPA - PUNO

"A hazard drill is anticipation of floods, hailstorms or any other existing danger"

— PARTICIPANT FROM THE COMMUNITY OF BALSAPATA — PUNO

"A hazard drill is what to do in case of a hailstorm or a frost. It is as if it was hailing and we were shouting to launch the alert"

- female participant from the community of Central Titihue - Puno (freely translated from Quechua)

"I think the hazard drill is a sort of an example. It's an activity we did to practice what happens with thunders and hailstorms. We also practiced what to do when a lightning hits someone. The lightning hit a young man who had a mobile phone in his hand. We had to warn the authority and bring a doctor. We have to plan what to do"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"It's a trial, a practice to know how to prevent, how to act, where to go and where not to go, what to do to divert a hailstorm. Nurses have to participate as some people might be injured. There must be an ambulance to move them to the hospital [...] We also made a wooden stretcher to evacuate them to the hospital"

- PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PIINO



It is important to notice that the realisation of hazard drills represented a fundamental strategy to improve participants' remembrance. As interviewees claimed, taking part to one or more drills makes it easier for every member of the community to remember his own roles and responsibilities in case of emergency.

"The emergency drill allows us to practice what is about to happen. Thanks to it, each one of us knows what to do in case of emergency. That's why the drill is so important for each one of us. For example, all my neighbours know what to do at any given moment"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PIINO

"We make a rehearsal, we are practicing what we have to do when a hailstorm, a flood or a drought comes. I was an authority so I had to be alert, blow the whistle and help. The exact same things can occur and if this happened, we would act the same way"

- FORMER AUTHORITY OF THE COMMUNITY OF CUCHO YANAOCO - PUNO

Interviewees had some difficulties to remember the principal features of the Contingency Plans.

"Right now I don't have memory of the contingency plan"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"I don't remember what a contingency plan is"

- PARTICIPANT FROM THE COMMUNITY OF TOTORA - CUSCO

Nevertheless, in a number of communities, participants were able to detail the necessary steps to follow in case of an adverse event and could describe the roles of emergency brigades' members, authorities and population to face the emergency.

"As soon as we perceive that the river is about to overflow, we organise an assembly with the authorities of the community. They communicate with INDECI and we decide that every family has to evacuate. If water comes slowly then we move away without hurrying. In any case, first come the children and then the cattle. In the meeting we are always with the authority"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF PALLCAPAMPA - PUNO

"I am a member of the Emergency Brigade [...] All the members are responsible for the other people and we have to help them evacuate, giving priority to children and the elderly. Each member of the Brigade is in charge of an evacuation route towards the highest areas. We are prepared to evacuate those who live close to the water. We have small boats that we use in case of an evacuation"

- MEMBER OF THE EMERGENCY BRIGADE OF THE COMMUNITY OF BALSAPATA - PUNO



"A contingency plan is to be prepared and organised to face a disaster or the harshness of nature. Every person has a role to play in case of an emergency and needs to know what to do and where [...] As an authority, I am in charge of the organisation and if I cannot face the emergency, then I have to contact a higher authority of local or regional level"

- AUTHORITY OF THE COMMUNITY OF PAMPA TITIHUE - PUNO

"A contingency plan includes actions and decisions that we take to save our lives. We analysed all the different problems we can have and how we can organise and defend ourselves from frosts and all the other hazards. We have done a kind of summary to be able to defend ourselves from these risks. We have seen that it is necessary that all the authorities have a specific function. The governor has to check every single house and sector"

- AUTHORITY OF THE COMMUNITY OF PIAS HUAYTA - PUNO

"We have already made our contingency plan. It states that the President of the Community is the President of the Civil Defence, too. We have also set up the organisation to provide the exact information in case of material losses. For example, thanks to the hazard maps we drew, the health promoter knows exactly how many children, women and elderly people live here. All this information is necessary to respond to an emergency"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

As concerns the contingency plan, it is important to highlight that the difficulties recorded with the term disappeared with the concept. It is also worth recalling that the contingency plans elaborated during the workshops had not been distributed when focus groups took place. This negatively affected the remembrance level that participants demonstrated to own with respect to the topic⁷.

In Puno, beneficiaries took part to a series of workshops aimed at developing abilities on how to adapt buildings to severe climate conditions. Although this component was not object to this systematisation, focus groups permitted to estimate a remembrance level of this activity of about 70%.

APPRECIATION / EVALUATION





As it was mentioned before, the terms 'appreciation' and 'evaluation' refer to the value, importance and usefulness that participants gave to contents, concepts and tools they used or analysed during the workshops. To this regard, it is important to notice that interviewees gave an extremely positive evaluation to the capacity-building programme.

"Workshops make us think. They are useful because they tell us how to organise and meet"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO

"I liked the workshops because nowadays the environment is polluted and we have to be open-minded. That's why I'm coming, I want to know more about the workshops"

— PARTICIPANT FROM THE COMMUNITY OF CUICHO YANAOCO — PUNO

As a number of interviewees maintained, FOCAPREE workshops represented an opportunity to address innovative topics that had never been tackled before. At the same time, thanks to the capacity-building activities, participants gained knowledge and skills to build a stronger community-based organisation to face the existing risks.

"We received a very important contribution from CARE. We all had the opportunity to learn things we didn't know about the Climate Change. We had heard about the Climate Change before but we didn't know that much. When the person in charge came to our community, she taught us much more"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

"All the workshops and courses we had were very important to us because in the past we didn't have any person teaching us about how we can avoid the floods, the hailstorms, the frosts and the droughts"

- PARTICIPANT FROM THE COMMUNITY OF CUCHO YANAOCO - PUNO

"No authority paid attention to our problems before, but now, thanks to CARE, we are prepared"

- Participant from the community of Central Huayta - Puno

"We have learnt quite a lot. 15 years ago there was no NGO and no support, there was nothing. Farmers spent their time in the fields; they went from their homes to their fields and vice versa. Nowadays, thanks to the NGOs and the workshops they carry on, we are progressing. In the past we chopped down trees and exploited mountains, but we have stopped doing this. At present we take care of the environment. I cut down 2 or 3 trees instead of 10. Why? Because I'm concerned about the future. In the past we were ignorant: we destroyed flora and fauna but these days we don't do this anymore. Thanks to these workshops we have realised that plants give us life and oxygen"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - SANTA TERESA - CUSCO



As the following quotations demonstrate, participants held in high regard the opportunity to learn how to recognise risks and prevent dangers in a coordinated and organised manner. They also appreciated how to take care of natural resources and how to put efficient cooperation mechanisms into practice.

"We didn't know the risks we have here, but now we do"

- AUTHORITY OF THE COMMUNITY OF PALLCAPAMPA - PUNO

"Thanks to CARE's project we have learnt to help each other honestly"

- PARTICIPANT FROM THE COMMUNITY OF PALLCAPAMPA - PUNO

"Previously, in case of a flood each person thought about oneself but, after the workshops, we have learnt how to organise ourselves. We can coordinate where to evacuate through organisation. Workshops were good because previously each one fled on one's own and it didn't work as it does now. Nowadays each one of us knows where to go and can count on a group of persons in charge of safety"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

"CARE trained us on organisation and taught us how to take decisions on the basis of the emerging needs. For example some people have been designated to give the alert by blowing whistles and horns in case a flood or a hailstorm that strikes us at night. As a matter of fact, hailstorms frequently come at night when we are more vulnerable"

— PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITHUE — PUNO

"We are organised, we are aware. In the past all we did was to help each other as we could, but now, thanks to the workshops, we have learnt effective methods to support each other"

- AUTHORITY OF THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"We have learnt many things. In the first place we have learnt how to organise our community and identify our needs. But why should we get organised? To defend ourselves from floods, hailstorms and frosts"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF CENTRAL HUAYTA - PUNO

"Thanks to the workshops, we have learnt many things and now we are organised into groups. Our neighbours build their houses in higher areas and keep their cattle safe. We know how to defend ourselves because our community is well organised"

- FEMALE PARTICIPANT FROM THE COMMINITY OF CENTRAL HIJAYTA - PIINO

"The best thing we learnt is to be prepared. Probably we are not putting in practice all the things we were told but we have the knowledge now and we can share it with our neighbours that didn't assist at the workshops"

- AUTHORITY OF THE COMMUNITY OF LUCMABAMBA - CUSCO



"CARE helped us quite a lot to look after our natural resources such as water and woods. They also taught us how to improve our community by collecting our litter"

- PARTICIPANT FROM THE COMMUNITY OF TOTORA - CUSCO

Participants approved the pragmatic methodology adopted during the workshops because, in their opinion, it favoured socialisation and speeded up learning.

"Workshops were fun. We were divided into groups and each group worked on a different hazard: drought, flood, hailstorm and frost. The best thing is that everybody participated in the discussions even if only through a couple of words. We chose a moderator and a secretary. This teamwork was very interesting to me and I liked it because everybody got involved. It was very dynamic and pleasant. We also laughed in some occasions, especially when some of us had to make a presentation. We asked questions and clapped our hands"

- AUTHORITY OF THE COMMUNITY OF PIAS HUAYTA - PUNO

"The hazard map is useful to know where we have to evacuate. When we didn't have a map it was harder [...] this map helps me"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"I liked the hazard map because it taught us to locate the place where each one of us lives. Moreover it shows the areas with high, medium and low risk"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

"Map is a very useful tool. We know where all the places are because they are pinned there. Even our neighbours can detect different locations when they see the map during our meetings"

- AUTHORITY FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

"Even children use this map to learn the geography of this sector because they study in this room. In case of emergency, they will know where to go because they know the places. The elderly know the map too"

- YOUNG LEADER FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

Besides hazard drills and sketch maps, interviewees showed appreciation for the rest of the topics too. They particularly appreciated the hazard identification, the vulnerability and risk analysis, democratic leadership, the contingency plan and the protection of the environment.

"Identifying hazards was useful because we always get affected by one of the 5 or 6 hazards we have here"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF PALLCAPAMPA - PUNO



"I liked the contingency plan because we learnt how to communicate to our authorities and how to plan our activities"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL HUAYTA - PUNO

"We discussed the formation of leaders. I think that here each one of us should be a democratic leader. This only happens when the community is managed for the benefit of everyone and not in favour of a small group of persons. This is what I liked the most"

— PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA — PINO

"I liked being informed on the micro basin. Now I know that it's divided into high, medium and low zones. First is the catchment area, then comes the drainage area and finally we have the water exploitation area. Now that we are aware of this, chopping a tree in the high area hurts because we know that trees collect the water use and release it little by little"

- YOUNG LEADER FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

"I liked cleaning public areas, taking care of the environment and saving water"

- PARTICIPANT FROM THE COMMUNITY OF TOTORA - CUSCO

OWNERSHIP





After analysing interviewees' remembrance and appreciation levels, the aim of the present section is to examine to what extent FOCAPREE beneficiaries have adopted workshops' content by elaborating and implementing prevention, mitigation and response strategies to enhance DRR in their communities. To this regard, all the communities where focus groups were performed showed high levels of appropriation. As interviewees affirmed, a number of different DRR measures have been developed in the communities so far.

Among the activities that have been implemented, it is important to acknowledge that mechanisms of collective organisation are at work in several communities with the aim of strengthening the effectiveness of preventive and responsive measures. For example:

In Yapu Pallcapampa, it was established that the adoption of DRR measures is the responsibility of the authorities, who are in charge of organising prevention, mitigation and response activities:

"We are organised because the authorities of this community are in charge of watching over all this area"

- PARTICIPANT FROM THE COMMUNITY OF YAPU PALLCAPAMPA - PUNO

In Yocahue, it was determined not to sow primary agricultural products in the floodable areas of the community;

"As a preventive measure, we only sow in high areas. For example we don't plant highly valued products such as potato and quinoa in low areas anymore"

- PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO

In Balsapata, 4 Emergency Brigades were constituted, they are in charge of evacuating people in the event of a flood;

"Since we are organised already, in case of a flood the brigade would immediately get activated and we would all start to work. This year water didn't reach the community. Anyway we have it all planned and we have 4 evacuation routes to different places"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

In Lucmabamba, the habit of building houses in high-risk areas was brought into question;

"We have to prevent. We cannot build close to the river. We have to do it in safe places"

- PARTICIPANT FROM THE COMMUNITY OF LUCAMBAMBA - CUSCO

In Central Huayta and Central Titihue, the problem of recurrent droughts was analysed in public assemblies. As a result, possible solutions, such as the installation of a storehouse or the construction of a dam, were proposed;

"Every time we have a drought, the lake gets dry and there is no water for animal



and human consumption in the mountain. For this reason we have to deposit some food for people and animals. We have to keep straw in a warehouse"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"In regards the drought, we know that during the months of October, November and December there is no water so we are planning to build a dam to store water and use it during these months"

- Participant from the community of Central Huayta - Puno (freely translated from Quechua)

Not only did FOCAPREE workshops result in effective community-based organisation mechanisms, but they also succeeded in fostering the elaboration of individual mechanisms of resilience. As the following quotations show, interviewees reported a number of different actions, such as the preparation of life-saving bags, the elaboration of family-based contingency plans and the usage of natural fiber clothes and sunglasses to get protection from severe weather conditions.

"I've been thinking of what I'm going to do, which things I have to collect first and how we are going to give the alert. This is why I already bought my sacks. I've been also worrying about where I shall leave the cattle"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

"We can prepare our life-saving bag and put money, clothes and food in it. We can leave it by the door and be prepared to leave. I have my bag ready. As I live on my own I got prepared. If my house falls down I can go far away"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"We have to use big umbrellas to protect ourselves from the sun, sunglasses to keep our eyes safe and classic natural fiber clothing. When temperatures are low, we have to wear traditional coats, like poncho, to avoid sickness"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL HUAYTA - PUNO (FREELY TRANSLATED FROM QUECHUA)

In addition, interviewees affirmed that, as consequences of the workshops, a number of communities have adopted disaster prevention measures. For example, in order to inhibit the risk of hailstorms and frosts, systems of quotas have been established to purchase rockets and coordination mechanisms have been set up to melt ice crystals in the air by lighting bonfires.

"We put money together to buy and shoot this kind of rockets [...] We light bonfires to make smoke and we blow whistles and horns"

- PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO

"We decide the amount of each quota during the assembly and our authority is in charge of collecting money and buying 2, 3, or 4 dozens of rockets"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO



"We did the hazard drill between October and November. As the raining season lasted from December to February we could put into practice all we did in the drill. We bought rockets and when the hailstorm came, we gave the alert as we did in the drill. We imitated the drill and it worked at 70% at least"

- Participant from the community of Central Titihue - Puno

"We approved it during an assembly and now we have money and materials ready. We all have to save some money for the quota. Some are richer than others, so authorities have to decide the amount of each contribution"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"Thanks to the workshops we have organised our community. When the hailstorm comes we immediately shoot rockets"

- PARTICIPANT FROM THE COMMUNITY OF PAMPA TITIHUE - PUNO

"For example, we did a hailstorm drill. The frost came at the dawn and we had to prepare the bonfire. We are practising all this and now, when the frost comes in the morning, we repeat the activities we realised during the drill"

- PARTICIPANT FROM THE COMMINITY OF PIAS HIJAYTA - PIINO

Some interviewees stated that, after the workshops, they had the opportunity to practice the evacuation of people and animals from floodable areas to safe places.

"Because of the floods, during the rainy season we have to be prepared to abandon our house and flee to a higher and safer place. But what should we do for droughts? We have to take care of our natural springs and don't let them dry up because water is fundamental for us, our animals and our crops"

- PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

"I live in a high-risk area because my house is located by the river and gets flooded. When the river level increases we leave to the mountain because we need to get safe"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

"We are telling our neighbours that they have to live in safe places and avoid building their houses by the river"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

As a consequence of the workshops, some communities have started to build relations with a number of public institutions and manage administrative procedures with authorities at District and Province level.

"We request sacks to the Municipality and they give us"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO



"We took part to the participatory budgeting to get funds for river defence"

- Participant from the community of Pias Huayta - Puno

"We make the inspections. We accomplished the management of our hydric resources: our spring waters got piped from the high area to the low one. This is already working and at the moment it's in its final stage. Moreover, slides seriously affected roads. For this reason we are making concrete kerbs to collect water and pipe it away. We have done this in collaboration with the Municipality"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

As the following quotations demonstrate, with regard to the construction of prevention and mitigation infrastructure, interchanges with public institutions mainly occur through Civil Defence officers who are in charge of receiving machinery or equipment requests from the communities' representatives. In second place comes the Department of Agriculture.

"We are coordinating with the chief of Civil Defence. He's the only person who can help us by providing us with the sacks we need. When the river is overflowing, he gives us the sacks and we start to work"

- PARTICIPANT FROM THE COMMUNITY OF PALLCAPAMPA - PUNO

"Our last emergency occurred when the Ramis level increased and our crop was washed away by the flood. We communicated it to the Civil Defence, but they told us to resort to the Department of Agriculture to get our seeds back. Civil Defence gave us sacks to contain the overflowing of the lake and fix the river defences"

- PARTICIPANT FROM THE COMMUNITY OF PAMPA TITIHUE - PUNO

Notwithstanding the coordination efforts implemented, it is important to highlight that, in the majority of the cases, communities do not receive the requested support from the authorities. This contributes to reinforce the negative perception participants have with regard to public institutions, as these are perceived as distant and selfish entities.

"We did coordination activities but unfortunately the Department of Agriculture doesn't respond. We provided documentation but we didn't get any adequate feedback. This is the problem"

- PARTICIPANT FROM THE COMMUNITY OF PALLCAPAMPA - PUNO

"We have Civil Defence but they've never given us complete support. They only provided us with some help. We don't want this [...] Civil Defence send a few kilos of food but this is useless to us"

- AUTHORITY FROM THE COMMUNITY OF PALLCAPAMPA - PUNO

"The person in charge of Civil Defence doesn't visit all the flooded communities [...] we went there as communities' representatives but it didn't work at all. Sometimes we get tired because we have to go there day after day. They tell us to go to the



Agrarian Insurance, but this doesn't work either. For example we have been going to the Regional Government for days. We have made three appointments there but they have never received us. This is an insult and it is expensive for us because every time 5 or 6 representatives go. We are weakened but we have to stay strong, because this is exactly what authorities look for [...] anyway in the past we didn't do any of these things, but now we are doing something at least. We have already presented the list of damnified and affected families and from now on we will demand!"

- Authority from the community of Central Titihue - Puno

Besides, some communities have commenced to implement actions in favour of the environment with the aim of diminishing the negative impact that human activities have on it. Among these, the most relevant ones are:

Reforestation campaigns

"Trees are earth's lungs. That's why everybody should plant some and take care of them. We have decided to look after trees and sow some"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

"We are reforesting pines. I've just planted more than 100 and they are growing already"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

Organisation of public cleaning campaigns

"We all met up and cleaned up our community because it's our responsibility to collect litter. Previously we didn't know this. We've just learnt all these things by taking part to the workshops. Even at home, each one of us is making efforts to reduce contamination"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PINO

"We are making the public cleaning. In the past, this whole area looked like a rubbish dump, whereas now we are cleaning it all up. We do it all together with the contribution of every single family"

- PARTICIPANT FROM THE COMMUNITY OF TOTORA - CUSCO

Careful management of hydric resources

"Since we have a lot of hydric resources here, our neighbours sometimes open their taps and let water run unnecessarily. For this reason we constituted an administrative committee on water and sanitation where all members are taught how to use water correctly"

- AUTHORITY FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

"We cannot waste water; we only use it when it's necessary and we pay attention



to it. We know how to classify garbage. We compost our organic waste and let the Municipality collect the inorganic waste"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

Adoption of healthy habits, such as recycling, at home

"One day we went to clean up. Furthermore now we collect dispensable bottles for recycling"

- PARTICIPANT FROM THE COMMUNITY OF CUCHO YANAOKO - PUNO

"We are recycling. In the past when we did our groceries, we used to put sugar and rice in plastic bags, but now we don't do this anymore. Now we use our own bags to avoid contamination"

- PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

Finally, the last action that is being implemented as a consequence of FOCAPREE workshops is the construction of prevention and mitigation infrastructure. As the following quotations show, in a number of communities, people are building river defences with the aim of preventing floods and improving protection from rivers' spillover.

"We are building river defences to protect ourselves from floods [...] we are reinforcing the most critical parts and we work tirelessly day and night"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PINO

"We are raising walls around the lake and the river to be safer"

- PARTICIPANT FROM THE COMMUNITY OF PAMPA TITIHUE - PUNO

"We work in family-groups. For example if we are three families and the spillover is 30 metres long, each family will be in charge of 10 metres. Some dig the ground and others fill the sacks"

- PARTICIPANT FROM THE COMMUNITY OF CUCHO YANAOCO - PUNO

Organisation represents a fundamental element even for the realisation of prevention and mitigation infrastructure. As a matter of fact, everybody in the communities takes part to the events that are organised to build contention walls.

"Organisation is very important and we are organising to improve prevention. When rainfalls come, we remember that we have to meet up to raise the contention walls"

- PARTICIPANT FROM THE COMMUNITY OF YOCAHUE - PUNO

"We are building river defences and we are practising all together. Yesterday we were working at the river; we built defences and lifted up walls. We asked Civil Defence to support us with sacks so that we can fill them with sand and raise a wall"

- PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

CONCLUSIONS

CARE Peru elaborated a holistic capacity building plan aimed to enhance rural communities' resilience to the recurrent hydrometeorological phenomena that cyclically hit the Peruvian territory. The plan was funded by USAID/OFDA-LA and developed as part of the FOCAPREE intervention in 23 distant rural and vulnerable communities belonging to the regions of Puno and Cusco. It was organised into a series of workshops that meant to strengthen participants' capacities in disaster preparedness, mitigation and response through the adoption of a dynamic and participatory approach and the implementation of a pragmatic methodology.

The present document aimed to systematize the community-based capacity-building experience by analysing the remembrance, appreciation/evaluation and ownership levels that participants reached in regard the issues, the topics and tools examined of used during the workshops. To this end, a qualitative investigation was realised and focus groups were performed in a sample of communities.

As the document demonstrated, interviewees showed good abilities to remember all the principal topics of the workshops. For example they could easily deal with the Climate Change, the risk identification and hazard maps. At the same time, the majority of them could present the different stages of the EWS in their own communities without problems, although some difficulties appeared when they were asked to describe its functioning at a theoretical level. Difficulties also appeared when participants tried to describe what a contingency plan is. However, this was mainly due to the fact that the contingency plan constituted an innovative management tool that had not yet been handed over to the communities when focus groups were conducted.

Interviewees showed high levels of satisfaction with respect to the activities implemented during the capacity building workshops. As the document illustrated, the selection of innovative topics and the adoption of a pragmatic methodology contributed to elevate their satisfaction level and favoured the creation of community-based organisation processes to face emergencies. As for participants' preferences, hazard maps and drills represented their favourite activities.

Finally, as interviewees highlighted, the workshops had the positive effect to encourage the majority of the communities to adopt a number of different DRR measures, such as the development of different mechanisms of collective organisation aimed at strengthening prevention, mitigation and response capacities, the direct implementation of disaster prevention actions, management relations with public institutions at District and Provincial levels, the construction of prevention and mitigation infrastructure.

RECOMMENDATIONS

During the focus groups, interviewees gave the following recommendations to enhance the effectiveness of the capacity building plan:

To wide the intervention area to other communities in order to level up DRR knowledge

"All the communities of the Santa Teresa District should count with an efficient organisation"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

2. To elaborate and implement an advanced level capacity-building plan in the 23 FOCAPREE communities

"All we need is to improve our organisation and to create a solid group that enables us to evacuate quickly. To do this we have to strengthen our capacities in prevention and be able to face every possible hazard. We'd like to receive more training in prevention"

— PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITHUE — PUND

"We want more workshop with CARE"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

"We need advanced level workshops because we are having good results even though we have just started. That's why we want more workshops and materials that help memory, such as brochures and leaflets"

- PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

3. To adopt an intergenerational approach and prioritise the participation of youngsters, teenagers and children

"Our sons should learn to work and live in an organised way. They should be organised"

- PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

"We have to involve children because their brain is like an empty tape. When you teach them something, they will never forget"

- YOUNG LEADER FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

"I think that the most important thing is to train 4 or 5 youngsters in each community, to group them together and teach them. After that, they can go to the communities and replicate the workshops"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO



4. To include theoretical and technical elements for the construction of disaster prevention and mitigation infrastructure, such as river defences, embankments and cattle sheds.

"We need an embankment to protect our houses and our cattle. We are using wheelbarrows to replenish the river banks, but we do need machinery"

- AUTHORITY FROM THE COMMUNITY OF PALICAPAMPA - PUNO

"As a mother, I'd like the riverbank to get refilled so that we could build our houses and live comfortably with our kids, without suffering anymore"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF OF PALLCAPAMPA - PUNO

"We want workshops on river defences"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PIINO

"We need an embankment that allows us to relocate"

- PARTICIPANT FROM THE COMMUNITY OF YAPU PALLCAPAMPA - PUNO

"Something we really need is the contention walls and the lake defences"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE

"We would need a cattle shed because when it hails we don't know where to shelter them"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL HUAYTA (FREELY TRANSLATED FROM QUECHUA)

"We count with the materials and the manpower needed to build the cattle sheds, but we don't have the blueprint. It should be modern and capable of providing an effective shelter to our cattle"

- Participant from the community of Central Huayta - Puno

"People are really interested in having a contention wall"

- PARTICIPANT FROM THE COMMUNITY OF NURSE AT THE HEALTH CENTRE OF TOTORA - CUSCO

5. To include Climate Change adaptation strategies in the priority sectors of health, agriculture and water and sanitation

"I'd like to be trained on children's health as well as on pollution"

- PARTICIPANT FROM THE COMMUNITY OF BALSAPATA - PUNO

"We don't have drinkable water, we consume water from the river but it's not good for children"

- PARTICIPANT FROM THE COMMUNITY OF YAPU PALLCAPAMPA - PUNO

"The water we are drinking is completely contaminated. We need a water storehouse"

- PARTICIPANT FROM THE COMMUNITY OF CUCHO YANAOCO - PUNO



"Our priorities are water and sanitation"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL HIJAYTA - PIJNO

"We would like to learn how to get water out of the ground. In the past, the river grew till June, July but now there is no water, no river"

- PARTICIPANT FROM THE COMMUNITY OF PIAS HUAYTA - PUNO

"We always have leaks of water in the bathroom. We need to make a good sanitation system"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

"We need sanitation as fast as possible"

- PARTICIPANT FROM THE COMMUNITY OF TOTORA - CUSCO

"We need agronomists to teach us how and where we can grow our crops because some of the products we have been sowing suffer from plaques"

- Authority from the community of Saucepampa - Cusco

6. To dictate workshops on first aid and rescue

"We don't have a rescue equipment to use in case of slides or downpours. What we need is to train young people on rescue and first aid so that we can evacuate isolated people. Youngsters are smarter than adults"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - PUNO

"Courses on first aid would be very important because we don't know how to handle ropes or stretchers. At least 10 people per area should be trained so that they could intervene and rescue people in danger in case of a disaster. In this way, we wouldn't have to wait for the rescue teams, whose action gets often slowed down by the collapse of communication routes"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

7. To provide participants with concepts and tools on political and institutional advocacy so that they can manage the relations with institution at District and Province level autonomously and effectively.

"The lady that trained us should have helped us to convey all the support we can receive"

- PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITIHUE - PUNO

"We have all learnt that we are in danger, but knowing it is useless if we keep on living in the same place. Now that we are aware of it, we have to prevent, but prevention is hard to accomplish. What we should have done was to create relations with institutions that could have provided us with materials, so that, with our manpower, we could have secured ourselves against risks or changed location"

- PARTICIPANT FROM THE COMMUNITY OF TOTORA - CUSCO



8. To provide communities with communications equipment, to distribute first aid kits8 to each family and to train participants on how to use them

"We need medicaments for people and animals. Each household should have a first aid kit"

- Participant from the community of Central Huayta - Puno

"We need communications equipment capable of working under any condition. For example we need radios but we cannot afford to purchase the disaster prevention equipment we need, no matter how organised we are"

- PARTICIPANT FROM THE COMMUNITY OF LUCMABAMBA - CUSCO

"DRR could be improved by delivering equipment [...] our weakness is that we don't count with a communications system. The only instruments we have are a phone and this radio here. As the phone works with solar energy, it doesn't last long during winter. We have no mobile phone reception and no safe route. No way we can communicate with Santa Teresa!"

- NURSE FROM THE COMMUNITY OF TOTORA - CUSCO

9. To elaborate activities aimed at fostering internships and information exchange of experiences and to enhance the creation of shared DRR mechanisms, such as EWS and Contingency Plans.

"It would be interesting to have knowledge interchanges. Since the river affects all the communities, collective mechanisms of coordination should be put into action"

— PARTICIPANT FROM THE COMMUNITY OF CENTRAL TITHIUE — PINO

10. To prioritise practical methodologies and to adopt an intercultural approach. It is important to render all the communications materials elaborated during the workshop-related activities accessible to all the participants by translating it in the communities' languages.

"Not all of my friends are able to read and write. Some of them don't understand Spanish and cannot put into practice all the things we learnt. We want practical workshops because differences between literates and illiterates disappear during practical activities"

- FEMALE PARTICIPANT FROM THE COMMUNITY OF SAUCEPAMPA - CUSCO

⁸ It is important to highlight that a first aid kit was distributed to each one of the 18 communities in Puno. This activity was implemented after the focus groups were conducted.

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ANNEXES



1: LIST OF THE FOCUS GROUPS

Region	Province	District	Community	N. of. participants
Puno	Huancané	Huancané	Yocahue	15
		Huancané	Pallcapampa	18
		Huancané	Balsapata	15
		Huancané	Yapu Pallcapampa	6
		Huancané	Cucho Yanaoko	13
		Huancané	Central Titihue	25
		Huancané	Pampa Titihue	14
	Lampa	Lampa	Central Huayta	43
		Lampa	Pias Huayta	36
Cusco	La Convención	Santa Teresa	Lucmabamba	9
			Totora	2
			Saucepampa	4



2: FOCUS GROUPS' STRUCTURE

ACTIVITY	DEVELOPMENT	RESOURCES	DURATION
Presentation Dynamic	The interviewer socialised with participants before starting the activities He/she introduced the activity and described objectives, methodology, length and contents of the focus group	Voice Recorder	5 minutes
Brainstorming and participation dynamics	 Participants were asked to describe the Climate Change together with its causes and effects Participants were asked to mention the risks that were identified in their communities Participants were asked to illustrate the different actions they were implementing to prevent and mitigate the identified risks. Who? What? When? Where? The remembrance of all the activities implemented was stimulated – DRR, Hazard Maps, EWS, Contingency Plans 		5 minutes
Debate on participative hazard maps	The interviewer asked: What is a hazard map? Is it any important with respect to DRR and why? What are the steps to elaborate it? A debate between participants started The interviewer showed the hazard map and asked participants to describe its different elements The interviewer summed up	Community hazard map Fibre-tip pens	20 minutes
Debate on EWS	The interviewer presented a poster with the following questions: What is EWS? Is it any important? What for? Is EWS implemented in my community? How does it work? What difficulties do we have with EWS and how can we overcome them? Do we practice hazard drills in my community? Are they useful to face present emergencies? Participants were invited to start a debate on the different answers The interviewer summed up	Posters with questions on the topic	20 minutes



Debate on the contingency plans	The interviewer presented a poster with the following questions: What is a Contingency Plan? Does my community have a Contingency Plan? Why is it important and what's my role in it? Remembrance and appreciation were stimulated The interviewer summed up	Posters with questions on the topic Community Contingency Plan	20 minutes
Self-reflection	The interviewer asked participants to reflect and share their opinion on the capacity-building plan by answering the following questions: What did I learn? What am I doing for my community?	Community Contingency Plan	10 minutes
The most significant change	The interviewees were asked to complete the following sentences: 'During the workshops I learnt that'; 'What benefitted my community the most is'; 'To improve DRR I suggest'	Pens and fibre- tip pens	10 minutes
Closure activities	The interviewer closed the focus group byexplaining how important participants' opinions are Attendance registration	Attendance sheets	5 minutes



ACRONYMS

FOCAPREE Enhancing Preparedness in Shelter and Early Warning

Systems in Peru

DRR Disaster Risk Reduction
EWS Early Warning System

INDECI National Institute for the Civil Defence

MVCS Ministry of Housing, Construction and Sanitation

NGO Non-governmental organisation

OFDA Office of Foreign Disaster Assistance (USAID)

RHN National Humanitarian Network

SENAMHI Meteorological and Hydrological Service of Peru

SIVICOS Sistema de Vigilancia Comunitaria

USAID United States Agency for International Development

WASH Water, Sanitation and Hygiene