NEPAL REPORT 2015

IDENTIFICATION TRIP

Mònica Sans(Amics Nepal)
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Lorenzo (CCD-UPC)

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Program to improve housing affected by recent earthquakes (25/4 and 12/5 of 2015) in Bhimphedi, Nepal.

BHIMPHEDI Awasuka

AAWAAS SUDHAR KARYAKRAM

Proposed by:

Amics of Nepal Association

In collaboration with:

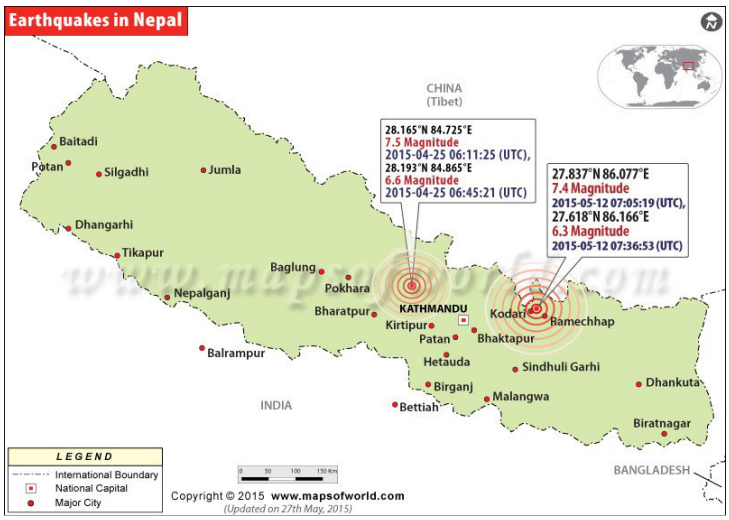
Base-A Architecture and cooperation

UPC Center for Cooperation

INTRODUCTION

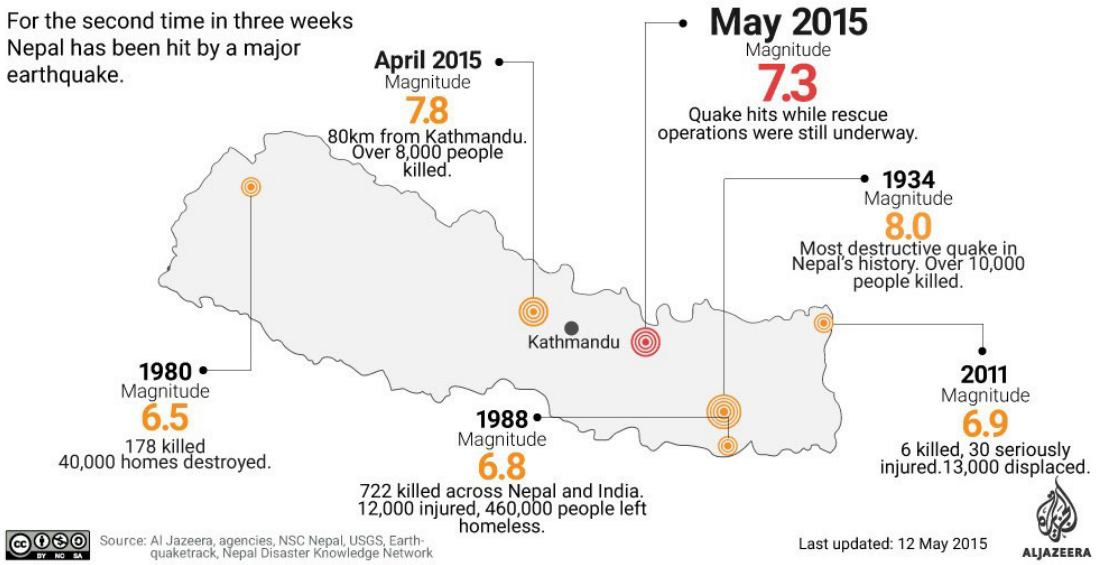
0.1. EARTHQUAKES IN NEPAL

On April 25, 2015, an earthquake measuring 7.9 on the Richter scale shook Nepal. This has been the most serious earthquake the country has suffered since 1934. Subsequently, on May 12, 2015, still during the emergency and rescue phase, a second earthquake took place, leaving a death toll of more than 10,000 victims, 20,000 injured and numerous and significant material damage on a population that was already among the poorest on the planet, ranking number 145 on the Human Development Index (HDI) on an overall of 187 countries in 2014.



These conditions have led to a humanitarian crisis that translates into 9.5 million people (one quarter of Nepal's population) requiring humanitarian assistance, 2.8 million internally displaced persons and 1.4 million people in need of feeding. As a result, a great international response is still taking place, deriving into the shipping of food, search and rescue equipment, and the development of new projects to help stabilize the situation in the country.

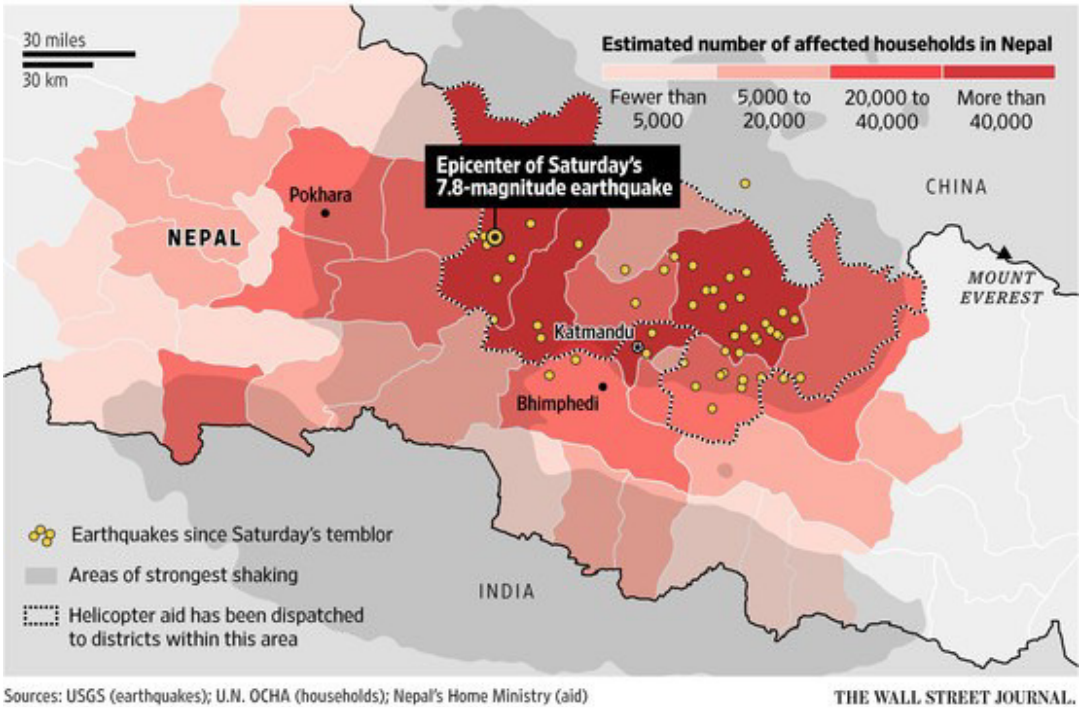
Nepal lies atop the thrust fault of the Indian and the Eurasian plates. This situation has resulted on numerous violent earthquakes throughout the history of the country, as we can see below:



0.2. REFERENCE TO BHIMPHEDI

For 20 years Amics del Nepal has been working in this municipality, managing an orphanage and developing projects for the community. With the new earthquake, and thanks to the presence of an expatriate resident in said orphanage, Amics del Nepal was able to carry out a first emergency action for this community with the purchase of 300 tents for the inhabitants of the 9 neighbourhoods that comprise this municipality. The final balance of material damages in this area reported a total of 80% households affected.

The buildings of the district of Makwanpur, where the municipality of Bhimphedi is located, have been severely affected. The maps elaborated by NSET (Nepal Society of Earthquake Technology) reveal this degree of affectation.



0.3. THE AMICS DEL NEPAL INITIATIVE

Given the huge number of damaged households in Bhimphedi, Amics del Nepal plans to implement a plan of action in the town, but still does not know exactly how. Just a week after the earthquake, a series of external offers have been that encourage action:

- CALDES SOLIDARIA, an NGO that previously collaborated in the construction of the Bhimphedi orphanage, confirmed Amics del Nepal their will to give financial support to the reconstruction of Bhimphedi.

- BASE-A, an NGO with experience in architecture and cooperation, offered technical support to the project through volunteers who have been working in the territory for a long period of time, being able to provide quality follow-up to the reconstruction work.

- CCD-UPC, a cooperation department of the UPC (Polytechnic University of Catalonia), offered technical support by providing the services of an expert advisor in post-disaster reconstruction and logistic support by financing trips of volunteer technicians linked to the UPC.

- Other NGOs and technical professionals (ASF, the guild of woodworkers, technicians from different backgrounds, etc ...) offered professional technical support to the project.

- Funds received from a multitude of individuals and small organizations who showed their generosity by providing solidarity to the victims of the earthquake and contributed to the emergency reconstruction.

All this external was a very positive add-up to the resources that Amics del Nepal already had:

- Expatriate workers in the Field, Amics del Nepal co-operators who were residing in the town and facilitated direct and immediate contact with the local community, monitoring and controlling the work.

- Our architect, the coordinator of Bhimphedi from Barcelona, teaming up with the expatriate, who was learning about the community and the projects developed there (Inhabitants, associations, different neighbourhoods, ethnic groups ...).

- Knowledge of the country in general, due to the work that has been carried out there for twenty years.

Having all these factors, Amics del Nepal feels well supported and decides to act as general coordinator of this program, facilitating and managing the performance of all participants.

0.4. IDENTIFICATION TRIP

The multidisciplinary team formed by Amics del Nepal, Caldes Solidària, Base-A and CCD quickly started their weekly meetings. After a few meetings, they came to the conclusion that it was necessary to make a first identification trip in order to be able to lay proper foundations for the project. Pedro Lorenzo, advisor to the program, prepared some notes for the preparation of the trip, explaining its organization, the people who should be part of it and the issues that should be addressed. These notes were also translated into English, so that they could be sent to Nepal.

These travel notes also contained the team in charge of the program would be distributed: a program coordinator, preferably a technician (Amics del Nepal), a community expert (local person from Bhimphedi) and an economic coordinator (also from Amics) of Nepal). *(See Annex 3: PEDRO TRAVEL NOTES for more details).*

1. Description of the trip

1.1. TRAVEL TEAM

According to the conclusions from the preparatory notes of the trip, the people appointed for this trip were:

- Mònica Sans, Architect of Amics del Nepal, in the role of Program coordinator;

- Daniel Roig, Physicist and Mathematician of Amics del Nepal, in the position of economic and local coordinator;

- Emma Ferrer, BASE-A Architect, offering technical support as a collaborator of the program;

- Pedro Lorenzo, CCD-UPC Architect, as an expert advisor in post-disaster reconstruction cooperation projects and in the organization of household improvement programs through cooperatives.

Monica, Emma and Pedro travelled from Barcelona to Nepal, where Dani Roig was waiting for them (he has lived in Nepal for two years).The Barcelona team had been in continuous contact with Dani before traveling, so when they arrived a lot of work had been started already: contact with different local participants, previous considerations on how to focus our visits, etc... Once these considerations were put in common, the four of them attended all to the visits and meetings together, which provided great cohesion to the team and a shared vision to better approach the project.

One of the main arrangements prior to the trip was to talk to the Local Farming Cooperative and find out if they could act as community experts. Due to their activity, they are familiar with the inhabitants of each Ward (neighborhood) and their representatives, and they told us that there would be no problem in providing that service. In fact, Amics del Nepal had previously collaborated with them in the dissemination of other projects (coal, water, etc...).

1.2. SCHEDULE

The trip took place from **June 28** to **July 14** and had the following activity agenda:

June 28: Flight Barcelona-Istanbul-Kathmandu.

June 29: Arrival in Kathmandu.

Airport pick-up by Dani and transfer to Geeta residence (AN accountant). AN visits the office that was damaged by the earthquake. Dinner and rest.

Initial talks with Dani.Dinner with people from Petit Món and with its architect Daniel Tejedor.

June 30: Kathmandu.

M1 - Meeting with NSET in their offices and visit to their temporary refuge prototype.

M2 – Lunch meeting with Pawan Shrestha (ASF) and Alex Shrestha in Patan.

M3 - Meeting with Juanjo Rodríguez (Bhimphedi Project) and Bhuphendra Man Pradhan (RCK).

M4 – Dinner meeting with RCK members.

July 1st: Jeep trip Kathmandu-Bhimphedi.

Arrival to the Bhuphendra residence (Vista House).

Walk through the town to see AN undertakings.

M5 - Meeting with Madhew Shrestha (VDC Member and NCO).

M6 - 1st Agragaami Cooperative Meeting, first contact and planning visits to communities.

(Ranjeet Rana -President, Ram Thing - Secretary and Anju Lama – Board Member)
Dinner at the AN-NCO shelter house.

July 2nd: Bhimphedi.

Jeep tour around Mathillo Supping communities (Ward 7) and Mathillo Gyamire (Ward 9).
Lunch in Supping (AN Coal Project).Visit to three houses and a school.
Dinner at the AN-NCO shelter house.

July 3rd: Bhimphedi.

Jeep tour around Phaparbari communities (Ward 8) and Gorajgari (Ward 3). Lunch in Deurali.
Dinner at the AN-NCO shelter house. Considerable earthquake aftershock during the night.

July 4: Bhimphedi.

Visit on foot around Simaltar neighborhood (Ward 4) to the soccer field, seriously damaged households. Lunch in the village and dinner at the AN-NCO shelter house.

July 5: Bhimphedi.

Visit on foot around Bhimphedi Bazaar neighborhood (Ward 2), newar houses were quite damaged. Lunch at Beni's house.
M7 – In-house work: internal meeting, reconsidering the whole project.
Lunch in the village and dinner at AN-NCO shelter house.

July 6: Bhimphedi.

Visit on foot to the districts Bhimphedi Bazaar (Ward 2), Paribazar (Ward 3) and Targaun (Ward 4). Visit to Hattisar (Elephants House).
M8a - Previous meeting to the arrival of the new Government Secretary in VDC.
M8b - Meeting with the new Government Secretary in VDC.
M9 - Meeting with Surendra Thike (Project 3E and VDC member).

July 7: Bhimphedi.

Walking tour of Targaun neighbourhoods (Ward 4) and Chabeli (Ward 5).
Lunch in town.
M10 - 2nd Agragaami Cooperative Meeting with the Secretary Ram Thing at his home. Dinner at the AN-NCO shelter house with the team of Petit Món (visiting Bhimphedi).

July 8: Bhimphedi.

Breakfast with Petit Món and farewell.
Visit of some extra household in the district of Targaun (Ward 4).
M11 - 3rd Agragaami Cooperative Meeting with the President Ranjeet Rana ion his premises (Janajati Hall).Lunch at the Shelter and afternoon with the blacksmith (Ashok Joshi).Dinner at the AN-NCO shelter home.

July 9: Bhimphedi.

Visit to public places for possible material storage units and production workshop.
M12a – Preparation previous meeting. Cooperative Meeting.
Lunch at the AN-NCO shelter house and meeting with the mason (Bijay Lama).
Visit to Rana Palace (director's house) in AN-NCO shelter, damaged by the earthquake.
M12b - 4th Agragaami Cooperative Meeting with Ram, Ranjeet and Devraj in Vista House.

July 10: Bhimphedi.

Visit to remaining household in Bhimphedi Bazaar neighbourhood (Ward 2) and Janajati Hall. In-house work. Ilia and Raquel arrived to make a travel report for AN.
Dinner at Balmandir (AN-NCO Shelter House).

July 11: Bhimphedi.

Remaining household visit in Bhimphedi Bazaar neighbourhood (Ward 2).
Plantation Ceremony at the Sports Field, attending Bhuphendra & RCK members. Donation of water filters to the private school by a member of RCK.

M13 – Lunch meeting with RCK members in Vista House. Order of auxiliary changing area buildings. Filming of scenes for the report throughout the day. Dinner at Balmandir's: farewell.

July 12: Jeep trip Bhimphedi-Kathmandu.

Arrival at noon, return to Geeta residence. Lunch at Kori's, around Stupa.

M14 - Meeting with NEA at their offices with President Dhruba Thapa (RCK member). Purchase of Nepalese architecture and engineering books in a specialized bookshop. Dinner with the team and Daniel Tejedor, architect of Petit Món.

July 13: Kathmandu

Visit of Tridevi Temple in Kathmandu while waiting for meeting with Brian.

M15 -Thamel.Meeting with Brian Penistone, from Encounters for Change.

Walk from Thamel to Basantapur (KTM Durbar Square): seriously damaged areas by the earthquake. Lunch in Basantapur, Freak Street.

M16 - Bhaktapur. Meeting with Rabindra Puri and visit to Namuna Ghar. Prabhat Yonzon (RCK) takes us by car.

Farewell dinner at Stupa. There is not enough soup...

July 14: Flight Kathmandu - Ashgabad (emergency stop) – Istanbul - Barcelona.

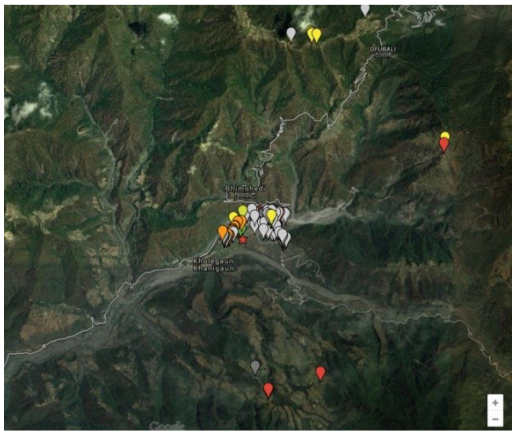
NOTES

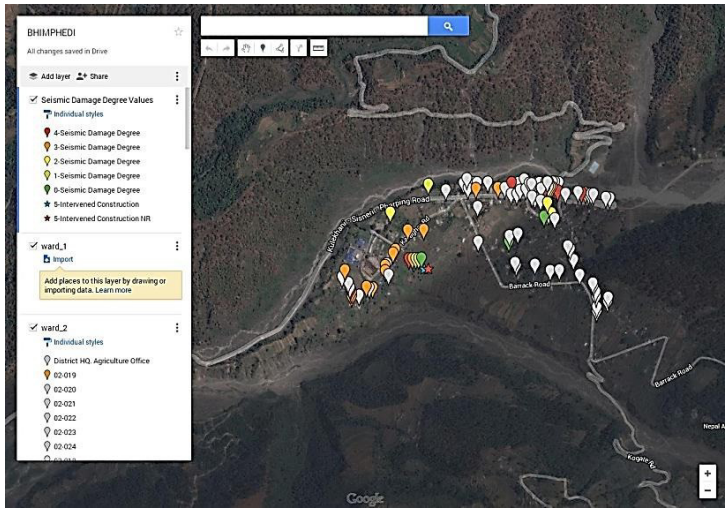
Abbreviations: AN = Amics del Nepal
NSET = Nepal Society for Earthquake Technology
RCK = Rotary Club Kantipur
VDC = Village Development Committee (similar to City Councils here) ASF = Architects without Borders
NCO = Nepal Children Organization (entity with whom AN collaborates)
M1 = Meeting Numbering Code

1.3. Visits undertaken

During the trip, 16 meetings were held with different entities and local organizations, both at the state level (Kathmandu) and at the rural level (Bhimphedi), and more than 60 houses from different neighbourhoods in Bhimphedi were visited to study their degree of affectation in relation to its constructive typology.

All the houses that were photographed, were listed with a reference number and referenced on a map of Google Maps that is accessible for the whole project team both from Barcelona and from Nepal. These houses were coded with a colour according to their level of affectation:



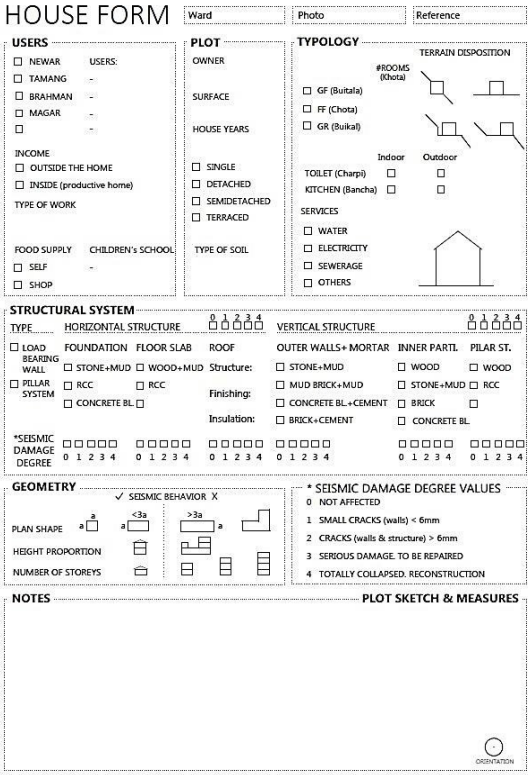


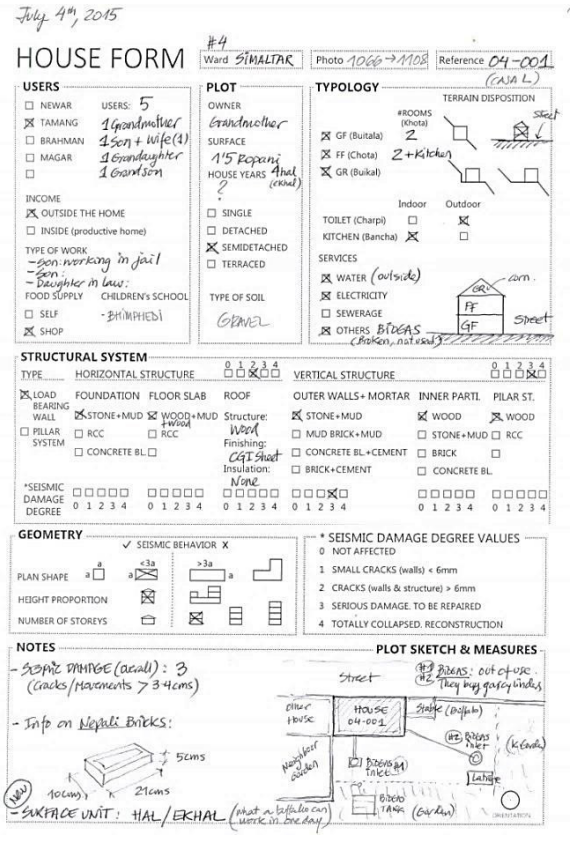
Of all the houses visited, 25 of them were analysed in more detail and a set of sketches and forms were filled accordingly:

- The **form** was made drawn up for this specific occasion: It collected information about its inhabitants, its plot, and its location on the ground, its structural construction typology and its degree of seismic affectation.

- The **sketches** collected data such as measurements, grouping of houses, construction details, etc. The **photographs** taken served to complete this information.

The organization and collection of data was developed taking into account the recommendation from several manuals specialized in post-earthquake reconstruction. *See Appendix 7.Regulations and Bibliography).*





1.4. ORGANIZATIONS AND ENTITIES CONTACTED

Official bodies

- **NSET, Nepal Society of Earthquake Technology**, Bhuvaneswari Parajuli, Architect (1 meeting, Kathmandu)
- **ASF, Architects Without Borders,** Pawan Shrestha, President ASF Nepal (1 meeting, Kathmandu)
- **NEA, Nepal Engineers Association,** Dhruba Thapa, President (1 meeting, Kathmandu)
- **Bhimphedi VDC,** Bandisap Sapkota, Secretary of Government (1 meeting,Bhimphedi)

Private initiatives related to Bhimphedi and AN:

- **Alex Shrestha,** freelance architect, AN collaborator (1 meeting, Kathmandu)
- **Juanjo Rodríguez,** financer of the initiatives Bhimphedi Project & Nepal-Help (1 meeting, Kathmandu)
- **Bhuphendra Man Pradhan,** member of Rotary Club Kantipur, born in Bhimphedi. Promoter of the initiatives Bhimphedi Project & Nepal-Help Y 3E Project. (2 meetings: KTM and Bhimphedi)
- **Madhew Shrestha,** from Bhimphedi, member of the **3E Project** Committee and of the **NCO**. (1 meeting. Bhimphedi)
- Surendra Thike, from Bhimphedi, member of the Committee 3E Project and the VDC (1 meeting, Bhimphedi)
- Agragaami Krishak Krishi Sahakaari , Cooperativa Agrícola de Bhimphedi.Ranjeet Frog (President), Ram Thing (Secretary), Anju Lama (Board Member), Devraj Sapkota.(4 meetings, Bhimphedi)
- Petit Món , NGO collaborating with AN during earthquake, Lluisa, Núria and Àngels Carbó, and Montse Morón.
- Daniel Tejedor, collaborating architect Petit Món, developing school reconstruction project.

Multimedia:

- Rabindra Puri & Namuna Ghar, author of an anti-seismic model house with traditional Newar architecture.
- Encounters For Change , Brian Penistone, project of platform of diffusion to the initiatives of reconstruction in Nepal.In coordination with José Ojeda de Barcelona (3 meetings:KTM and BCN).
- Build Change, contacted from Barcelona, but no response.

Nepali Institutions of Technical Training in Construction:

- Professional Training School in Hetauda.Visited by Dani, he established contact with the Director.Pending.
- Nepal Vocational Academy in Panauti.Rabindra Puri organizes workshops for pallets.Visit Pending.

1.5. MEETING CONTENTS AND AGREEMENTS

R1. NSET, Nepal Society for Earthquake Technology. (Lalitpur, KTM) June 30, 2015

Chairperson: Amod Dixit (reference: friend of Brian Penistone, not present in Reunion)
Participants: Bhuvaneswarieswari Parajuli, Architect & Social Specialist (NSET)
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)
Daniel Tejedor, architect (Petit Món)

Bhuvaneswari Parajuli apologizes for the absence of Ramesh Gouragay and Vijaya Upadaya, who were expected to attend. She is an architect and project manager of risk management projects, and is responsible for the social aspects of the project. The NSET has carried out advocacy actions for 22 years to reduce the risk of buildings from earthquakes. She is also currently conducting emergency tasks.

She explains some of her objectives:

- Transmitting techniques to people that have already been forgotten: traditional newar architecture had many seismoresistant elements, which have been lost over time. The use of these technique could reduce the risks by a lot.

- Organizing training courses for engineers, construction teachers, homeowners, etc... On knowledge that is not taught in universities.

- They have different anti-seismic manuals, depending on whether they are addressed to technicians, homeowners or master builders. (They said that they would give us a copy, but it is finally not possible for them).

- They have designed temporary emergency shelters programmed for a one-year use, after realizing that they had to give a quick response, since otherwise the government cannot to match the rapid response from people, who act quicker.

- Now they are already focusing on a permanent reconstruction, since the loss of buildings has been estimated at 60,000 NPR. They are now assisting the government with a technical advisory group.

We ask who is in charge of the reconstruction:

- DUDBC (Department of Urban Development and Building Construction) is the department in charge of household reconstruction. There is one in every 14 districts that suffered damage. 24-25 people from every district will attend to training workshops before September.

- There are Clusters' weekly meetings in Singudalbar, located west of the Department of Roads, in Baneshwor.

- NSET can organize training workshops in rural areas, but they must be paid for the service. She tells us that people usually prepare a budget (the applicant NGO) and then NSET is then invited to collaborate.

We are interested in knowing how the reconstruction work is being managed:

- NSET + Government (DUDBC) + NEA are working together to organize these training workshops; currently they have organized more than 300. These are standard workshops for masons where they are only taught anti-seismic techniques, their duration is of 5 + 2 + 3 days (practice + theory).

-DUDBC reports on these workshops, while Ramesh Gouragay takes care of the management from NSET, since the person who had to receive us was not available.

We ask how interventions in homes and schools are regulated at the district level:

- DOE: Department of Education, is in charge of the operations in schools.

- DUDBC: manages the intervention in households, and co-leads the reconstruction works in coordination with IFRC, International Federation of Red Crescent, which is based in Nepal Red Cross Society, in Kalimati.

We ask if they employ GIS (Geographic Information Systems):

- They use it for damage evaluation. NSET has mapped some municipalities such as Dolakha. She also tells us that they use OSM (Open Street Map). She does not know what specific software they use at the moment, but she is sure that it is Open-source.

We bid farewell while leaving our model of household analysis form and confirming that we will be in contact to inform about our project. We also ask for a copy of their manuals, but in the end they cannot provide them and they claim that all the materials can be found online. Once outside the building, we visit the emergency shelter prototype, made of bamboo and reinforced earth.

R2. Pawan Shrestha (ASF Nepal) and **Alex Shrestha**, freelance architect (Patan, KTM) June 30, 2015

Participants: Pawan Shrestha, Architect, (President ASF Nepal)
Alex Shrestha, Collaborating Architect of Amics del Nepal
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)
Daniel Tejedor, architect (Petit Món)

PAWAN, architect from the ASF office in Kathmandu, based in Paris. He says:

- Government Laws do not allow to build anything until they have the finished reconstruction plan (DUDBC, NSET, NEA), but organizing training workshops is not prohibited.

- Cluster Meetings will be organized every week. He says that he will notify us by mail if we can attend to any of them (he eventually notifies us, but in the end we do not have time to attend).

- He highly recommends using OSM (Open Street Map, interactive mapping technology, adopted after the earthquake in Haiti).

- He also recommends us to consult the website: Shelter Cluster Website.

ALEX is a freelance architect who devotes part of his working time to the reconstruction of Nepal on a voluntary basis. He worked at UNESCO for two years and also with Amics del Nepal.

- He is a practical person and does not like to waste time in Cluster meetings, so he has followed his own initiative to do something for his country, since he already had contacts with UNESCO, etc.

- He is highly motivated to recover the architectural heritage and does not like the idea of making new houses, because said heritage will be lost. He is involved in the reconstruction of a newar village called Khokana, 20 minutes from KTM. He tells us that this should be the 8th UNESCO monument in Nepal.

- When we talk about the Agragaami Cooperative, he tells us there is a good way to make savings that for rural areas without the need for a cooperative: MOBILE MONEY (Laxmi Bank).

- Finally, when we ask about the construction costs in Nepal, he tells us that for a building with reinforced concrete structure and standard coatings, it would be about 2,000NRP / square foot,

and in the case of using better materials for the coatings, then the budget would go up to 3,000NPR / square foot.

R3. Juanjo Rodríguez Y Bhuphendra Man Pradhan, Bhimphedi Project, 3E & RCK (KTM) June 30, 2015

Participants:Juanjo Rodríguez, Promoter of Bhimphedi Project
Bhuphendra Man Pradhan, member of Rotary Club Kantipur
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

Juanjo has been financing projects in Bhimphedi for some years now. Bhuphendra has always given local support for being from Bhimphedi, and for some years she has also been supporting him from RCK. Recently they completed the multisport track, which was just inaugurated on the day of the earthquake. After that moment he decides to help Bhimphedi in the reconstruction works. He wishes to help 10 families to rebuild their homes through private financing, with an aid of 250Eur / family. Pedro explains that the most important factor is that the money is given to those who need it most and that this is done in a fair way. It is also important not to give anything away, since that could lead to begging; the best thing is to build support systems with return, which has proven to be the most efficient system internationally.

Juanjo explains the issues that the engineer (Bhim) hired by the team of the president of the RCK who accompanied them to see the houses of Bhimphedi and gave a talk at the RCK, had previously commented to him. He said that we should work on creating the right ODR (Owner Driven Reconstruction) systems, since the systems created by the government would not work.

We ask him whether they know how the damage assessment has been carried out: they say they were performed by the government's engineer, but that there are many errors and that people are complaining to the VDC.

They do not know the Agragaami Cooperative, since they have always worked with 3E. They have elaborated their own survey with pictures and some notes, which will be sent to us by email. He adds that he did not have a GPS, but it would be a good idea to be able to locate the households visited on the map.

Surendra, from the VDC, gave them information about the households: 352 have been damaged. She also adds that a new government official has arrived from Hetauda, since there was no-one until then.

In Bhimphedi Bazaar there are many houses for rent which cost about 2,000NPR per month, and the landlords have not lowered the rent even after the earthquake.

Juanjo & Bhim went to visit some households in Dhorsing, and their state disagreed completely with the official survey from the VDC and with the information provided by the 3E Committee. They also visited several houses in Supping, Bhimphedi Bazaar and the 4th Ward, where a greater deterioration of the households was noticed.

Pedro adds that if we establish a return system to provide assistance, the demand for help will be honest. To illustrate this, he mentions an example of a Latin American country.

Bhuphendra explains that the CDO (Chief District Officer) is the coordinator of all the VDCs, which is above the DDC (District Development Commitee). This officer will coordinate the reconstruction. The government organization command reaches up to the secretary of each VDC, but from that level above, the wards are internally organized and choose their own representative.

Juanjo & Bhupendra ask for prices of new houses, Pedro answers based on his experience with approximate costs of international cooperation:

$ 1,000 Technical support
$ 1,800 Materials
$ 2,200 Workforce (provided by them)
$ 5,000 HOUSE

The government grants would be the following, with credits at 2% (the average would be 10%-9%):

200,000NPR / household family. VILLAGES.
2,500,000NPR / household family. CITIES.

After an earthquake there is an increasing tendency to save up money.

We ask about the Women's Association, and they explain their activities:

- They manage micro credits 13% (Pedro finds it very high).
- They are trying to create a fish farm in the river.
- They supported the Triple E projects: fruit trees, biogas, and milk sale.

We ended the meeting by staying in touch for a possible collaboration in the Bhimphedi reconstruction project, since they showed a lot of interest in Pedro's comments.

For the optimal coordination of this project, a specific committee of which three 3E members, one representative of the VDC for each 9 neighbourhoods and Juanjo was formed, and we held several meetings prior to distributing the aid.

R4. Rotary Club Kantipur, Bhuphendra & Club Members (Kathmandu) June 30, 2015

Participants: Bhuphendra Man Pradhan, member of RCK
Juanjo Rodríguez, Promoter of Bhimphedi Project
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)
More Club members, known by AN

Bhupendra invites us to the Club weekly meeting at the Shanker Hotel, a beautiful rana palace also damaged by the earthquake. Amics del Nepal already knows many of the members of the Club from previous collaborations in different projects in Bhimphedi. Prior to the trip, RCK had already signed a letter of commitment where they offered to collaborate and support the Bhimphedi reconstruction project, especially by facilitating contact with local entities and technicians, speeding up administrative procedures, etc ...The letter of intent previously signed with AN is endorsed at the meeting.

R5. Madhew Shrestha, 3E Committee Member & NCO Member. (Bhimphedi) July 1, 2015

Participants: Madhew Shrestha, trader of Bhimphedi Mònica
Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

Like every year, Madhew receives AN in his store and welcomes us to the town. He is one of the main merchants of Bhimphedi Bazaar and a member of many committees, as well as member of the NCO (Nepalese entity that owns the orphanage managed by AN).We talked a little about everything: the earthquake, Juanjo's help, the wrong lists from the government, and the damages at his own house... Then we explain our project, and he listens carefully. We bid goodbye and stay in touch to visit his home.

R6. Agragaami Krishak Krishi Sahakaari (Cooperativa Bhimphedi) 1st July 2015

Participants: Ram Thing, Agriculture Cooperative pharmacist and secretary
Ranjeet Lama, Agriculture Cooperative President
Anju Lama, Agriculture Cooperative professor and spokeswoman
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

Agragaami is an agricultural cooperative known by AN for a few years. We asked them about the other Associations of the town,
to understand why they decided to create their own:

Women's associations:

- They take care of banking activities and they own the CLC (Community Learning Center).They explain that it was promoted by the PLAN INTERNATIONAL & RARO NEPAL organizations (that worked in Nepal 10 years ago). PLAN INTERNACIONAL is in the 4th VDC, in Khogate, where Anju's aunt had worked.

- There are women from all wards, 16%.They have 1200 members and they hold a meeting every 2 years. They started the milk project, but now it's handled by another cooperative.

- There are 5 women hired in the office, all of them from Ward 5 (this fact sometimes leads to small internal tensions).

Triple E:

- They designed a project to donate seeds, also promoted by PLAN (3E collaborated).

- Now they only take care of banking activities and monthly savings. To sign up for the cooperative a mandatory one-time fee of 100NPR is required.

Agragaami (= Pioneer, in Nepalese):

We asked why they created this cooperative, and they tell us the reasons:

- At the beginning the women's cooperative did agriculture services, then they stopped.

- A different drawback was that they only accepted women and they also wanted to be able to serve men. They decided to make two types of deposit: a group deposit, in which everyone would put the same amount, and an individual deposit, in which each the amount could be chosen.

The process to launch Agragaami lasted for about two months. In the beginning there was only 25 people with 250NPR each. They also had to create the statutes (bidan), register it, etc.

We finish the first meeting with the cooperative preparing the tour around the different communities: the first two days we will drive to the communities that can only be accessed by jeep (top of the wards 9, 7, 8 and 3) and the rest of the days will be devoted to those communities that are reachable by foot (wards 2, 3, 4 and 5).

R7. Internal Meeting Team, Vista House (Bhimphedi) 5 July 2015

Participants: Mònica Sans Duran, architect (Amics del Nepal) Daniel
Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

After intense days of visits, Pedro focuses again on our objectives for the identification trip: situation,

components (units that can be financed, social, and economic and workshop basis), the identification of

the first area to act upon, the identification of the people at the follow up board, an overview of the organization, the economic fund and a forecast.

- Conclusions after seeing the ground: Badly damaged land, state of panic among people, very disorganized population at a general level, who follow mostly a greater family unit structure. Positive factors: the great tradition in Nepal of organizing in small cooperatives that deal with different issues (agriculture, milk, etc.), but the vast majority are only devoted to banking activities. Another negative aspect is that there are few people with the right training and who can be trusted.

- Key opportunity: take advantage of the cooperative system for our program. This way we can solve the problem of selecting who will receive our aid and we create very specific forms of intervention.

- The Government: it does not exist as such in the area. The official engineers who were sent have established the state of the damaged buildings with extremely defeatist criteria; many of them can be restored. We have the impression that they wish to control everything and receive all the money through them. We consider two ways to deal with this: negotiating or trying to avoid it.

-Priority Needs: we raise back this issue about the program: is it the housing? Or is it other aspects? We confirm currently the priority is the housing. The organization and other problems will be dealt with through the housing management.

Degrees of improvement intervention:

- Any household: the wooden structure should be repaired and a preventive attitude to future earthquakes shall be followed. In addition to fixing cracks, triangular structures should be increased.

- Damaged households: most common building pathologies on walls: a- the angles (cracks), b- spaces between windows (buckling), c- double layer of the walls (more complex to fix).

Idea for a prototype: build a new house like the one they have, but well designed (for collapsed homes), repair / rebuild homes (in damaged households), preventive reinforcement (in unaffected households).

Other improvements: chimneys, outdoor latrine.

Ideas for the workshops: How to organize ourselves (cooperative, workforce, functioning, etc.), explain what has happened, explain how it can be improved.

Ideas for the bank of materials: Where? How? Key issue: find the place where prototypes and workshops could be carried out. For the workshops it is necessary to be able to gather 70-80 people.

Techniques used for prototypes:

Flooring: Reinforced earth, cement.
Walls: Stone + Mud, Concrete Block, Confined Earth
Roof: Local materials

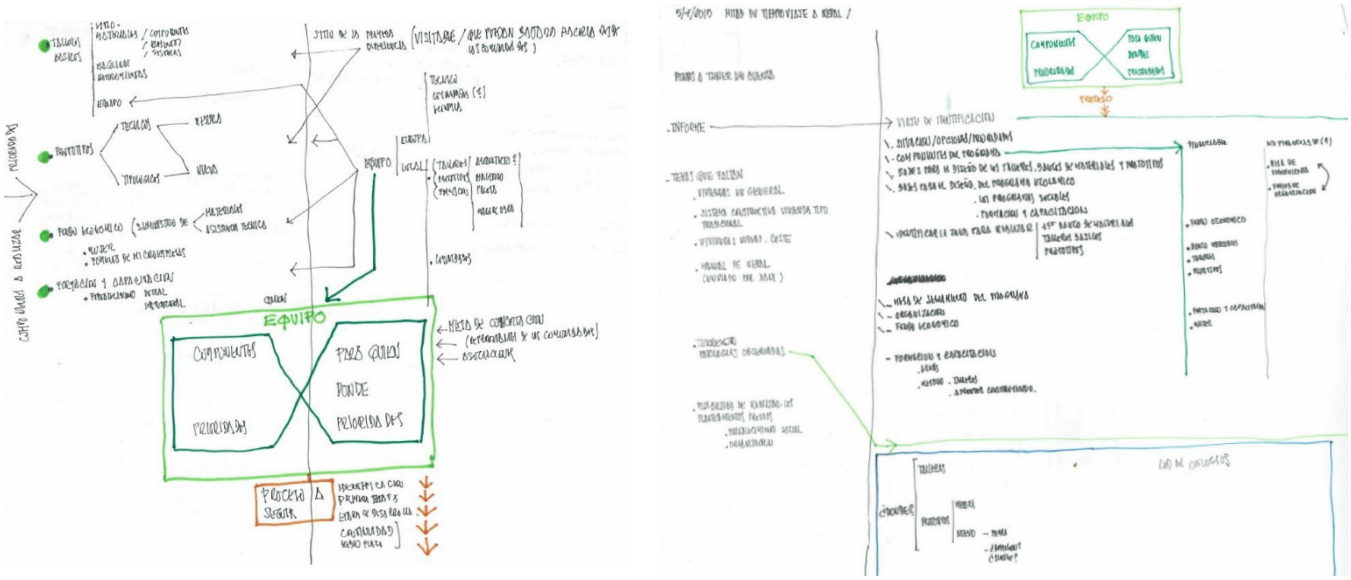
Contents for the Workshops:

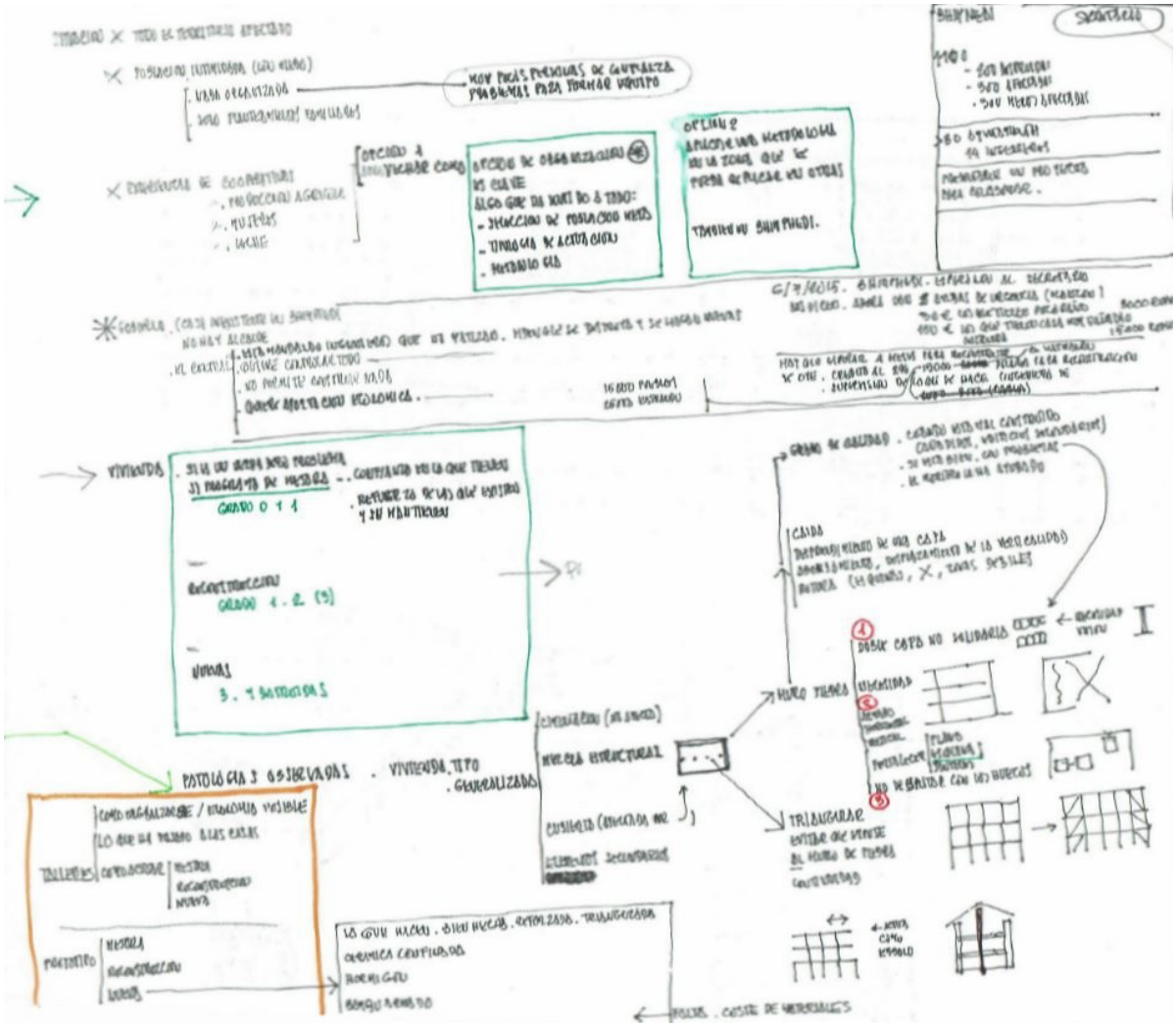
- Teach their techniques in a RATIONALIZED manner.
- Teach their own building code, which they do not know.
- Teach techniques from other countries (not advisable here).

Emma proposes to program workshops in the communities, but the prototypes must stay in Bhimphedi to facilitate their visit.

Dani says that the prototypes must be accessible, and that the free areas in the schools can be used to make workshops.

Pedro: minimum duration of the program to ensure its continuity: 2 years.





Schemes of the program in its various phases and components. Travelogue by Pedro Lorenzo.

R8a. VDC Bhimphedi, VDC Workers 6 July 2015

Participants: Workers from Bhimphedi VDC
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

While we wait for the visit of the Secretary of Government, we see several workers in a room. They are classifying complaints received about houses that the government engineer has wrongly catalogued. We chat with them:

- What will the government do in the face of reconstruction?
They will give money and technical advice. They will make plans before building the house, and will hire an engineer. The government will most likely not give money, but just loans at a very low interest (2%). However, no official document from the government has arrived yet.
We discuss about:

- 15 - 25,000NPR that may be received as a low interest loan (2%).
- They will evaluate each individual situation and consider if it can be afforded (salary, money, etc).
- Once the loan is granted, we will go to the VDC and from there we will be given the design to be built (urban or rural model).
- The owners will decide if they want a stone & mud house or not. They will decide the design they want, but they will not be able to build it, as it was the practice so far. There will be an overseer.

- Is there a written document about the current cataloguing of the house?
No, at the moment it is only verbal. They say that after the meeting with the leaders of each Ward (different leaders from those in the cooperatives, committees, etc.), a document will be drafted.

- What are they doing now in the VDC? What is the meeting about?
The leaders of each Ward are assembled to decide how they will distribute the emergency aid approved by the government, namely:

- 15,000NPR for collapsed households.
- 3,000NPR for repairable households.
- 0 NPR for not affected households.

After hearing all this, Pedro proposes going to talk with the president of NEA back in KTM, to see how they intend to manage this whole process. Right after this, we are summoned for the meeting with the secretary.

R8b. VDC Bípeda, Secretary of the Government 6 July 2015

Attendees: Bandisap Sapkota, Government Secretary, Bhimphedi VDC
Police Officer, Bhimphedi Mònica
Sans Duran, architect (Amics del Nepal) Daniel Roig,
physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)

There are 1100 houses in Bhimphedi, 200 of which have been destroyed, 300 damaged and 300 less affected. In total, the destroyed + damaged homes add up to 790. All of them are given the "RATO CARD" (= red card), an official document that will enable them to receive the emergency aid first (15,000NPR) and then the loans (15,000NPR in Kathmandu and 2,000-3,000NPR in the villages). They are very late, since they have not yet received emergency aid. When they receive

it, along with the money, they will also receive the graphic instructions to build an emergency shelter.(15,000NPR will be loaned, out of which 2,000NPR will be non-refundable).

There will be 14 engineers in the DDC in Makwanpur to supervise the more than thirty VDCs throughout the district. Obviously, they acknowledge that it is not enough.

When we talk about our project to provide technical support from our cooperative, he seems very positive about it. He offers to go to present it to the DDC so that he can work in coordination with them, since they already foresee that they will need extra help.

R9. Surendra Thike, Bhimphedi merchant, **3E Project** and **VDC** Committee member 6 July 2015

Participants: Surendra Thike, trader of Bhimphedi
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

Surendra is one of the traders of Bhimphedi which AN has known for some time. He participates in various committees, works as a journalist and is engaged in several other businesses. We ask him a few questions about the program:

- Project 3E, dealt with ecology, economics and education. They built the school and its playground. Currently, the project has stopped. It never had a name, which means that it not registered as an association. It is perceived as such since it was an entity related to the education ministry, DOE, of the DDC. It is a school with a social project.

- Mis tris: there are about 4-5 for Ward, in total there must be about 45 mistris in all of Bhimphedi's VDC. Is there a school for the mistris? In Bhimphedi there is not, but in Hetauda there is a training center, where people above classes 6 and 8 can attend.

Types of training centres for construction:

- **CTEVT** Schools (Council for Technical Education and Vocational Training): 5 years of training to become an overseer engineer. But it is an expensive education. It seems that there is a bit of controversy between the CTEVT (Council for Technical Education and Vocational Training) and the HSEB (Higher Secondary Education Board), since the two institutions are addressed to young people of the same age.

- **Labors Supply Center:** One year of practical training. It is located in Ward 8 - Kamani, Hetauda. Skills training centre.

- Government Rato Card: he explains what the boxes mean: the one on the left is to receive the 15,000NPR aid (for collapsed houses), the one on the right is to receive 3,000NPR (for damaged houses).These aids are given to get by during the rainy season.
After that, the loans at 2% interest of between 15,000NPR and 25,000NPR will be granted.
They discussed all these issues during the meeting of the wards' representatives (Nagari Korabanch).

- We have to find permanent places for the prototypes, the production workshop and the warehouse. He does not see any problem to this: Surely the VDC will provide some. We will also

need temporary spaces where they can do the training workshops. He tells us some available spaces:

- Hattisar: from the VDC (the secretary will decide) and also from the Forest Ministry.
- Godaun: the three round silos. There would not be any problem either.
- Back yard of the school, or of the agriculture building.

We bid goodbye, he says to let him know if we need anything, like visiting the areas, etc.

R10. Agragaami Krishak Krishi Sahakaari (Bhimphedi Cooperative) 7 July 2015

Participants: Ram Thing, Agriculture Cooperative pharmacist and secretary
Ranjeet Lama, Agriculture Cooperative President
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

As a conclusion of the previous meeting, we conclude that Agragaami is currently responsible for three main tasks, namely: Banking, buying wholesale fertilizer (to make it cheaper) and buying seeds (for the same reasons, it is an activity that is starting now).

Considering the good organization they have, we asked them if they would be interested in developing the housing improvement program, and, if so, what do they think it is best:
Hosting said program in their already existing cooperative? Or create a new, completely independent cooperative? They believe that hosting the program in the existing cooperative will be much easier, since the process will be simpler and many formal transactions would be saved.

Pedro comments on an example of an agricultural cooperative in the Dominican Republic which hosts a housing improvement program, and even if you are not a farmer, the cooperative is open to everyone.

Ram confirms this information, since they have had very different types of cooperative members: farmers who sign up for fertilizer, but also Bazaar merchants, who seek for savings. He explains that becoming a cooperative member costs 100NPR.

We comment to them the possibility of organizing training workshops for the cooperative members, but that they were also open to non-members, and they do not see any problem.

We explain that the Housing Unit should be economically independent from the rest of Agragaami, and that in the follow-up board there would be people from Amics del Nepal and other participating organizations outside of Bhimphedi, and that there would someone responsible for that specific task. They see it all logical and do not raise any question, they think it is feasible.

We move on to explaining the phases of the program and its development:

Phase One: September – November: qualification training and prototype selection. It is necessary to have a storing unit for the materials, workshops and prototypes (referring to finding the families to whom the first houses will be built).The idea is also to buy the materials in bulk, just as they do with the fertilizer.

Phase Two: December - January: construction of the prototypes.

3rd STAGE: January - December 2016: extension of the program to more families.

The prototypes would include three types of construction: 2-3 for completely new houses, 2 for reinforced houses (damaged to a greater or lesser degree) and 2 for preventively reinforced houses (not affected by this earthquake).

The qualification and training workshops would consist of social techniques (legal, organizational and social issues), participatory design (so that people, together with the technician, learn to choose the prototype that suits them best) and constructive techniques (for cooperative members, mistris, etc.).These workshops would last about 10 days in all.

This process would be initially explained to a group of 25 people so that they begin to rebuild their houses by following the process of joining the cooperative, receiving technical assistance (free for cooperative members) and receiving the materials (with economic return for cooperative members).

Ram understands everything very well, but asks why materials are not just given to people, instead of doing it as a return loan. Pedro replies that it has been internationally proven that if people are given money without having to make any effort, it is not as efficient and they become dependent. Conversely, if instead of "giving away" the money, we offer free training to strengthen their skills (through workshops, etc.) and they are encouraged to work (they put the workforce), then we are more likely to succeed, while they also become stronger when facing new disasters.

Ram tells us that the Agragaami Cooperative gives 1, 2 or 3 year loans, at 6-7% interest, and that this is already quite good because the average rate in Nepal is 14%. Pedro says that for housing, as it is a social project, it should be 2%. They both agree.

Pedro also explains that we must think about mobility, since it is very important to reach all communities as quickly as possible in order to provide good coverage from the cooperative. It seems that a motorbike would be enough, since a jeep is too expensive. He adds that the workshops should be held in places that are accessible to everybody.

We bid goodbye, happy to know that the housing improvement program seems to have already a good legal backing. We agree to set our next meeting with him in our house, where other board members will join, he says. We asked him if we can go to see their current office, and he accepts: we can pass by the following day, since Ranjeet will be there.

R11. Agragaami Krishak Krishi Sahakaari (Bhimphedi Cooperative) 8 July 2015

Participants: Ranjeet Lama, Agriculture Cooperative
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

Ranjeet is waiting for us at the cooperative's office, located in one of the premises on the ground floor of Janajati Hall. This public building has a rana architecture, and used to be the British king's residency when he came to visit Bhimphedi invited by the rana prime minister. Since the rana

dynasty was removed from power, the building became public and many local organizations have their headquarters there. They explain the curious fact that, although on the facade there are many posters from different associations, they do not have an office inside. It seems that they are required by law to have a social place, but not all of them really need it. So, to our surprise, the entire building is empty, except for some precarious inhabitants in the back. In addition, after the earthquake, this building was "red-tagged", which means that it must be demolished and rebuilt: that is really absurd, since the cracks are perfectly repairable and reinforceable. Even so, before the earthquake this building was already in a very abandoned condition, so there is no interest from the government to recover and / or restore its historical heritage.

Back to Ranjeet, he shows us the table and chair that make up his office, as well as the space for the sale of fertilizer. While we're there, a couple of cooperatives come in to buy some bags. Ranjeet shows us the two application forms that the cooperative members must fill out in case of requesting a loan: one for the cooperative and one for the VDC. The VDC do so to be able to have support from police officers in case of non-payments (although they recognize that it is very rare).

R12a. Agragaami Krishak Krishi Sahakaari Preparation Meeting 9 July 2015

Participants: Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

We meet at home to prepare the afternoon meeting with Ram and the rest of the Agragaami Board members. Pedro comments on three basic aspects that should be resolved in the afternoon:

- 1: Consolidation of the Cooperative: Agragaami can make proposals, but Amics del Nepal always reserves the right to consolidate. It is important that this concept is clear to both parties.
- 2: About the Person in Charge: Does it have to be from Bhimphedi? The community technicians: What training do they need to have? Pedro says he has notice a few young and talented people in town. About the place: their headquarters are fine, but we have to find a place for the warehouse and the productive workshop. These two sites must be permanent.
- 3: Workshops.

Training and skills development workshops: unlike the previous, the place where these workshops will have a one-off basis. We need a place where people can sit, whether it is outdoors or indoors. First it would be for about 25 people (the first families), then it would expand to 50-60 people.

Practical workshops: it would be good to have 6 spaces of 6x6 (36m2 aprox.), where we can train with elements at a scale of 1:1. They will be organized on occasion and will last 3 days. They will be conducted somewhere in the neighbourhood so that more people can participate. These would be the three types:

- Social techniques workshops: we can also include one for women.
- Participatory design workshops.
- Construction techniques workshops: to improve the existing stone, concrete-brick and block techniques (each of them must be reinforced and triangulated in different ways).

Returning to the warehouse, we should know where the materials will come from (Bhimphedi? Hetauda? Kathmandu? Then, we should also know what tools are necessary and how to dispose of them (type: disk saw, concrete mixer, etc.).

Pedro mentions the MUTIRAO SYSTEM, a self-construction technique for load-bearing walls, which is widely used in Brazil.

Among the group of 25-60 initial people who sign up for the housing cooperative, the technical team must choose the recipients of the 7-8 prototypes, based on: accessibility from Bhimphedi (so that the prototypes are easily visited) and aim at specific typologies that should be addressed in the first place.

The fee to sign up for the housing cooperative is 100NPR, in addition to the 100NPR to become a member of Agragaami. From the moment they sign up until they begin reconstructing their homes, they should not pay anything else.

R12b. Agragaami Krishak Krishi Sahakaari (Cooperative) 9 July 2015

Participants: Ram Thing, Agriculture Cooperative pharmacist and secretary
Ranjeet Lama, Agriculture Cooperative President Devraj
Sapkota, Agriculture Cooperative Spokeswoman
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD- CPU)

We begin with Ram's most important question: What happens with the non-payments? Next, he explains the process that they follow to grant a loan:

1st: the Ward group at issue meets and approves the loan (one of the two forms that Ranjeet showed us).
2nd: the VDC meets and approves the loan (the second form that Ranjeet showed us in the office).

Then, if they do not pay, they proceed to the following steps:
1st / the Ward informs the debtor of the need to pay. If this fails, we move to the 2nd step.
2nd / members of Agragaami visit the debtor and try to make him pay. If it fails, we move to the 3rd step.
3rd / Agragaami sends a letter to the debtor. If this also fails, we move to the 4th step.
4th / they send the VDC police.
In view of his concern, Pedro asks if there are many defaults. They say that out of 250 cooperative members, there have only been 2 or 3 cases of non-payment. However, they prefer to have a clear protocol before they begin. Pedro reassures them that it is a very low percentage of non-payments, but he adds that the most important issue is that the monthly amount to be repaid and the loan are very well designed to ensure their success. It is a social objective, therefore, we must calculate it so that it is acceptable for families. It is internationally proven that if the return is well calculated, the payment is guaranteed no matter how poor the communities are.

He also comments that in order to follow up on the non-payments they will not be alone, but there will also be the Monitoring Table, which will back them up at all times in every decision (people from Amics del Nepal, from Agragaami and from other organizations). Finally, he reminds us that the loan will not be in money, but in materials.

Ram's second question is about the process to make the loan application. He says that until now they are doing it on paper and not on a computer, but that soon they want to purchase a computer. So far they only have the two forms they showed us. Pedro says that it would be necessary to have a computerized control, even if it is in an Excel file, and not with a specific program. After making the request, people would receive: technical assistance (the technician would go to their household and declare what type of intervention is needed), materials (depending on the intervention needed, the necessary materials and their cost will be determined) and technical follow-up of the works (once the works are started, they will be followed regularly to check that everything is executed according to the appropriate techniques).

Ram explains that currently all the cooperative members have a membership card of Agragaami, meaning they have 1 share (100NPR). Whenever they wish to do banking activities, the minimum they should opt for is 10,000NPR, which corresponds to 10 shares. Subscribing to the Cooperative should be 100NPR more than to sign up. Then, the registration cost of the housing improvement program (one-time fee) would be: 100NPR for cooperative members of Agragaami and 200NPR for outsiders.

Board members comment that an enrolment form should be designed to subscribe to the Housing Improvement Program (which could include more improvements in housing, besides the seismic reinforcements).The form should be in Nepali and English, so that the participating external organizations can also understand it.

Finally, they tell us that shortly (mid - late August) they will hold their Annual Assembly with the cooperative members, and that they can use of that moment to explain the housing program, so that if people agree (which they believe will happen, since many people have been asking for a long time if they will do any action in the houses), they could already approve it. If only 2/3 of the cooperative members accept it, it can it be approved.

We go on to talk about the training that people receive on construction, to know what kind of person we should hire the cooperative. They tell us that they have the following degrees, according to the years of study:

- 2 years: sub-supervisor. In Ward 9 there are some. The reference salary would be about 16-17,000NPR / month.
- 3 years: supervisor. Level +2 is required. The salary would be about 22,000NPR / month.
- 4 years: Engineer: The salary would be about 24-25,000NPR, corresponding to a third class officer professional category.

Apart from this regulated training, there are the mistris, who acquire all their knowledge based on practice and when working as apprentices with other experts mistris. They are freelancers and usually charge about 700-800NPR / day. (If they worked every day of the month, this would correspond to a salary of 21,000NPR).

We discuss then the place for the productive workshop and materials warehouse. We explain that this place is the most important to find, since all the activities of the cooperative will be managed from there. On the other hand, the training workshops, organized in a one-off basis, could be done in different places. We agree that we will go there after the end of the meeting.

Finally, we comment that we have to think about the sources that will provide the materials in order to make a cost evaluation. For example, where things such as: iron frameworks, roof plates, steel beams, wood, bricks, cement, etc. can be purchased. It could be convenient to buy some of these materials from the factory, so that the cooperative can buy them at a cheaper price.

We end the meeting by visiting a small warehouse that we have seen during our visits to the households. The building faces the main street and has a facade with industrial-scale openings. It must have been the place for a workshop, an oil mill, or something alike. Lately it was the workshop of a dressmaker, but she left after the earthquake, since the ceiling was partially collapsed. It would be necessary to make an important intervention to repair it and adapt it to production workshop / warehouse.

R13. Rotary Club Kantipur, Bhuphendra & Club Members (Bhimphedi) 11 July 2015

Participants:Bhuphendra Man Pradhan, member of RCK
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)
Other members of the Club, known by AN

Members of the Rotary Club have come to Bhimphedi for the tree planting ceremony around the multi-sports track that was financed by Bhimphedi Project through Juanjo Rodríguez. Rotarians are very happy because this project, in which they have participated logistically and technically, has won an award from all the Rotary Clubs of Nepal. Having a public place where to concentrate and promote sports activities (volleyball, basketball, etc.), seems to be working very well. In addition, after the earthquake, dance classes are also being taught there, since Janajati Hall (the site where they were taught before) has been declared in ruins by the government (let's not forget that according to our criteria, this building is perfectly recoverable).

During the planting, Bhuphendra tells us that, since they know that we are working on anti-seismic prototypes, we should consider the possibility of using a service building for the field as one of our prototypes. The building should house changing rooms, showers and a warehouse for sports equipment. We respond that we will speak with the rest of the team and that we will include it in our report. We believe it is a good idea, since it is a building for public use and easy to visit.

Later, Bhuphendra tells us that if we are interested in meeting with the president of the Nepal Engineer's Association, he can give him a call, since he is a member of the Club. We reply that it would be very interesting, he calls him right away and we schedule a meeting for when we will be back in Kathmandu.

R14. NEA, Nepal Engineers Associaton, Dhruba Thapa, President (Patan, KTM) 12 July 2015

Participants: Dhruba Thapa, President of NEA, Bibek KC, NEA Staff
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)

Dhruba is very busy, he tells us that since the earthquake, they have not stopped holding meetings in NEA. This is what we found when we entered the headquarters of NEA: a room crowded with about twenty engineers, and in the adjoining offices there was also a lot of activity. Even so, he has managed to schedule a time for us in his agenda, and he receives us with his assistant Bibek.

After briefly explaining our program idea (housing improvement through the cooperative) and our conclusions about the construction typologies that should be improved, Dhruba tells us that their lines of action from NEA are very similar. Basically they want to encourage people in rural areas to continue building with improved traditional typologies, for several reasons:

- Building all the rural houses in cement and concrete is not economically viable.
- It does not allow the preservation of cultural heritage.
- The non-accessibility of many villages has the following consequences:
    - The cement deteriorates before reaching the village, after several days of walking distance.
    - If the cement arrives to the village, there is no good quality sand.
    - In case there is cement and sand, we might find in many areas a lack of water (neither to do it nor to fix it).

They will organize an awareness campaign for people to use only local resources and locally available materials. In their campaign they will also spread the need to use proper and improved techniques to build traditional structures, providing the technology and knowledge to do so.

During the monsoon, NEA is organizing a national design competition for architects and engineers to present anti-seismic projects of traditional architecture. With these model-designs, they will create some brochures with plans, drawings and constructive details, and distribute them throughout the villages.

The general conclusion is that traditional architecture can be secure. In general, the technologies that should be promoted are: gabions, stone and mud with bamboo reinforcements, wooden structures reinforced with wooden strips that act as perimeter beams (as would slabs, lintels and parapets) and with blocking wood pieces (locks) that prevent the walls from falling apart.

Pedro explains the two basic pathologies he has seen in traditional houses: parts of the wall collapsing due to the lack of joint between the two layers (should be assembled horizontally and in the corners), and the wooden internal structure, which is not triangulated and acts as a plunger that pushes the walls. He says that the three technologies that should be taught properly are the use of stone and mud, concrete blocks and bricks (confined masonry).

He also asks if it is possible to obtain a Nepalese construction norm. Dhruba replies that there are 23 volumes, but that many are for urban use and will not be useful for us. He commits to make a selection and to send us only those that we can use for rural architecture. In the DUDBC they have a copy of everything, including the most important one: the Mandatory Rule of the Thumb.

Finally, we also ask for an official price list from Nepal, and we are told that they are finishing it and that the one for next year will be released in August (since the Nepali fiscal year ended in mid-July).It is seen that there is a different price list for each district. We are interested in the one in Makwanpur, in the DDC of Hetauda. Bhuphendra can provide it to us.

The meeting ends, we exchange our contact details and we agree to present our prototype in the contest that they are organizing (since they have invited us to do so).We also agree that Bibek will send us the selected regulations, and it tells us that if we need the services of some NEA engineer during the project (so that he can translate to Nepalese in the training workshops) he can provide it for us. He would have to be paid according to the hours employed.

R15. Encounters For Change, Brian Penistone (Thamel, KTM) 13 July 2015

Participants: Brian Penistone, conservationist, Government's adviser
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist & mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)
Nishchal Ghimire, Director of Patron Nepal (surprise guest)

Encounters For Change it is an information-sharing platform that Brian Penistone and José Ojeda, two pro-Nepal social entrepreneurs, are trying to establish. Brian lived for 25 years in Nepal, first as Peace Corp, then organizing the Makalu National Park for 10 years, working with the local communities until he could completely hand the management over to them; later on he worked in a regional program with sixteen thousand farmers, strengthening the population. Currently Brian has managed over a social enterprise in Washington DC for 2 years and continues to collaborate with the Nepalese government as an advisor. His main job is to train government personnel on how to comply with international protocols in order to sell their carbon emissions to other countries (REDD).With such a high percentage of wild nature, if this process is done well, it could become a very important source of income for Nepal. He has taken this advisory role since 2008 and the Nepalese government has already written many reports about this. Now he is about to complete on of these processes (each report is very demanding: between 500 and 800 pages, in which different aspects are analysed. Training workshops are also organized with environmental professionals and pilot projects managers.

Brian and José try to create a forum for information sharing with all the ideas for reconstruction that are originating in Nepal after the earthquake. Their objective is to disseminate and create a debate among different initiatives, coordinate them and spread their information, while looking for possible international collaborators.

We start the meeting and Pedro explains some of our conclusions regarding the lack of triangulations of the traditional Nepalese buildings that we have visited. Brian thinks this concept is very interesting, since he has never heard anything similar before, even though he has been in contact with architects and engineers, both Nepali and foreign. Pedro thinks that adding the concept of "triangulation" in traditional Nepali architecture is an initial decision of great importance, which has been detected thanks to this identification trip. He compares it to a case he experienced in El Salvador in 2001, where thanks to the identification trip, one type of concrete block could be discarded for another (10cms for 15cms). It turned out that the 10cm block was very well handled by the professional masons, but not by the houses owners, who were the ones to self-build their homes. So, for the success of the project, it was decided to change to 15cm blocks and everything worked nicely. Brian considered this idea very revealing.

Pedro continues explaining to Brian other problems that were observed: concrete block houses newly built after the earthquake, were not being properly constructed (reinforcements and perimeter beams were missing). On the other hand, the Nepalis considered that they were indeed well built. It is hence necessary to teach them how to build the block houses properly. Brian agrees with this idea, saying that sometimes the Nepalis are very confident in themselves, even if they are completely wrong. There is no doubt on this.

After listening to all this, Brian tells us that in order to propagate our prototypes it would a very good idea to make a short video on YouTube, since it would spread very fast. He tells us that in Nepal 91% of the population communicates via Facebook on their mobile phones, and that a video shared on that channel could reach a lot of people. We agree with him, we will study the idea of making a simple and communicative YouTube video. We also add, however, that besides this video, the social and technical training are also essential, since they will strengthen the population. Brian tells us that Rabindra Puri (with whom we will meet in the afternoon) has a very large training school in Panauti and that perhaps we can establish synergies with him in that context. He offers 6-month courses for mistris (Panauti Training School) as well as courses in reconstruction and reinforcement techniques, to which they apply Newar architecture principles. Regarding the training of mistris, Brian also recommends us to get in touch with his friend Ben Ayers Director of the DZI Foundation in Patán. He is in contact with many mountain communities.

Finally, as a conclusions and in view of the dissemination of the project, Brian gives us the following recommendations:

- To make the YouTube video after finishing the prototype process to spread it on FB.
- To make a 1-page summary of project, very visual, so that it can be sent to:
    - The communities in contact with Ben.
    - A friend of his from the NGO South Valley who has a publishing house, since perhaps a press release could be made.
    - A group of Dolakha who is in contact with his friend Francis.
    - The remote mountain communities, with which José Ojeda has a close relationship.

Interestingly, during the meeting we received a surprise guest who came as a listener. One Nishchal Ghimire, a Nepali who has introduced himself as the Director of the Hetauda NGO "Patron Nepal" Together for Peace and Development, and who was very interested in our ideas on reconstruction. He left us his information so that we could send him any information about it (see attached).

R16. Namuna Ghar & Rabindra Puri (Bhaktapur, KTM) 13 July 2015

Participants: Rabindra Puri, author of Newan anti-seismic model house
Mònica Sans Duran, architect (Amics del Nepal)
Daniel Roig, physicist and mathematician (Amics del Nepal)
Emma Ferrer, PFC architecture student (Base A)
Pedro Lorenzo, architect (CCD-UPC)
Prabhat Yonzon, member of the RCK

Rabindra Puri, author of the popular "Namuna Ghar" (model house) in Bhaktapur. It is a Newar architecture house, which he restored a few years ago using all the anti-seismic characteristics of the Newar tradition, and adding some modern details. After having been in contact with him through FB, he waits for us in his house to show it to us. When he arrives he explains that this house was about to collapse and that he decided to buy it and restore it, assuming all the costs in person. Everyone thought he was crazy, until they saw the result. In the end his effort was acknowledged and he was even awarded a prize from UNESCO. It is, indeed, a beautiful house, both inside and outside. We can appreciate in it many of the new earthquake details that we already knew, as well as new ones that we had never seen before; all of them executed with

an impeccable quality (perimeter strips of wood, at various heights, pieces of interlock between the two layers of walls, "coliso" support of the wooden pillars on top of the foundation stone, etc.). He also tells us that the woods had diverse resistances in the different floors. He adds that in certain cases he did not have problems in adding reinforced concrete perimeter beams. One point that worries us is that their pylon structures are not triangulated... Even so, they have resisted the earthquake perfectly; we assume that it is because of the presence of the concrete bands that he himself has told us about. It disturbs us a little that the courses that Rabindra teaches may be transmitting that all the characteristics of Newar architecture are anti-seismic, when one of the most important: the triangulation of wooden structures, is not being taken into consideration. This would be, precisely, one of the points to improve.

We talk to him about his school in Panauti, telling him that it would be great to visit him the next time we are in Nepal, when we start the training workshops, to see if maybe we could send some mistris from Bhimphedi. He agrees to it, and so we keep in contact to organize it.

2. SITUATION

2.1. EFFECTS OF THE EARTHQUAKES (April 25, May 12)

Nepal is a country that was deeply damaged by the devastating effects of the earthquakes in April and May. Although the first impression in Kathmandu is of apparent normality and few damages, even in the tall buildings, the most precise routes through the three historical zones: the Durbar Square surroundings of Kathmandu, as well as those of Patan and Bhaktapur (the centre of the three medieval city-states), we observe a highly damaged residential and patrimonial fabric. A second effect of the damages produced in Kathmandu were the cracks, already repaired, in the main communication routes of the city.

This state of apparent normality and highly damaged historical zones, in the capital, corresponds to the fact that the most intense activity of the earthquake took place in long span that runs from the epicentre, the northern area of Kathmandu, and the eastern area, where the territories are more destroyed, in some cases towns and neighbourhoods have been completely destroyed.

Bhimphedi is in the southern part, but it is a clear exponent of a generally damaged area, both in its rural communities and in the urban centre, with an average but uniform intensity, and the aftermaths are: 200 homes destroyed, 300 homes severely damaged, 300 homes damaged and 300 homes intact, out of a total of 1100 homes.

This situation, from the total destruction, strong damages, damages and intact housing is the general state and it is appreciable in any covered rural or urban area. There is an absolute need for intervention both for repair and reconstruction works, as well as prevention against possible earthquakes of greater intensity or with a higher impact in the area.

It can be said that Bhimphedi, with all the range of possible situations, in an ideal place to study the causes and propose solutions.

Several circumstances are also related to the actual state of damage:

- Nepal suffered the effects of a large earthquake in 1934, which led to a certain feeling of "technical neglect". At the same time, this feeling led to a relaxed attitude towards the application of anti-seismic standards, especially in traditional, rural and urban architecture.
  The traditional Malla and Newar architecture, and particularly the extended traditional construction technique of stone and mud perimeter wall, with an inside wooden structure, if well-constructed, has an effective resistance against earthquakes (although with some basic conceptual flaws). However, throughout this period it was been applied carefully and it showed some defects. (Rana buildings made of brick and clay have also been damaged, but this has a smaller impact on households).
- The new techniques applied to housing, such as concrete structures and brick walls, as well as households made with concrete blocks, do not apply specific anti-seismic measures. Their resistance has been good or sufficient, whilst their request has been low or moderate, but it can be considered that they are not prepared to resist a strong or very strong request, as can be appreciated in the badly damaged areas.
- The existing regulations (generally valid, although necessarily improvable, given the responses before the last earthquakes) do not apply.

2.2. PARTS INVOLVED

2.2.1. POPULATION:

The population of Bhimphedi has been very affected emotionally and psychologically, and a daily state of fear before of a possible new earthquake and the state of their households can be perceived.

Currently the aftershocks take place almost daily, which is very beneficial to weaken the action of the plates movement, although some opinions hold that more action is still needed to reach the foreseeable movements. Some of these opinions indicate that, at this time, the movement of the earthquakes is 1/3 of the necessary to reach the expected balance between the plates. More than a thousand aftershocks of a magnitude greater to 4 have been registered since the earthquakes.

All this leads to a situation of a constant psychological presence of the earthquake, which influences the use of households (avoidance of top floors, sleeping outside in tents...); and there is a generalized feeling of the need for reconstruction or reinforcement of the houses (the population want to show their cracks constantly, no matter how small).

Society here is very dysfunctional and faces this situation alone (with only direct support from the family unit).There are community leaders but their level of representation and acceptance is not clear. These leaders may vary according to who wants to guide the actions in every community. However, for other issues, such as agricultural production or women-specific issues, it is perceived that there is experience in cooperative movements (Agragaami, Women's Cooperative) which determine the possibility of collective actions to solve the problems.

These collective experiences (essential to address the organization of the Bhimphedi Housing Program) can be added to the presence of multiple international cooperation organizations, currently acting in emergency programs.

The attitude of the population in the face of these urgent actions (aimed at providing the population with means to face the current monsoon season, mainly supplying stores or cover plates) seems to “demand” equality and they expect to receive all the same, regardless of the specific situation of every household. Therefore, it becomes an unsupportive attitude.

This will be a fundamental point to properly organize the Program.

The action of the central or local administration (see 2.2.2.) brings about two contradictory situations for the population:

- The visit of the engineers promotes a disproportionate view of the damage, advising the demolition of clearly recoverable buildings.
- Many damaged buildings are not considered in this visit and it is the inhabitants themselves who provide information so that the buildings to be reinforced or rebuilt are included in the list (During the visit to the VDC - Village Development Committee = Municipality of Bhimphedi was receiving these requests).

The conclusion would be that the population has been very affected and live in fear, not understanding in some cases the reason why they are "forced" to destroy their homes, or why they have not included in the lists to receive subsidies to reinforce or fix them, a feeling that constitute their daily reality nowadays.

2.2.2. ADMINISTRATION:

A) CENTRAL ADMINISTRATION

It is acting with a logical appearance of forcefulness, but their set of actions have a doubtful effectiveness.

The government clearly distinguishes the two periods of intervention on these issues:

- Period of urgency, aggravated by the monsoon season.
- Reconstruction period, which would be marked by:

1. Think what to do. Thus not allowing to rebuild until October to be able to think about the necessary solutions. Any proposal must be controlled and approved by the government (How is this possible, given the magnitude of the issue?).
2. A first cataloguing of the damaged buildings has been made, marking with a seal their degree of affectation (red marks meaning the buildings must be reconstructed).The feeling is that this cataloguing is too drastic. On the other hand, there are damaged buildings which have not been considered and should be taken care by the government programs.
3. Within the financial field, during the reconstruction period subsidies will be offered, but have not been yet defined. The general feedback is:

   It is obvious that the government wants to concentrate the aid financially in order to develop these subsidies, but the effectiveness of their decisions and the arrangement of priorities is doubtful. Even more important, the level of decentralization to be able to correctly decide on these aids is also doubtful.
   These grants can be a very important complement to the Program.

B) LOCAL ADMINISTRATION

It was already very weak in Bhimphedi before the earthquake.

There is no mayor, and the leaders of the communities do not hold a clear representation. Currently there is a government secretary in Bhimphedi VDC who is the only reference representative.

2.2.3. TECHNICIANS:

The presence of building technicians in the Bhimphedi area is very scarce or almost non-existent, especially the presence of engineers (they are only appointed for the supervision of the households by the administration).

The master builders are, instead, present, both in the urban area of Bhimphedi and in rural communities. They are the ones who carry out the works with or without the support of the users themselves. They have a gild organization which has been transmitted from generation to generation and from teacher to apprentice.

There are training courses for workers and teachers in Hetauda for different degrees and durations, from three months to several years.

One of the objectives of the Program will be to contribute to the training of these groups, mainly for the correction of the deficient use of traditional techniques, in order to achieve their correct behaviour in the face of new earthquakes.

2.2.4. OTHER AGENTS:

The presence of other productive agents (professionals from different fields, doctors, teachers, traders) in Bhimphedi can also be considered as a resource for possible collaborations in various fields, which is necessary to properly focus on the improvement of households, such as organization, management, or finance. In particular, the collaboration with technicians and Agragaami Cooperative leaders has been very positive. Various national and international organizations and technicians, acting in emergency programs and focusing reconstruction programs, also have a strong presence, increased by the current circumstances. These organizations are willing to cooperate at a state level (which is important for the exchange of solutions and proposals) and at a local level (with possible lines for mutual support).

In this sense, the relationship with entities such as the Rotary Club of Kantipur, the NGO Petit Mont, or those responsible for Project 3E in Bhimphedi, has been very favourable.

2.3. DAMAGED HOUSEHOLDS

Although it would be relevant to focus the analysis of both rural and urban habitat, given the situation in Bhimphedi, it is necessary to focus on the housing situation, an essential objective of our Program.

During our identification trip, the situation of rural and urban housing has been analysed.

A) RURAL HOUSEHOLD

We visited the rural areas or communities of Mathilo Gyamire (Ward 9), Mathilo Supping (Ward 7), Phaparbari (Ward 8), in the latter we visited several areas: Qorajgary and Kitbanjang (Ward 3). The total number of households analysed is 9.

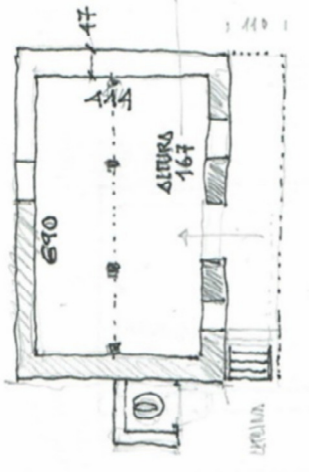
Households features:

a) TYPOLOGY

The general rural typology is excellent. Its basic structure is a main space organized by the perimeter wall and the interior wooden structure in 6 undifferentiated spaces, an organization that is repeated on a second floor and, sometimes, a third. This basic space grows or can grow transversely through porches, galleries or additional extensions to the house. The result is a space where any rural program and multiple dispositions can fit freely, depending on the specific situation of the family that inhabits it. It is a magnificent typology, confirmed by its use for centuries, and which should be protected and enhanced.

This main building is complemented, in addition to the aforementioned extensions, with minor buildings used for stables, storage of agricultural products, latrine, and sometimes a kitchen. These external units are often very precarious.

GROUND FLOOR



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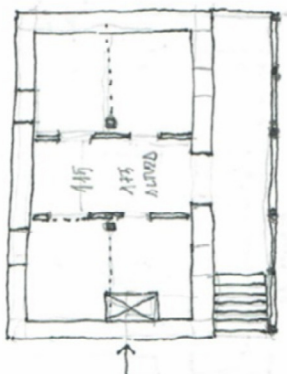
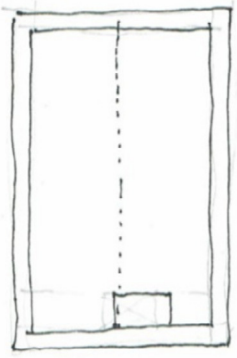


UNDER ROOFTOP



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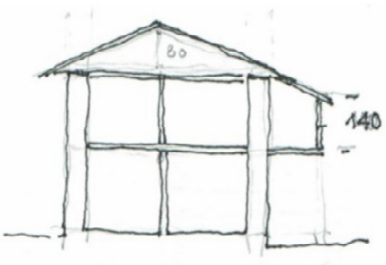
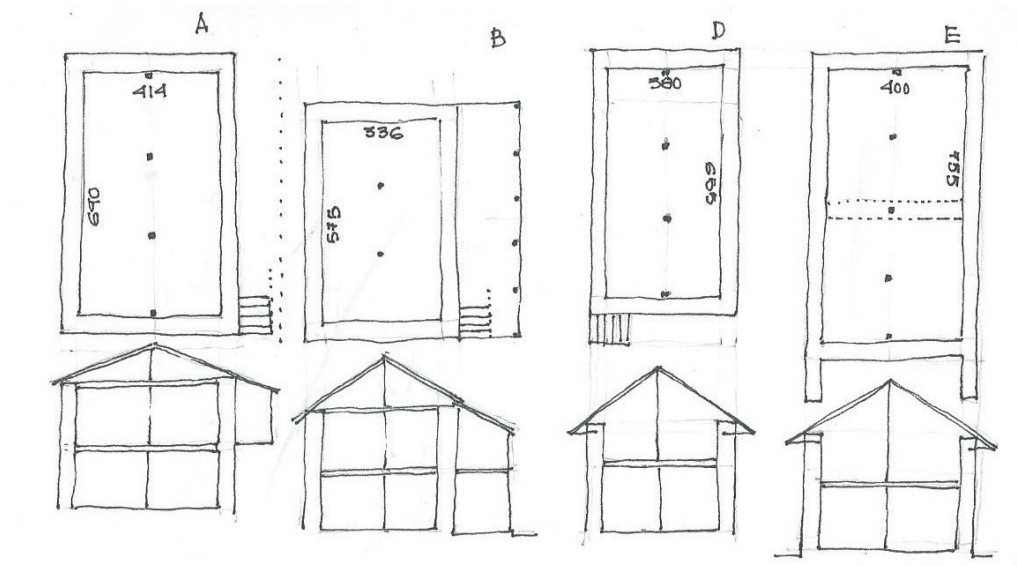
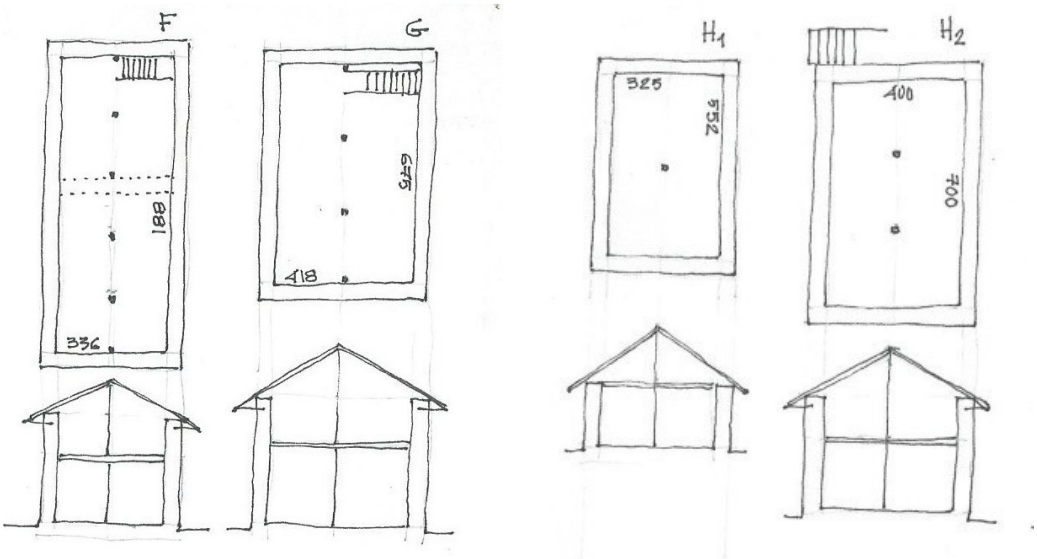
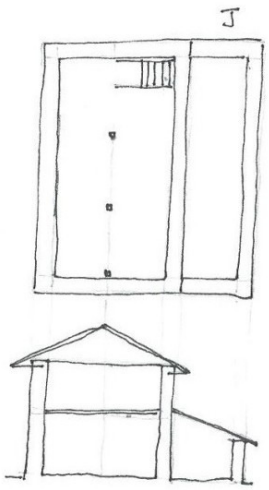


- RURAL HOUSEHOLDS COMPARATIVE SUMMARY







b) CONSTRUCTION TECHNIQUE

The predominant construction technique (almost the only one employed in the main buildings) is the use of a perimeter wall made of stone and clay and an interior wooden structure with dirt floors on wooden boards (reinforced earth) and interior partitions made of wood or reinforced earth (reeds or bamboo frames coated with earth).The roof, in general, is made of steel sheet and exceptionally made of plant-based or small elements (tiles or stone slabs).

The secondary structures are usually made of wood in its natural state (branches or reeds) with a steel sheet cover.

c) STATE AFTER THE EARTHQUAKE

The main dwellings, in general, are lightly or heavily damaged. In many houses the subsequent extensions in the households, due to their lower constructive quality, are destroyed.

The complementary structures, given their size and their highly flexible precarious construction, have withstood the earthquake in general, but their precarious condition has remained.

Provisional dwellings (tents and edifications with license plates that the emergency programs have supplied) have been built in several houses.

B) URBAN HOUSEHOLDS

Simaltar (Ward 4) and Bhimphedi Bazar (Ward 2) were visited. A total of 16 houses were analysed.

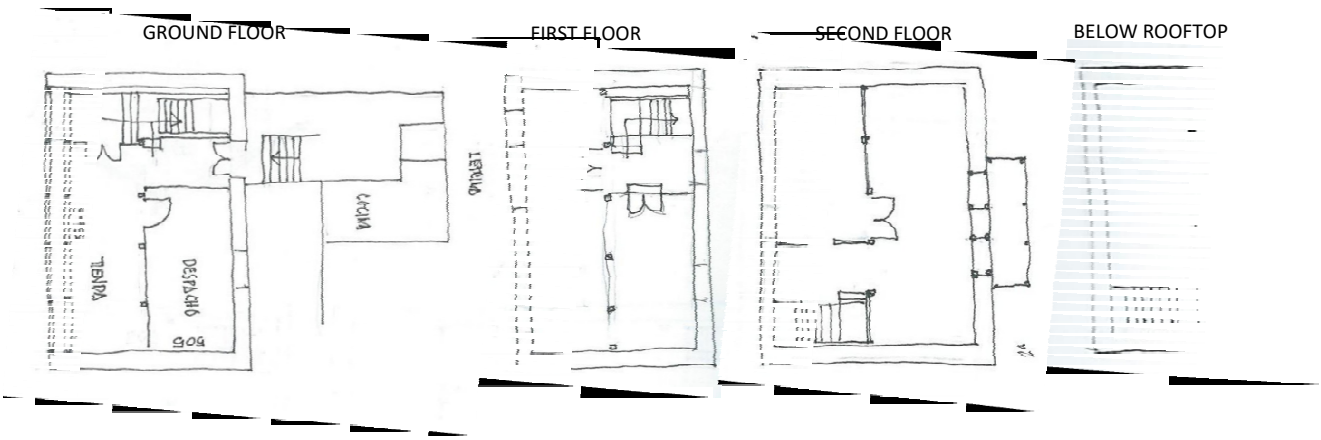
a) TYPOLOGIES; CORRESPONDING TO THREE DIFFERENT TYPES:

- TRADITIONAL HOUSING:

They are built from a perimeter wall of stone and mud and an interior wooden structure, like the rural households but with a more complex use, according to which the ground floor is left for commercial use, followed by a structure of more than three sections and an arrangement of 2, 3 and up to 4 floors in general. The main area, which faces the street, is extended with auxiliary constructions, generally around a backyard.

This is a great quality typology which creates very diverse households corresponding to very different historical periods. There is, however, the constant presence of a Malla and Newar architecture element with a higher or lesser quality: carved wood in bearing elements and joineries.

It is an architectural style to be preserved and used which adjusts perfectly to the social and economic evolution and increases considerably the quality of households.



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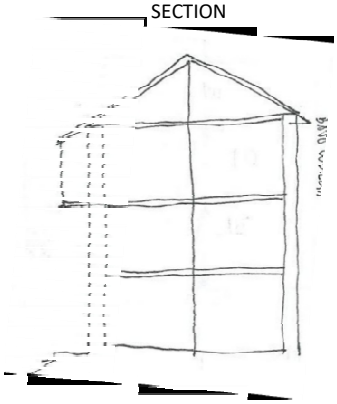
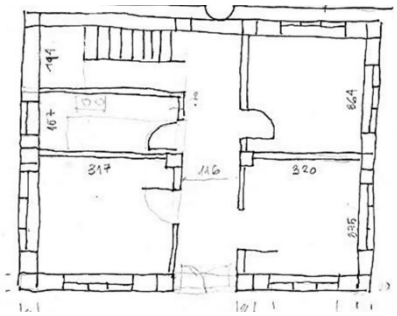


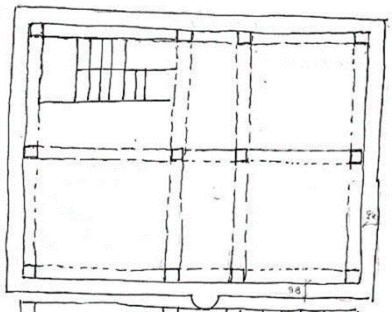
HOUSEHOLD

- CONCRETE STRUCTURE AND BRICK ENCLOSURE HOUSEHOLDS:

This is a recent trend that proposes a typology based on a central corridor and four spaces to be used freely, although one must be kept for the staircase and the kitchen.

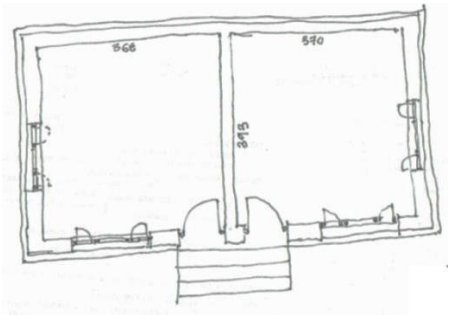
It is common to find them built on a single floor, which could allow for vertical growth to place a second household.



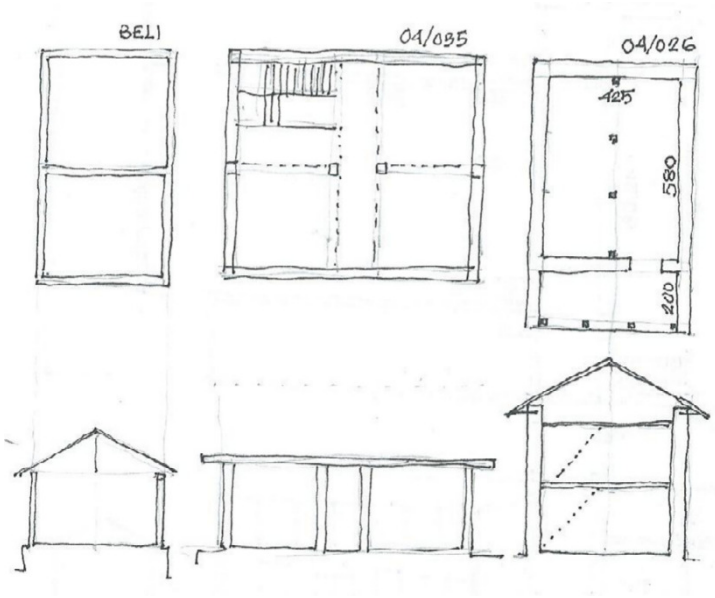


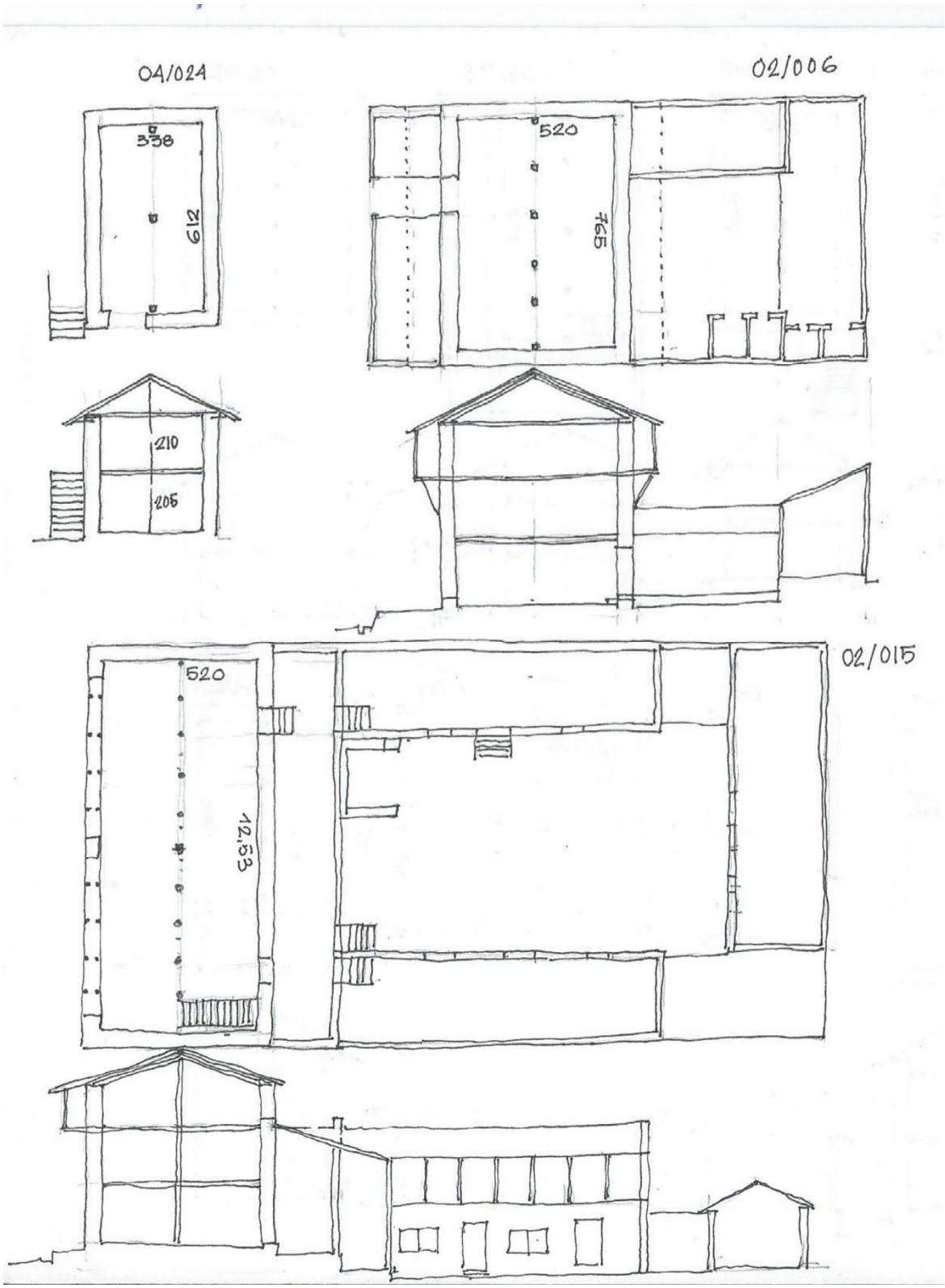
- CONCRETE BLOCK HOUSEHOLDS:

Another recent trend which proposes a very simple typology that can even be a simple arrangement of independent rooms. They are currently being built as an alternative to the destroyed households.



- URBAN HOUSEHOLDS COMPARATIVE SUMMARY

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b) CONSTRUCTION TECHNOLOGY

It corresponds or is the source of the three typologies reviewed:

- Wall of stone and clay, with wooden internal or external structure (castings on the facade for placement of access to stores or upper galleries), and a sheet metal cover.
  In many houses bricks are placed to resolve the walls (It is a more traditional solution from the Newar architecture).
  The additions in the inner courtyards are usually built with lower quality but with the same technology.

- Concrete structure and brick enclosures between pillars, acting as a roof, until the second floor is built, the concrete slabs.
  In Kathmandu, the use of confined masonry is sometimes perceived (first the wall formwork wall is built, followed by the structure).The use of this confined masonry (with brick walls or concrete blocks) is spread worldwide and has an excellent behaviour against earthquakes, so it would be advisable to apply or to teach this technique.

- Concrete block.
  It is used very clumsily, without the adequacy and the necessary reinforcement for its correct behaviour against earthquakes.
  As it is used against high intensity earthquakes, it could fall. It is then advisable to teach how to properly use this technology.

c) STATE AFTER THE EARTHQUAKE

- TRADITIONAL HOUSING UNIT:
  All the pathologies studied have been produced.
  Homes are found in all possible states and in a very balanced proportion: not damaged, slightly damaged, damaged more severely and destroyed.

- CONCRETE STRUCTURE HOUSEHOLDS:
  Concrete structure households have responded well, presumably thanks to a lesser intensity of the earthquake in this area, as in some other areas and, in particular, some visited areas of Kathmandu, this type of structures suffered great damage and even complete destruction, which suggests that the use of technology is not entirely correct.

- CONCRETE BLOCK HOUSEHOLDS:
  The construction with concrete blocks, despite having serious defects, has behaved well or has not been tested (these constructions are subsequent to the earthquakes).

2.4. PATHOLOGIES OBSERVED

2.4.1. TRADITIONAL HOUSEHOLDS

A) WALL PATHOLOGIES

- A.1 DUE TO WALL COMPOSITION:

The wall of stone and mud, approximately 50cm wide (45-65cm) is made up of two faces (inner and outer) which are differentiated and shaped with stone agglutinated with earth (mud) and a filling, also made of stone and clay, with no lock, which implies a lack of cohesion between both layers.

This type of wall tends to split into two, separating the outer and inner layer when any longitudinal or transverse tension occurs.

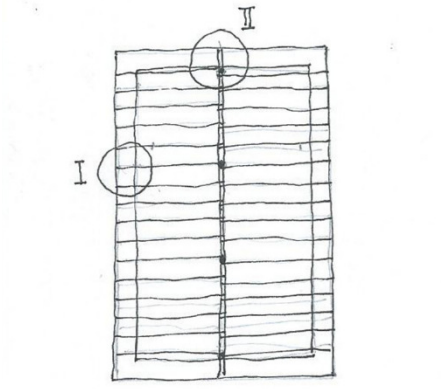
To avoid this, the correct traditional construction and the Nepalese construction norm propose the union of both layers as a basic solution.

This can be done in several ways:

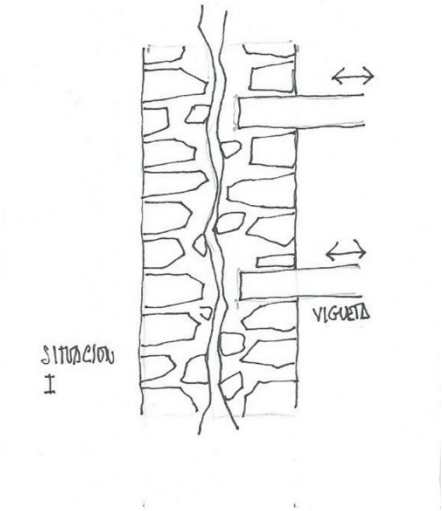
a) By placing pass-through stones or those to interlock both layers. This solution, except for very special exceptions, is not applied in the construction of traditional households.

b) By placing wooden pass-through elements which can be placed freely in height and along the length of the wall. (The separation of these elements should be in layers of 50cm in height and 120cm between each layer). In the traditional households studied these elements have not been placed.

c) _By using the transverse wooden structural elements. These elements, and more specifically the wooden joists of the slabs, would fulfil this purpose if they simply crossed the entire wall, but they are usually placed on the longitudinal slats that, as we will see, serve, in turn, to interrupt the vertical cracks. This solution has been found in some of the households observed, the ones with the best constructions.

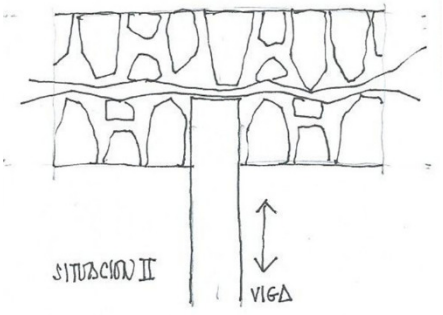


When none of these forms of connection of the two layers of the wall is present, the collapse of the outer layer takes place, weakening the wall, which may cause the collapse of the weakened inner layer. This situation can occur both in the longitudinal (I) and transversal (II) walls.



SITUATION (I)

The joist pushes the wall and separates the two layers, which can cause the collapse of the outer layer and consequently the inner layer, which will be weakened.



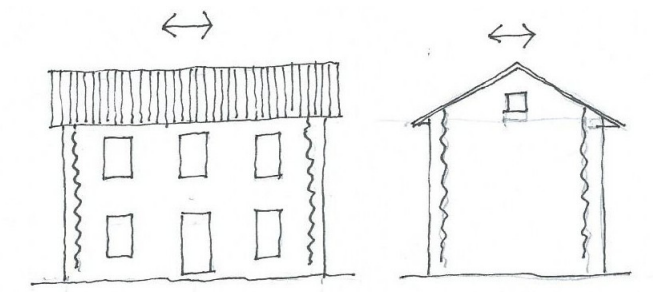
SITUATION (II)

In this case, from the concentration of effort, the thrusts produced by the beams of the central wooden structure, are more violent and powerful.

When the inner layer receives support the collapse of the outer layer occurs more easily.

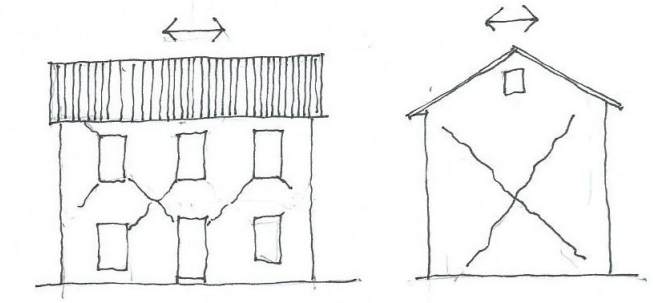
As we will see when analysing the behaviour of the wooden structure, even with pass-through beams it can cause the collapse of the wall. In fact, this has happened in most of the houses destroyed or strongly damaged studied.

- A.2 VERTICAL CRACKS IN THE WALL



The movement of the earthquake produces two types of cracks in the wall.

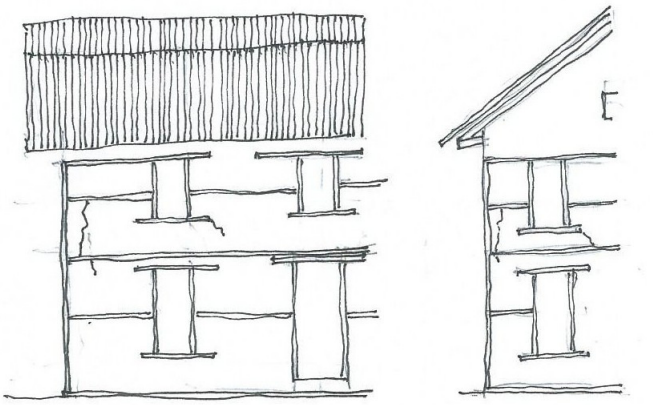
Vertical cracks in the corners, caused by the breaking of the union between the two walls.



Cracks at 45 degrees, produced by the longitudinal movement of the wall.

The traditional construction proposes longitudinal wooden reinforcements at different heights, which interrupt the path of these cracks.

These horizontal reinforcements, if placed under the floor joists, allow, when they are pass-through, the correct union of the outer and inner layers of the wall.



These horizontal reinforcements, under the best circumstances, are complemented by a specific wooden vertical reinforcement in the corners.

When these horizontal and vertical reinforcements are missing, which is very common in the buildings, the more recent they are or the further they are from the correct constructive norms, the more likely they are to have large cracks, walls displacements or collapse.

- A.3 SHAFTS AND WALLS DISPROPORTION

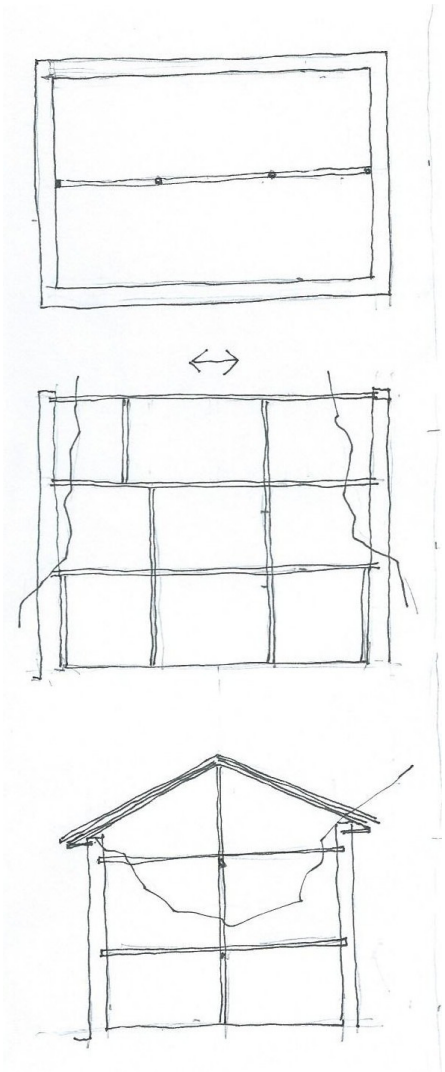
In order to ensure the functioning of the walls, the standards indicate a proportion between shafts and walls and a minimum size for the separation walls between shafts.

In general, the households studied comply with this rule, except, in the urban context, the ground floors where the stores are kept. In those cases, very severe displacements had been noticed, even long before the earthquake took place.

In conclusion, the pathologies observed in the walls were:

- Separation of the outer and inner layers of the wall, leading to a possible detachment and collapse of one or both of them.
- Several centimetres transversal displacement of the wall, bulging.
- Vertical cracking in corners.
- 45-degree cracking in the wall surface or in the shafts corners.

B) INTERIOR WOODEN STRUCTURE



The traditional housing, both in rural and urban areas, is structurally built by placing a perimeter wall of stone and mud and an interior wooden structure.

The bad performance of the mutual relation between these elements (wall and structure) has been the main cause for the collapse of the houses.

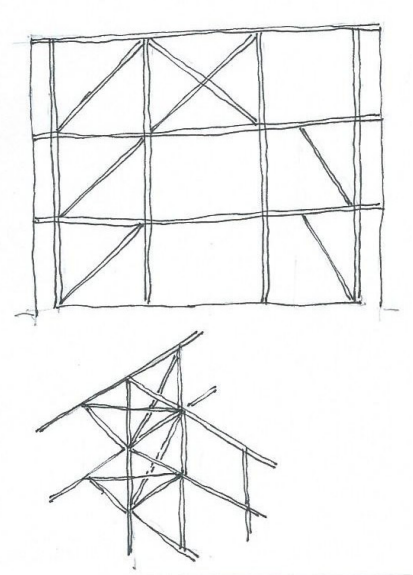
The earthquake creates an anarchic movement in all directions, but is transformed into a coincident direction movement with the built elements.

Regarding the interior wooden structure, a longitudinal movement is produced which involves a violent and continuous beating and a stretching between the structure and the wall during the time of the earthquake.

If the gantry that forms the structure is not rigid (it is not triangulated) the movement will be more intense and the wooden structure, instead of containing the wall, will act as a ram and cause its collapse.

This is aggravated by the usual disappearance of the wooden pillars on the upper floors, which enhances the ramming effect. In many cases even the gantry is placed on a shaft (window) placed on the facade wall.

This is the reason for the large number of broken and collapsed facades.



It is essential, for the correct performance of these buildings, to correct this malfunction between the structure and the wall.

The proposal must hence triangulate and stiffen the wooden structures in their longitudinal direction, but also in the horizontal plane and in their height.

c) OTHER ELEMENTS

In general, both in rural and urban households, there are no breakages on the soil or foundations. (Although this is not the case for some buildings visited in Kathmandu).

The light rooftops have suffered consequences due to the movement of the internal wooden structure of the buildings and the effects of the collapse produced in the front walls, but they have not contributed to it.

The carpentry, particularly the continuous structural gantries (with several sections) that conform the facade of the urban commercial buildings, have suffered the deformations corresponding to the movements of the walls.

The best structures, both for the windows and for the gantries of the commercial buildings, are resolved in a double outer and inner layer corresponding to the outer and inner face of the wall. When these are joined transversely, they contribute to the stability of the whole wall.

The repeated gantries in commercial buildings have not shown any resistance problem to the wall's superior weight but, since they are not triangulated, they have suffered stability problems to resist longitudinal movements of the wall. This can give rise to very visible and ancient deformations that, when facing the action of the earthquake, can contribute to the total deformation of the buildings and their collapse.

The slabs, made of wood (joists + boards) are finished with a layer of reinforced earth which has proven to be very heavy in many occasions, which increases the effects produced by the movement of the earthquake. In some cases, the deformation or destruction of this layer of earth is observed due to the movement and rotation of the wooden structure pillar bases, which proves the deformation that said layer has suffered and explains the ramming effect that has caused the collapse of the rooftops.

The internal divisions and the stairs may have suffered light deformations, but this has not contributed to the general damage of the buildings.

D). PATHOLOGIES PRODUCED BY THE FORM OF THE BUILDINGS

In terms of the shape of the buildings, three variables can be considered:

a) SHAPE OF THE FLOOR PLAN

Measurement of the floor plan regularity so as not to draw its layout too close to a square or rectangle shape and that, in this case, the larger side is not more than 3 times the shorter side. All the households studied meet this variable.

b) PROPORTIONALITY OF THE WALLS

Ideally, it should be very similar to the amount of walls corresponding to the two directions of the building (length and width, for example).The closed perimeter of the perimeter wall in the households studied would show a good performance. Problems of this type have been found in a school visited.

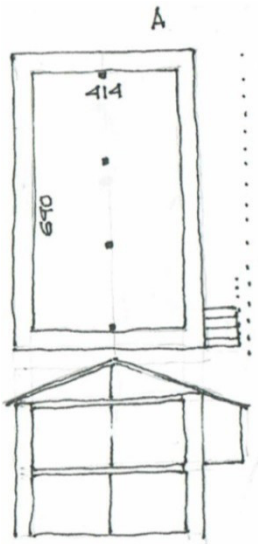
c) BUILDING HEIGHT

For traditional construction, a two-floor-height and a space below the rooftop is considered acceptable. Some urban houses have 3 floors and a space below the rooftop, so they would require special reinforcements.

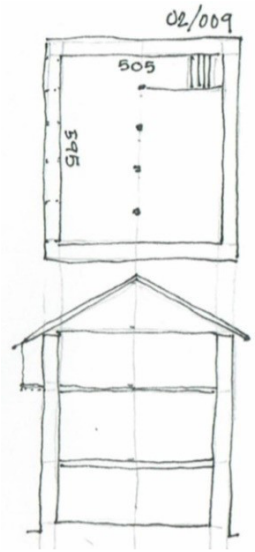
To these three conditions, a layout of the shafts can be added. In this case, two variables can be considered.

d) These walls must turn at least 2 times the width of the normal wall. Some of the houses studied do not comply with this premise and one of them has been destroyed (the one next to 04.026, which is a twin).

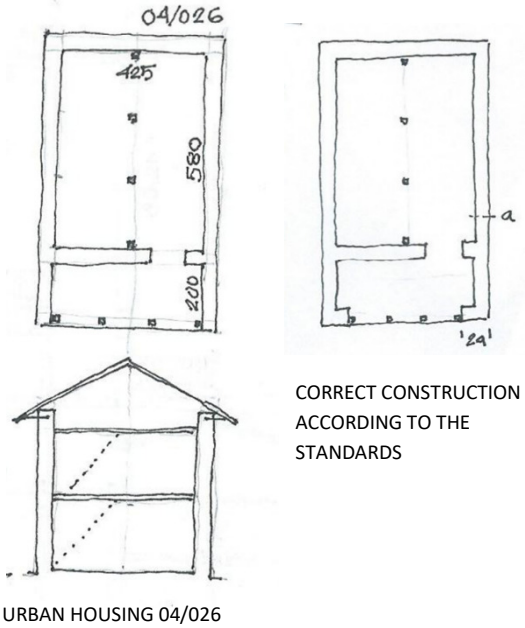
e) The separation between shafts and their distance to the corner of the buildings. There is a generalized problem in traditional construction, which consists emptying the ground floor to of wooden gantries to locate the accesses and the stores. The rest of the shafts, in general, are well laid out.



RURAL HOUSING (09)



URBAN HOUSING 02/009
COMMERCIAL USE



CORRECT CONSTRUCTION ACCORDING TO THE STANDARDS

URBAN HOUSING 04/026

3. PROPOSAL FOR INTERVENTION / ACTIONS / COMPONENTS / PRIORITIES

3.1. STATEMENT. GENERAL GOALS

After a disaster caused by a natural phenomenon, such as the previous April and May earthquakes, and considering the cooperation to mitigate the effects and to collaborate in the social and physical recovery of the affected population, it is advisable to go further on a number of points:

A) It is convenient to understand the disaster, not as a natural disaster, which does not exist (an earthquake, or hurricane is part of the process of our planet's evolution of and will continue to occur) but as a disaster produced by human behaviour when facing a natural phenomenon (settlement in risk areas, use of typologies and technologies unfit to respond against natural phenomena, degradation of the standards that must be applied, etc.).
It is, thus, the correction of this human behaviour that is necessary to consider and on which we must act, correcting the location of settlements when necessary and strengthening the population in the social sphere, while enabling technicians and administrations to improve their knowledge and decision making before new natural phenomena takes place. In this sense, it is essential to strengthen the organization and risk management capacity and encourage the use of typologies and building technologies (standards and examples) with the capacity to respond against the event of a new earthquake.
In the case of Nepal, a relaxation and degradation of the applied techniques has been found, caused by the "amnesia" of the earthquake in 1934, both in traditional construction (which used to have very correct standards and examples) and in new technologies (concrete, block, etc.).

B) Intervening after a disaster requires a series of goals to be clear and a great rigor so as to avoid serious mistakes.
As indicated in the identification trip preparation NOTES:

"Improving the habitat conditions of the affected populations (in Bhimphedi) means: Applying a comprehensive vision of the habitat concept, both for the physical support, the household and the urban space where it is based, as well as the way of life of the inhabitants, their social, economic and cultural conditions. This includes:

- *Improving the physical support, both of housing and other fundamental physical aspects such as access to water, wastewater treatment or access and communication of inhabited areas.*
- *Improving the living conditions of the population, achieving social strengthening. The objective, in this sense, will be to leave a stronger population after having developed the program, in such a way that they can deal with a more preventive attitude any new episode produced by another natural phenomenon, a new earthquake.*

This means strengthening the population (and the institutions that support it) in their capacity for organization, management and decision making, through a better economic rebalancing. It implies that the action that is carried out does not create a dependency among the population and that it does not make them adopt an attitude of only expecting to receive aid (begging position) but rather in an active population with knowledge to resolve problems.

It aspect is very important, as the identification journey proved, to act on both levels, physical (on the households themselves) and social, giving security and confidence to the population facing a new earthquake, strengthening them and providing them with mechanisms of organization and management, preventing them, in this way, from falling into dependency and begging situations.

C) In any intervention after a disaster caused by a natural phenomenon, in this case an earthquake (or earthquakes), two phases should be distinguished:

- Emergency phase, immediately after the earthquake, which aims to facilitate the population's access to resources that allow them to retake daily life activities in sufficient conditions, although not equal to those they had before the earthquake.

In the case of Nepal, to these conditions of survival, the presence of the Monsoon season is also added. In this case, it is more essential to facilitate that the population can get through the Monsoon.

- Reconstruction phase. This is a slower phase which aims to facilitate the access of population to resources that can allow them to recover the situation they had before the disaster, improving (which is essential) their capacity to respond or act in the face of a new disaster.

It is recommended that the Program addresses the reconstruction phase, which implies both the housing improvement and the population strengthening, involving technicians and institutions.

D) The proposal territory.
The area studied in the identification trip is the entire department of Bhimphedi, where Amics del Nepal traditionally operates.

Maintaining the whole area of Bhimphedi as the territorial objective implies:

- Act in rural and urban areas of Bhimphedi Bazar.This is regarded positively.Given the degree of affectation of the populations and damage of the dwellings, none of the zones can be considered excludable.All are affected in a very similar way.
- The problem, from the limitation of the resources of the Program, is the identification and selection of the target population, which should be addressed.

The identification trip preparation NOTES indicated:

- That resources must reach the most affected populations, those with less resources. This implies the proper selection of the target populations (the resources of the program are, in principle, quite limited) and that this selection is made in a participative way and following priority and effectiveness criteria.
- The reality of Bhimphedi is very broad and complex (zones and caste system). It is necessary, hence, to design a fair and participatory selection system.

After the identification trip it is also convenient to maintain all Bhimphedi as a territorial area (rural and urban areas), proposing (see 3.2.1.A) the organizational mechanisms that will allow the proper selection of the assisted population.

This condition can be defined as the GENERAL GOALS or MISSION:

- Implementing a Program to help improve the habitat of the populations affected by the April and May earthquakes in Bhimphedi, Nepal, both for its households, the living conditions and the ability to respond against new earthquakes.

The proposed name for the program is:

BHIMPHEDI AWASUKA (AAWAAS SUDHAR KARYAKRAM)

(Habitat improvement program in Bhimphedi)

3.2. PROGRAM SPECIFIC GOALS

As indicated, the Program must contemplate social goals and physical goals.

3.2.1. SOCIAL GOALS

A) PROGRAM ORGANIZATION

The greatest difficulty in order to effectively maintain the territorial interrelation goal throughout Bhimphedi, is to select the target population.

As indicated in 2.2.1., the population is unstructured and weakly represented, which makes it very difficult to establish a selection and prioritization system. Previous experiences in supplying steel sheets from the emergency programs of several organizations has shown the difficulty to reach the most affected population, having to intervene indiscriminately and in situations of lack of solidarity. That was quite a lesson.

The exceptionally valid mechanism identified throughout our trip is the existence of operative and active cooperatives (both agrarian and addressed to women), which have proven and accepted leaders.

The proposal is to channel the Program through the creation of a **Habitat Unit for the AGRAGAMI cooperative**. This will improve the housing of the cooperative members, in an order of priority and the strengthening of the populations and of the cooperative itself.

Likewise, with this organization, the Program ensures its expansion and continuity according to the resources collected and the resources returned by users of the economic program. In short, if this Habitat Unit for Agragaami proves to be operational and has a good organization, we could adopt it as a definitive organization within the agricultural cooperative. Then, permanent objectives could be arranged in time to improve the habitat of its cooperativists, with or without external cooperation.

Any person from Bhimphedi who wants to join the program, can do so by asking to become a cooperative member and undergoing the Program's selection and prioritization.

All these terms, as well as the management and economic conditions, were discussed at various meetings held among Agragaami representatives of (See section 2).

B) MANAGEMENT OF THE PROGRAMME

The Program has two management levels:

- The program itself is managed by a Bureau, a Committee or Monitoring Consortium formed by Amics del Nepal and the Program partners, such as:
  UPC, BASE-A, Rotary Club and other entities that provide resources (human and/or economic) such as Petit Món, Juanjo, etc.

  This board, formed by 4 or 5 representatives, is in charge of managing and controlling the development of the Program.

- The Agragaami Habitat Unit, an organizational tool, as well as the economic organization for the development of the Program (microcredit revolving fund) require the management to be carried out by a MANAGEMENT BOARD in which our Program and Agragaami are represented. It has been proposed that this board, which manages the Habitat Unit, is composed of 4 or 6 people, half of them from the Program and half from Agragaami.

C) PROGRAM ECONOMY

Every Cooperation Program proposes, in short, two types of actions:

- The program COMPONENTS, the eligible units to be financed for their development. They can be both social (training and qualification, for example) and physical (household building).
- The program CONSTRAINTS, which are not bankable, do not cost money, but are necessary to meet our goals. An example of these would be the management boards, which are necessary but not fundable, or the prioritization selection methods that are applied.

The COMPONENTS (developed in 4) can have two economic approaches: subsidy or loan.

It is important, for the strengthening of the population, to avoid that the Program is not exclusively offered (subsidized), and that the population has, at least partly, an active economic role to achieve it, in part, the same way that they will have to do in the future.

It will be very important to state that part of the Program components are subsidized, as we must also organize the financials of the Program lending portion.

Although, as will see in 5, a final economic design of the Program will be necessary,
the first economic proposal would be:

- Subsidized part of the Program
  - Technical assistance
  - Training and education
  - Installation of the materials bank and productive workshops
  - General Expenses of the Program
- Lending portion. Credit
  - Materials used
  - Materials Bank functioning and the Productive Workshops

The instrument proposed for the credit is an ECONOMIC REVOLVING FUND. The loan offered for the improvement and / or construction of the households, is supplied with construction materials and the refund will be made in cash.

As it is a social program, it was proposed that the credit has an interest rate close to 2% (In Nepal the average reference interest is of 14%).

This Economic Revolving Fund can, in turn, organize programs to promote micro-enterprises, such as the materials bank and productive workshops or more specific plans, within the objectives of the Program, aimed at social groups at risk of discrimination or exclusion (women, elderly, specific of the Ward, etc.)

D) TRAINING AND RECRUITMENT

The objective of the social, technical and institutional strengthening is to guarantee and achieve the objectives of the Program, and it requires the training of the different agents involved in it and of the groups to which it is addressed, and more especially: population, technicians, construction teachers, institutions and organizations.

A highly experienced methodology for the technology transfer, training and qualification workshops has been proposed. Three types of workshops are proposed:

- SOCIAL SKILLS WORKSHOPS:

Training offered to improve the following skills:

ORGANIZATIONAL	In particular, the cooperative organization	
MANAGEMENT	Financial	Savings and credit systems
		Economic Revolving fund
	Applicable Laws to the Program: In particular, those concerning land safety conditioning	

- PARTICIPATORY DESIGN WORKSHOPS:

Training offered to improve the following skills:

Design with the people, for the people	For the households to be built
	For other aspects of the habitat, including community decisions, the best for the Ward and Bhimphedi.

- CONSTRUCTION TECHNIQUES WORKSHOPS:

Training offered to improve the following skills:

Access to materials	Materials bank	
	Micro production. Production workshops	
Earthquake-resistant Construction Techniques	Stone, Mud and Wood	
	Concrete and Brick (concrete masonry)	
	Concrete Blocks	
	Others	Reinforced earth
		Innovative techniques

3.2.2. TECHNICAL OBJECTIVES (CONSTRUCTION)

The constructive focus of the Program is to improve households damaged by the effects of the earthquake. There are other aspects that could also be addressed or even prioritised, such as accessibility to inhabited areas, equipment (some children have to walk 2 hours a day, two times a day, to go to school).

It is considered that, if the Program achieves continuity and autonomy, or grows thanks to contributions and partners, these issues could be addressed, in particular school equipment, healthcare, and accessibility.

A) LINES OF HOUSING IMPROVEMENT

There are several lines of work to be included:

A.1 Reconstruction of destroyed houses.
New homes are proposed.

A.2 Restoration and reinforcement of damaged, recoverable homes.

A.3 Repair and reinforcement of poorly damaged homes.

A.4 Reinforcement of houses not damaged but with constructive defects that could imply a risk against the effects of new earthquakes.

B) CONSTRUCTION TECHNIQUES PROPOSALS

There are three main areas of technical proposal:

B.1 ACCESS TO MATERIALS

- Purchase and community storage to lower the costs.
  Banks of materials.
- Micro production of components and elements through Productive Workshops.
- There are three types of workshops expected:
  MASONRY, STRUCTURES AND COVERINGS. STONE / BRICK / CONCRETE
  WOOD, STRUCTURES AND ELEMENTS (CARPENTRY)
  OTHERS, METAL FACILITIES, KITCHENS, LETRINES
- Community transport of components, elements, and materials to rural areas.

B.2 TYPOLY PROPOSAL

Advice, through participatory design, of the households to be built, as well as elements of growth or complementary elements, both in rural and urban areas.

Organization of different typologies for the user to choose, for both the main building and the secondary constructions.

B.3 CONSTRUCTION PROPOSAL

Use of different techniques for constructing the new households or reinforcements for those that still stand.

- TRADITIONAL CONSTRUCTION
  Made of stone and wood (or brick and wood)

- CONCRETE AND BRICK CONSTRUCTION
  Sample of the confined masonry technique, used worldwide

- CONCRETE BLOCK CONSTRUCTION
  Sample of the reinforced and confined masonry techniques

- OTHER TECHNIQUES
  - REINFORCED EARTH
  - OTHERS

4. PROGRAM COMPONENTS AND CONDITIONING FACTORS

It applies to the financeable or non-financeable units that are necessary for the development of the Program.

These components and conditioning factors need resources to be carried out (economic and/or human).

4.1. DESCRIPTION OF THE MAIN COMPONENTS

●**COMPONENT 1.** PREVIOUS WORKS

All the preparatory work that is necessary for the development of the Program.

1.1) IDENTIFICATION TRIP
Already completed, as described in this report.

1.2) Drafting of the Cooperation Program, based on this report:

- NAME
- MAIN GOALS
- SPECIFIC, SOCIAL AND TECHNICAL GOALS
- COMPONENTS AND CONDITIONING FACTORS
- REQUIRED EQUIPMENT
- MEANS TO OBTAIN THE GOALS
- FOLLOW-UP AND PROGRAM VALUATION
  LOGICAL FRAMEWORK

1.3) Program projects for the development of the components:
They are executed in stage 2.The components to be planned are:

1.3.1 SOCIAL COMPONENTS

- AGRAGAAMI COOPERATIVE HABITAT UNIT
- FINANCIAL PROGRAM
  MICROCREDIT ECONOMIC FUND
- TRAINING AND EDUCATION PROGRAM
  TRAINING AND QUALIFICATION WORKSHOPS

1.3.2. CONSTRUCTION TECHNICAL COMPONENTS

- ACCESS TO MATERIALS
  - BANKS OF MATERIALS
- PRODUCTION WORKSHOPS
- COMMUNITY TRANSPORT
- PROTOTYPES
  - RECONSTRUCTION OF DESTROYED HOUSES: NEW HOUSEHOLDS
  - RESTORATION AND REFORM OF DAMAGED, RECOVERABLE HOUSEHOLDS
  - REPAIR AND REFORM OF SLIGHTLY DAMAGED HOUSEHOLDS
  - REINFORCEMENT OF UNDAMATED HOUSEHOLDS
- CONSTRUCTION DEVELOPMENT PROGRAMS

• **COMPONENT 2.** HABITAT UNIT OF THE AGRAGAMI COOPERATIVE

It is the fundamental component for the organization of the Program.

Necessary elements for the development of the Unit:

2.1) Agreement with the Agragaami Cooperative, based on the conversations held during the identification trip.

The planned process is:

- Sending letters of intent from Amics del Nepal to Agragaami (Done in the beginning).
- Agragaami Annual Assembly and, if applicable, approval to form the Habitat Unit (It will be done at the end of August).

2.2) Organization and management of the Agragaami Habitat Unit.

- **General Objective.**

Contribute to the improvement of the habitat for Agragaami cooperative members: their housing, both rural and urban, and their accessibility and communication conditions, infrastructures and equipment (education, health, etc.).

- **Specific Objectives.**

  - Improve, repair and reinforce the households damaged by the April and May 2015 earthquakes, rebuilding the destroyed ones.
  - Improve the adjacent buildings to the households: stables, warehouses, latrines, kitchens, etc.
  - Improve the accessibility conditions of the communities, favouring the commercialization of agricultural products.
  - Improve the access to health and education equipment.
  - Improve the access to transport, materials and necessary products for the communities.

- **Organisation**.

It is a Habitat Unit within the cooperative structure.

All Agragaami cooperative members have access to the proposals of the Habitat Unit. Any other individual who wishes to access the proposals of the Habitat Unit, has to become an Agragaami cooperative member.

The cooperative member who wishes to access the Habitat Unit will pay a single symbolic fee (100 rupees) to be added to the standard Agragaami quota, which is also 100 rupees (for its symbolic nature, this quota is expected to remain low).

- **Management**.

A Management Desk of the Agragaami Habitat Unit has been proposed, composed of:

  - Representatives of Agragaami (2 or 3)
  - Representatives of the Program (2 or 3)

It has been proposed that the proportion must be equal and it must maintain the quality standards set by the president of the board who will represent Amics del Nepal during the entire duration of the Program. Later on, the board itself will organize the management according to their criteria.

2.3) Financial operations of the Agragaami Habitat Unit.

The economic contributions for the improvement of a house can be:

- Subsidized by the program: technical assistance
- Economic or labour contributions from the users
- Financed by the program: given in the form of construction materials
  To this end, we use the REVOLVING ECONOMIC FUND (See component 3).The returns will be monetary. It is essential to set the size of the credit properly so that the return, from medium to long term, is possible. The proposed interest is 2% (The usual in Nepal is 14%).

2.4) Technical functioning of the Habitat Agragami Unit

The Habitat Unit:

- It will select and prioritize the cooperative members it will serve.
- It will use the material banks, the micro production workshops and the technical team of the Program.
- It will set as references the prototypes that the Program will carry out as the first proposal for the first cooperative members helped.
- It will propose the cooperative members selected for the training and qualification workshops.
- The intervention process in a household can be:
  - By a request from the cooperative
  - Selection and prioritization by the Management Board (The first prototypes must be in Bhimphedi or nearby so that they can be visited and constructible).
  - Technical visit in which the degree of intervention is defined, the subsidized and financed part, as well as the returns, interests and deadlines.
  - Supply of materials and technical assistance.
  - Construction process.
  - Credit return.

●**COMPONENT 3.** ECONOMIC DEVELOPMENT PROGRAM

The Program needs the financing of all the components, which is done in two ways: subsidy and credit.

3.1) ECONOMIC SUBSIDY PROGRAM

It is proposed that this program includes:

- Technical assistance to all program actions.
  This technical assistance is the general line of the program and the specific action (improvement of housing and productive workshops, participatory design, etc.).
- The general expenses of the program:
  Transport, material equipment, operating material, etc.

3.2) ECONOMIC SAVINGS AND CREDIT PROGRAM

In order to fulfill the fundamental objective of social strengthening (the populations must be better prepared for a new earthquake), economic strengthening and participation should be encouraged, boosting their economic capacity and their appropriation of the actions of the Program, especially the improvement of their own housing and habitat.

This is the objective of the Economic Savings and Credit Program, which is proposed to work by attracting external resources and enhancing the savings of the users themselves.

As an economic mechanism, a REVOLVING ECONOMIC FUND has been proposed, which acts as a savings and credit society, supported by the materials bank and the production workshops, which provide them with technology.

This REVOLVING ECONOMIC FUND will have the following characteristics:

- Be autonomous and self-sufficient, self-sustainable.
- It will start with a simple initial capital, provided by the Program, which will be increased by raising external resources and strengthening the fund. This seed capital is the basis of microcredits. The microcredit return is the basis of the credit rotation. Likewise, the Fund can capture user savings in order to address the improvement of their homes.
  Finally, the FUND can also manage national resources (state or local reconstruction programs) and international resources to support its objectives. These resources can be subsidies or increases of the fund itself for the microloans.
- The microcredits, in the cases of improvement and / or housing construction are given in the form of materials, using the materials bank and the Program production workshops. These banks and workshops act as microenterprises that supply their products at agreed costs.
  The fund is their main client.
- The economic design of each action is fundamental, its sizing and calculation of the return, to ensure its success. Previous experiences in other parts of the world have proven that, if they are well designed, the returns of the populations are safer, particularly if they are economically weak.
- The interest must be social. A 2% has been proposed
  The Fund can dedicate its loans to:
    - The activities of the Habitat Agragami Unit.
    - Other objectives of the Program, such as the promotion of micro-enterprises (material banks and production workshops).

- The Fund will be managed by the Program Monitoring Board, delegating to the Management Desk of the Habitat Agragami Unit, whenever the resources of the Fund are channeled into the activities of this Unit.

●**COMPONENT 4.** PROGRAM OF SOCIAL, TECHNICAL AND INSTITUTIONAL STRENGTHENING TRAINING AND CAPTATION

The program seeks to strengthen the different agents involved: first of all, the users of the houses, the population affected by the disaster produced after the earthquake, the technicians of the area, especially the construction masters, the state and local institutions, and organizations with presence in the area.

It is proposed to carry out TRAINING AND QUALIFICATION WORKSHOPS in three areas:

4.1) SOCIAL TECHNIQUES

ORGANIZATION, MANAGEMENT, ECONOMY AND LEGALITY

In particular, they are addressed to the cooperative members of the Habitat Unit of Agragami, to train and qualify throughout the process to be followed for the improvement of housing.

It would also be important to attend the workshops of the institutional technicians and organizations.

To these workshops, in addition to the generalized training, beginning the qualification process of people who work in the development of the Program has also been proposed.

4.2) PARTICIPATORY DESIGN

It is especially oriented to:

- The target populations of the Program, to use the participatory method to select the typologies to be used, together and specifically with the user (or family) that will live in the dwelling.
- The technicians in general and the possible participants in the

Program

4.3) CONSTRUCTION TECHNIQUES

Aimed at users and technicians (especially those who work in the Program) but with the possibility of receiving assistance from institutions and organizations.

They will be trained and trained in:

- 4.3.1 Access techniques for materials, storage and transport
- 4.3.2 Techniques of micro production of components and elements for the construction, from diverse technologies.
- 4.3.3 Construction and commissioning techniques, with special attention to their correct resistance against the action of an earthquake.

●**COMPONENT 5.** IMPROVEMENT OR REPLACEMENT OF DAMAGED OR DESTROYED HOUSEHOLDS

5.1) MATERIALS BANK

The goal is:

- Supply the materials needed by the program, lowering costs.
- Provide materials to the members of the cooperative or to third parties.

5.2) PRODUCTION WORKSHOPS

The objective is to produce components and elements for the improvement or replacement of the households. The creation of three workshops is proposed:

- 5.2.1 Masonry and concrete workshop
- 5.2.2 Wood workshop
- 5.2.3 Workshop of complementary elements, facilities, latrines, kitchens, etc.

5.3) HOUSING IMPROVEMENT CONSTRUCTION

It is developed in two stages:

-5.3.1 Prototypes, which combine three variables:

EDIFICATORY TYPOLOGIES	RURAL AND URBAN	
CONSTRUCTION TECHNOLOGIES	STONE, MUD AND WOOD	
	CONCRETE AND BRICK	
	CONCRETE BLOCK	
	OTHER TECHNOLOGIES	REINFORCED EARTH
		OTHERS
STATE OF THE HOUSEHOLDS	DESTROYED	
	DAMAGED BUT RECOVERABLE	
	SLIGHTLY DAMAGED	
	NOT DAMAGED, BUT WITH NEED FOR REINFORCEMENT	

-5.3.2 RECONSTRUCTION PROGRAM

From the observation and selection of the prototypes, the reconstruction program is developed and generalized, according to the resources available.

●**COMPONENT 6.** GENERAL MEANS TO OBTAIN THE OBJECTIVES, GENERAL EXPENSES OF THE PROGRAM

6.1) TECHNICAL ASSISTANCE TEAM

Three figures are considered necessary:

- General (and technical) direction of the Program
- Monitoring and economic control of the Program
- Expert in the relationship with the communities (local)

These three figures would also make up the Agragaami Habitat Unit team, although it will be necessary to add:

- Local technician who performs all the technical process indicated in 2.4, from the first technical visit and during the construction, until the end of the process.
- Different local masters who carry out the works with the support of the owners and their neighbours.

6.2) EQUIPMENT AND FUNCTIONING

It is necessary to supply the program with:

- 6.2.1 Local:

  It would be convenient a place where we can install:
  - The Program Office and the Agragaami Habitat Unit
  - The Bank or warehouse for materials
  - Production workshops

  During the identification trip we have visited some possible places, such as:

  - The "local-warehouse" of 40 m^2 but with a possibility of extension to the backyard and a replacement of the roof so as to obtain a second partial floor, reaching a total of about 100 m^2.This place needs restoration and reinforcement
  - JHANAJATI HALL, Rana architecture building
    It is damaged so it would have to be recovered and reinforced.
    It's in good condition, especially not the access (doors).
    The first place or another similar and of sufficient size for a first stage is considered more appropriate.

- 6.2.2 Office equipment and operating material.
- 6.2.3 Mobility.

It is very important because the communities are very far from each other. It is recommendable to use a motorcycle in order to improve accessibility.

●**COMPONENT 7.** FOLLOW-UP AND EVALUATION PROGRAM

It has been proposed:

- Reports of the program management:
  At the end of each stage and in the development stage, semi-annual reports and annual synthesis.

This report will include the evaluation of the program carried out and the proposal of the program to be carried out, applying the evaluation indices determined by the Program.

● **SYNTHESIS** OF THE COMPONENTS

COMOPONENT 1. PREVIOUS WORKS
- 1.1. IDENTIFICATION TRIP (Already done)
- 1.2. DRAFTING OF THE COOPERATION PROGRAM
- 1.3. COMPONENTS OF THE PROGRAM PROJECT

COMPONENT 2. HABITAT UNIT OF THE AGRAGAMI COOPERATIVE
- 2.1. AGREEMENT WITH AGRAGAMI
- 2.2. OBJECTIVES, ORGANIZATION AND MANAGEMENT OF THE UNIT
- 2.3. FINANCIAL OPERATION OF THE UNIT
- 2.4. TECHNICAL OPERATION OF THE UNIT

Component 3. ECONOMIC DEVELOPMENT PROGRAM
- 3.1. ECONOMIC SUBSIDY PROGRAM
- 3.2. ECONOMIC SAVINGS AND CREDIT PROGRAM
  REVOLVING ECONOMIC FUND

Component 4. SOCIAL STRENGTHENING PROGRAM, TECHNICAL AND INSTITUTIONAL TRAINING AND QUALIFICATION
- 4.1. SOCIAL TECHNIQUES
- 4.2. PARTICIPATORY DESIGN
- 4.3. CONSTRUCTION TECHNIQUES
- 4.3.1. ACCESS TO MATERIALS
- 4.3.2. MICROPRODUCTION
- 4.3.3. CONSTRUCTIONS

Component 5. IMPROVEMENT OR REPLACEMENT OF DAMAGED OR DESTROYED HOUSEHOLDS
- 5.1. MATERIALS BANK
- 5.2. PRODUCTION WORKSHOPS
- 5.2.1. MASONRY / CONCRETE WORKSHOP
- 5.2.2. WOOD WORKSHOP
- 5.2.3. COMPLEMENTARY ELEMENTS / FACILITIES WORKSHOP
- 5.3. HOUSEHOLD CONSTRUCTION OR REPAIR
- 5.3.1. PROTOTYPES
- 5.3.2. RECONSTRUCTION PROGRAM

Component 6. GENERAL MEANS TO OBTAIN OUR OBJECTIVES
- 6.1. PROGRAM TECHNICAL ASSISTANCE TEAM
- 6.2. EQUIPMENT AND OPERATIONS
- 6.2.1. PLACEMENT
- 6.2.2. OFFICE EQUIPMENT AND OPERATIONS MATERIAL
- 6.2.3. MOBILITY

Component 7. MONITORING AND EVALUATION

5. PROGRAM PROCESS / STAGE PLAN

For the development of the Program, a process has been proposed to ensure its continuity, achieving maximum influence on the recovery and improvement of Bhimphedi's habitat, both physical, housing and social, contributing to the improvement of life conditions and strengthening against the effects of new earthquakes.

This process is directly influenced by the available financial resources and, mainly, by human resources, both from the international organizations which participate as well as from the local ones and the teams that will be formed there. In short, the ideal continuity of the Program would be that local populations, supported by their local organizations, could self-manage future stages.

PROTOTYPE PROCESS

STAGE 1. IDENTIFICATION TRIP (June - July 2015)
Payment already settled
It is the basis of this report

STAGE 2. DESIGN OF THE COMPONENTS OF THE PROGRAM (September - October 2015)

Equipment
- International .Amics of Nepal, Base-A and CCD (UPC)
- Local (Nepal) .Amics of Nepal, Agragaami

Tasks (mainly developed in Barcelona)

2.1) Design of the Program components

2.2) Final agreements with Agragaami

2.3) Selection of the Program site in Bhimphedi to host the Program Office, the Materials Bank and the Productive Workshops, in its first phase.

PHASE 3. CONSTRUCTION OF PROTOTYPES (November - December 2015, January 2016)

3.1) Habitat Unit Agragaami start-up.

3.2) Selection of the first beneficiaries and of the houses which correspond to the prototypes. Drafting and acceptance of agreements with each housing user.

3.3) Adaptation of the Program building. Office, Production Workshops and Materials Bank

3.4) Conducting the Training and Qualification workshops.

- Social techniques: with the participation of the selected users (extended to the rest of specialists), technicians and organizations.
- Participatory design: In order to select the first typologies and technologies.
- Construction techniques: for users, technicians, masters and organizations

· Materials bank
· Micro production
· Building of Construction techniques

3.5) Realization of Prototypes

.New housing 3 or 4
.Restoration and reinforcement of damaged household 2 or 3
.Reinforcement of undamaged household 2 or 3
7-10 prototypes overall

3.6) Detailed design of stage 4

PHASE 4. PROGRAM DEVELOPMENT (February 2016 - January 2017)

4.1) Selection and prioritization of beneficiaries, concentrating them in periods of activity of 3 months. Agreements with users.

4.2) Training and qualification

4.3) Completion of the reinforcement and / or construction of households

Each quarter:

- the work already agreed upon is carried out, once the training and the qualification has been carried out.
- the performance of the following quarter is prepared by training and qualifying future beneficiaries

4.4) Final evaluation of the Program

STAGE 5. CONTINUITY OF THE PROGRAM

It is developed in annual stages, following the same process (which evolve according to the experience obtained) and extended with other aspects of the habitat, such as accessibility or equipment.

The ideal is for this stage to be addressed by the Bhimphedi Habitat Unit as such, with Amics del Nepal acting as follow-up advisor, without renouncing to the recruitment of resources, but not depending on them.

6. FINANCIAL PROGRAM

7. PROGRAM SUSTAINABILITY

Environmental Sustainability

Within the technical objectives of the project, it includes the improvement of households in the face of earthquakes, but it also includes improvements in the latrine system, water treatment and chimneys in order to palliate respiratory diseases. In addition, thanks to the technical support of architects from the Polytechnic University of Catalonia, the prototypes will be made with local materials, always looking for the minimal emission of CO2 during their life cycle.

Social sustainability

The Program seeks to strengthen both the affected population, the technicians of the area, and local organizations through training and qualification workshops. This strengthening focuses on sustainability at the project social level, to improve the resilience of the communities. The involvement of women will be a priority, especially concerning the repair of chimneys and latrine systems, to ensure the propagation of information and to maximize the scope.

Economic sustainability

The revolving economic fund of the Program will be autonomous and self-sufficient, and will start from an initial capital, provided by the Program, which will be increased by raising external resources, boosting the fund. Said fund will finance the reconstruction activities through microcredits, the return of which will be the base of its revolving basis.

8. ANNEXES

ANNEX 1: VISIT AND ANALYSIS OF HOUSEHOLDS: Drafts, Sketches and Photos (HOUSE FORMS)

ANNEX 2: PEDRO'S NOTES: Preparation of the identification trip (ES-EN)

ANNEX 3: LOCAL CONTACTS

ANNEX 4: LOCAL PRESS

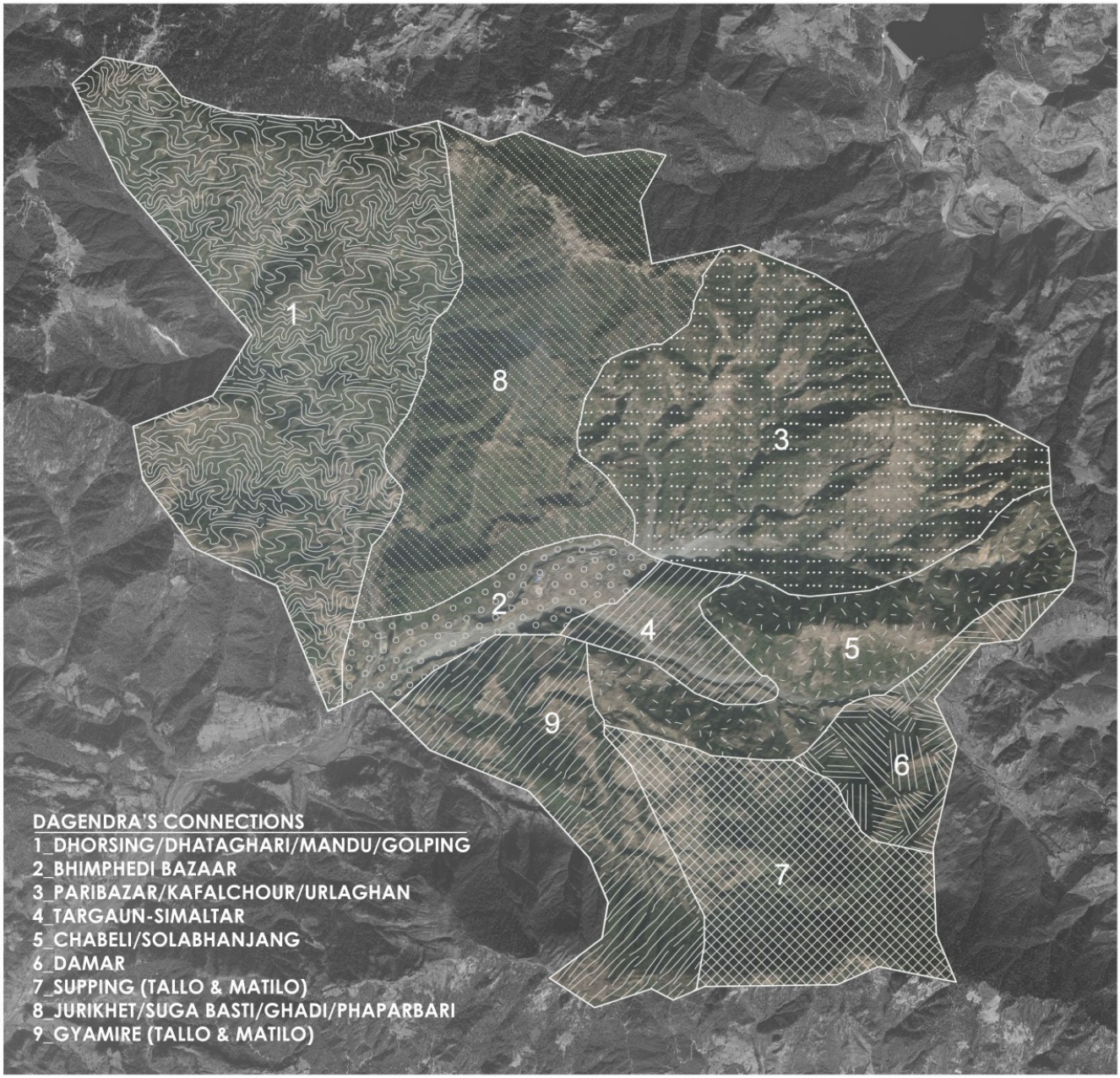
ANNEX 5: OFFICIAL DOCUMENTATION AND OTHER ORGANIZATIONS

ANNEX 6: REGULATIONS AND REFERENCED BIBLIOGRAPHY

ANNEX 7: ENTITIES PARTICIPATING IN THE PROJECT

ANNEX 1: ANALYSIS HOUSES:Fichas, Sketches and Photos (Drafts, Sketches, Pics)

WARD'S MAP



House Form

Reference: 01-001

Reference: 01-001

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 01-001

PICTURES

MAIN HOUSE

SECONDARY HOUSE

Reference: 01-002

Reference: 01-002

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 01-002

Pictures

MAIN HOUSE

STABLE

SKETCHES

GROUND FLOOR

Reference: 01-003

Pictures

MAIN HOUSE

SECONDARY HOUSE

Reference: 01-004

Reference: 01-004

SKETCHES

GROUND FLOOR

GRANARY

Reference: 01-004

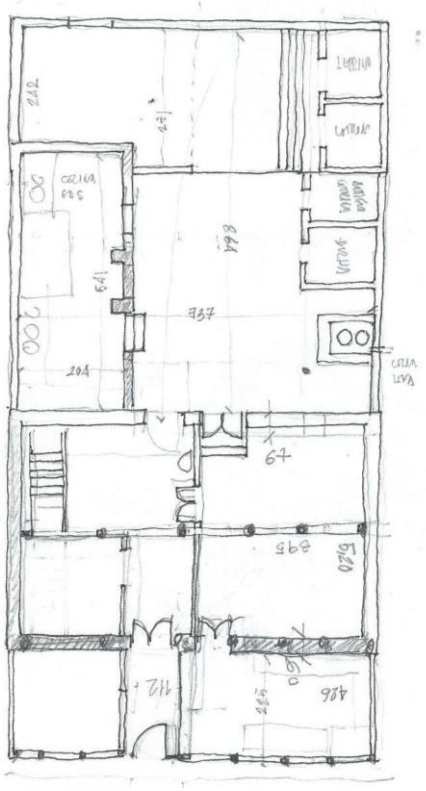
Pictures

MAIN HOUSE

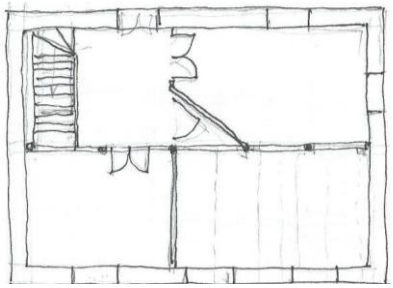
Reference: 02-006

Reference: 02-006

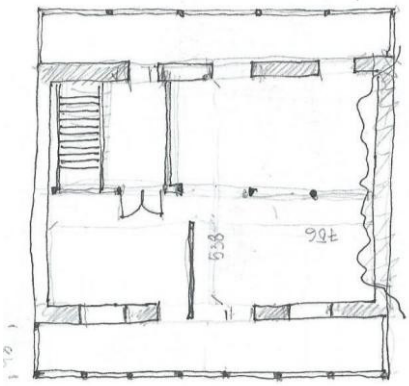
SKETCHES



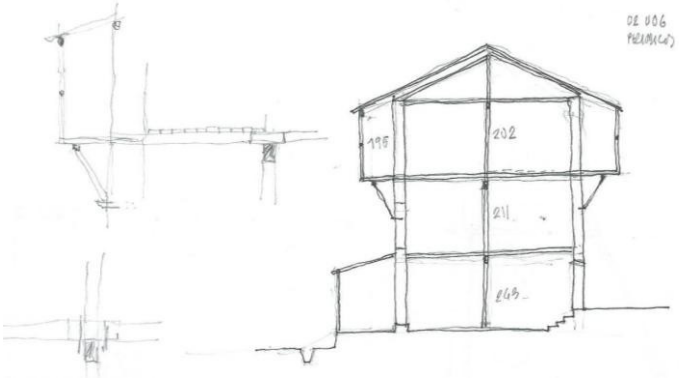
GROUND FLOOR



FIRST FLOOR



SECOND FLOOR



Reference:02-006

Pictures

MAIN HOUSE

Reference: 02-009

SKETCHES

Reference: 02-009

GROUND FLOOR

FIRST FLOOR

SECOND FLOOR

GRANARY

Pictures

Reference: 02-009

FAÇADE

FIRST FLOOR

GRANARY

Reference:02-012

Reference: 02-012

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 02-012

Pictures

MAIN HOUSE

Reference: 02-015

Reference: 02-015

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 02-015

Pictures

MAIN HOUSE

Reference: 03-001

GROUND FLOOR

MAIN FLOOR

MAIN HOUSE

Reference: 03-002

Reference: 03-002

Pictures

Reference: 04-001

GROUND FLOOR

FIRST FLOOR

GRANERY ???

Pictures

Reference: 04-001

MAIN FAÇADE

WINDOW DETAIL

CORNER TIMBER FRAME DETAIL

BACK FAÇADE

FIRST FLOOR

Reference: 04-002

Reference: 04-002

Pictures

Reference: 04-005

Reference: 04-005

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 04-005

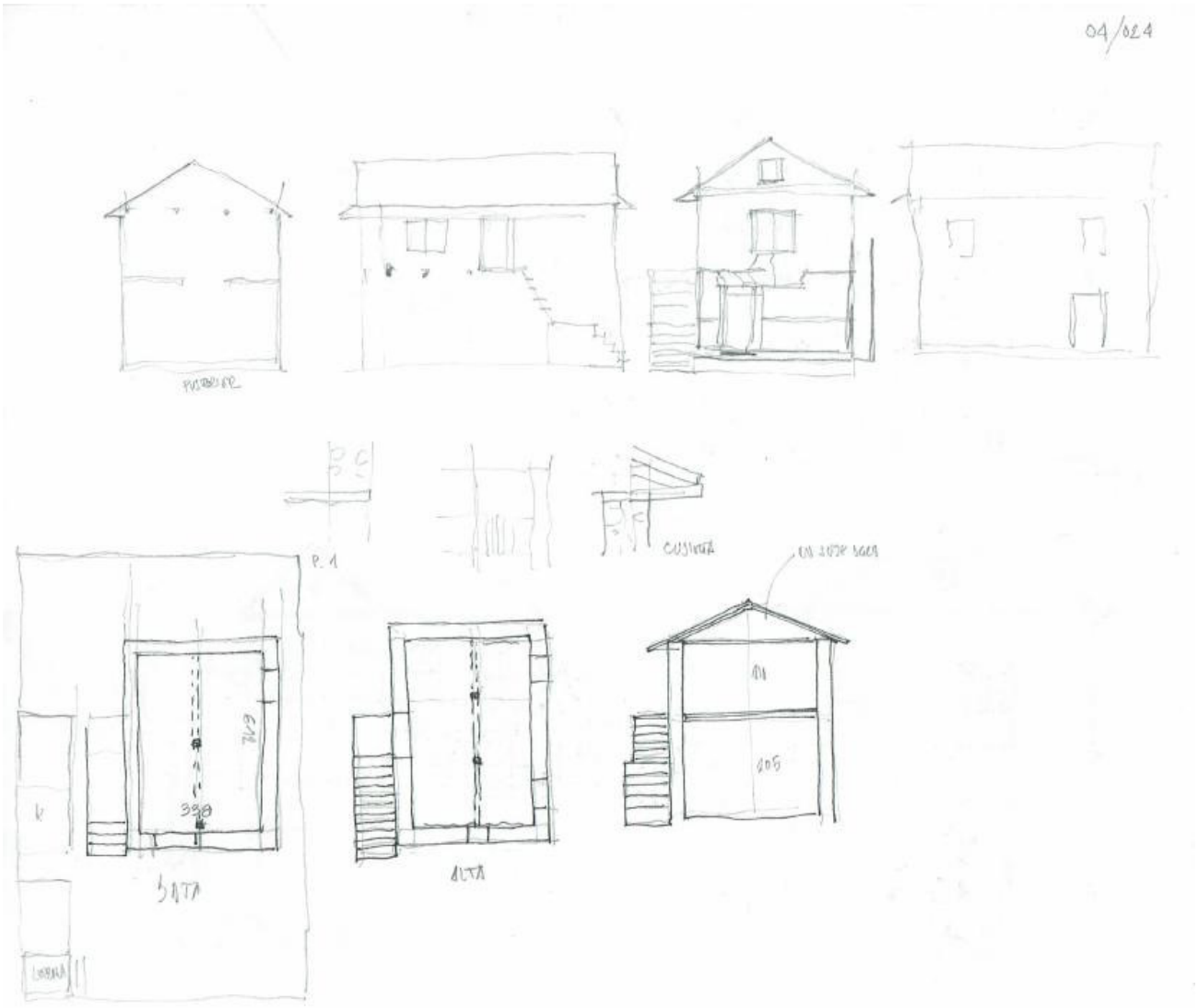
Pictures

MAIN HOUSE

Reference: 04-024

Reference: 04-024

SKETCHES



GROUND FLOOR FIRST FLOOR

Reference: 04-024

Pictures

Reference: 04-025

Reference: 04-025

SKETCHES

GROUND FLOOR

Reference: 04-025

Pictures

MAIN HOUSE

Reference: 04-037

Reference: 04-037

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 04-037

Pictures

Reference: 06-001

Reference: 06-001

SKETCHES

GROUND FLOOR

GRANARY

Reference: 06-001

Pictures

MAIN HOUSE

SECONDARY HOUSE

Reference: 06-003

Reference: 06-003

Pictures

Reference: 06-004

Reference: 06-004

Pictures

Reference: 06-005

Reference: 06-005

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 06-005

Pictures

MAIN HOUSE

Reference: 06-006

Reference06-006

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 06-006

Pictures

MAIN HOUSE

SECONDARY HOUSE

Reference: 07-002

Reference: 07-002

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 07-002

Pictures

Reference: 07-003

Reference: 07-003

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 07-003

Pictures

Reference: 08-001

Reference: 08-001

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 08-001

Pictures

MAIN HOUSE

STABLE

Reference: 08-002

Reference: 08-002

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 08-002

Pictures

Reference: 08-003

Reference: 08-003

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 08-003

Pictures

Reference: 08-004

Reference: 08-004

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 08-004

Pictures

Reference: 08-004

Reference: 08-004

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 08-004

Pictures

Reference: 08-005

Reference: 08-005

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 08-005

Pictures

Reference: 08-006

Reference: 08-006

SKETCHES

GROUND FLOOR

FIRST FLOOR

Reference: 08-006

Pictures

Reference: 08-001

Reference: 08-001

Pictures

Reference: 08-001

Reference: 08-001

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 09-001

Pictures

Reference: 09-002

Reference: 09-002

SKETCHES

GROUND FLOOR

FIRST FLOOR

GRANARY

Reference: 09-002

Pictures

Reference: 09-School

SKETCHES

Reference: 09-School

Pictures

ANNEX 2: PEDRO'S NOTES: Preparation of the identification trip (ES-EN)

SPANISH NOTES

ENGLISH NOTES

Pedro Lorenzo Gálligo
CCD.UPC

NOTES for preparation of the identification trip to Bhimphedi, Nepal.
Program for the improvement of the affected houses during the recent earthquakes (25/4 and 12/5 of 2015), proposed by Amics del Nepal.

A. Team Organization
These are advisory notes.The program team will design them definitively and operationally.The first recommendation would be to organize the Program Team.
The habitat program should have three main figures:

- Technician He / she is usually the general coordinator of the program. Although there are different technicians involved in the process (Spain and Nepal), it is important that this coordinator has a continuity role and becomes a reference for all of those who take part in the project.It would be ideal that this person is there from the beginning until the end of the program and, therefore, he / she should go to the identification trip.
- Community expert The best thing to do would be to select local and that he / she begins to work during the identification trip.
- Economic monitoring technician He / she can have partial or sporadic dedication.

B. Aim of the Program.
To improve the habitat conditions of the affected population in Bhimphedi.This means:
To apply to the comprehensive view of the HABITAT concept, as regards the physical support, the house and the urban area where it stands, as well as the lifestyle of its inhabitants and their social, economic and cultural conditions.This entails:

- To improve the physical support, both of the house and other essential physical aspects such as access to water, wastewater treatment or access and communication within the inhabited areas.
- To improve the living conditions of the population, making their social empowerment.The goal, in this regard, will be to make stronger populations after the development of the program, so they can deal with any new event produced by any other natural phenomenon, such as a new earthquake, more effectively.

This entails strengthening the population (and the institutions that support it) in their organizational capacity, management and decision-making from a better economic rebalance.This implies that the action that will take place does not develop to depend on the population and does not turn them into people who only expect to receive (begging position) but to workforce that has the know-how and can solve their problems.

C. General Specific Goals:
- Resources should reach the most affected populations, the ones that have fewer resources.This involves the correct selection of the target populations (program resources are very limited) and this selection should be made in participation with priority and efficiency criteria.
- Bhimphedi reality is really wide and complex (areas and castes).It is necessary to design a fair participatory selection system.
- Action should aim at preventing future natural disasters
- To begin a dwelling improvement process (resources are small), the first stage will be done with this program, and then leaving it operated by the population itself and other agents, so they are able to continue improving them, depending on the available resources .

D. Technical and Social Goals:

1. To set up a Follow Up Committee in which the communities, the technicians (locals and from the Program), the local Administration (if possible and convenient) and organizations which are promoting the Program should be represented.

2. To set up an ECONOMIC FUND with the available resources, attracting savings and raising loans together with new resources, that allocate and give priority to those resources in order to reach the target of giving continuity to the process.

3. To organize TRAINING and to build CAPABILITY as a foundation for the social and institutional strengthening.
Training and capacity building of different agents is strongly advised: neighbors involved in the Program, technicians (the ones from the program, the local ones, master builders ...) and the local administration.

Training should be recommended for the following areas:

- Social techniques: organization, management, economy, laws and regulations, participation
- Participative design techniques
- Building techniques related to access to the materials and to the construction itself

Advisable methodology:

- Training and capacity building workshops.(Usually three days for each area)
- To take advantage of the construction of basic workshops and basic housing (especially prototypes) to train and teach during the process.

E. Specific constructive Goals:

1. Techniques used must be appropriate and be able to build ownership among the population.Meaning that the villagers are able to use them by themselves and do not generate dependence.Although this is applicable to all techniques, (also the social ones) it is especially important for the 3 specific building techniques: those of design, access to materials and building

2. Instead of improving or building a number of dwellings, which is always quite limited, the suggestion is an improvement process consisting of a system to access materials and components that will then be used in the construction of houses (and other urban improvements) .This system can consist of:

- BANK OF MATERIALS
  To provide for the Program and provide the population with access to affordable and easily available materials.
  It would be of small dimensions and with placed in the different communities.That would be a guarantee for the continuity of the Program.

- BASIC PRODUCTION WORKSHOPS
  Materials, components and elements which are used in the Program and by the population, are made in them by the villagers (organized as micro companies).This would ensure their continuity.These workshops are thought as real entrepreneurship of the population.So they can impact directly on the productive system giving an opportunity for access to the employment market.Although they are born to give service to the Program, they should be successful, they must consolidate and become fundamental for the continuity of the Program, be useful to other areas and to the general population and become real productive micro companies.

Some recommended basic workshops are:

- Earthquake-proof wall techniques based on the local construction in stone, brick, blocks and other possibilities.
- Wood, especially for roofs.
- Other techniques such as cooking system or latrines.

It would be convenient that the workshops and the banks of materials are placed in the same location, forming a single facility.

3. HOUSING PROTOTYPE
The banks of materials and the basic workshops are designed to improve and / or produce housing (and urban elements) in a process of continuity.This is accomplished through flexible prototypes, which are participatively designed and adaptable to different situations.

The following prototypes are proposed according to the two different ways of action initially

envisaged:NEWLY BUILT HOUSES:
The proposal is to perform a series of prototypes (4-8) that should solve:

- 2 or 3 different typologies: based on a 6x6 ground plan and with different options for one or two more floors, plus a loft (space below roof).It would be possible to use "shed" (shed / tilework) techniques.
- 3 earthquake-proof wall choices: stone, brick and block.
- 2 different kinds of roofing
- Cooking and latrine options.

HOUSING IMPROVEMENT
It would be advisable to implement 3 or 4 prototypes according to different cases and situations, in particular on the basis of damages in different types of walls and roofing.
The first prototypes should be built in a concentrated area, close to the basic workshops.In this way the prototypes could be visited by the different communities who would be able to give their opinion and select them.
On the basis of that selection the accepted solutions could be extended to the whole program as well as to further programs that would ensure their continuity.

F. PROCEDURE
The possible steps to be taken are the following:

1. Organization of the Program Team.Here and there.

2. Obtaining preliminary data:

- Data related to the communities: location, size, level of organization, caste system.
- Data related to the local public administration.
- Design plans to work there.
- Data related to the buildings to visit in the area.Damaged and non-damaged buildings in the different communities.
- Data related to the local regulations (seismic regulations).

3. Identification trip.
MetasAnalyzing and getting details about:
- Situation, options and priorities
- Components of the program
- Basis to design workshops, banks of materials and prototypes
- Basis for designing the economic program, social programs, education and training.
- Identifying the area for the bank of materials, the basic workshops and the prototypes

4. Preparation(Ending in September)
Design of:
- Bank of materials and basic workshops.
- PROTOTYPES/
- Educational workshops and training
- Construction process
- Selection of users

- funds

5. FIRST STAGE OF CONSTRUCTION (October-December)
- Constitution of the Follow Up Committee of the Program
- Constitution of the economic fund
- Administrative streamlining and one-stop services
- Participative discussion about the building prototypes
- Selection of families according to the prototypes
- Construction of the bank of materials and the basic workshops
- Construction of prototypes
- Organization of information of potential users of the different communities in the second stage of construction

6. SECOND STAGE OF CONSTRUCTION
- Extension of the program to the communities
- Administrative streamlining and one-stop services
- Fundraising to ensure continuity.

7. SPECIFIC DATA FOR THE IDENTIFICATION TRIP
a) Support Team in Bhimphedi:
- A person who knows and is accepted by the communities to guide the visit
- A person who knows the technical situation of damaged and undamaged houses to check possible solutions
- Preparation of the visit to the local administration

b) Información de transporte
- From Kathmandu to Bhimphedi
- In Bhimphedi

c) Workplace in Bhimphedi

d) Location and maintenance (water) in Bhimphedi.

e) Data about:
- Climate, clothing, footwear, vaccines, energy (electricity)
- Currency suitable for the trip, exchange rate, cost of living, accommodation ...

8. Dates for the identification trip:Between 28th June and 14th July.

ANNEX 3: LOCAL CONTACTS

ROTARY CLUB

SERVICE ABOVE SELF — HE PROFITS MOST WHO SERVES BEST

This Certifies that the Rotary Club of

Kantipur Kathmandu, Nepal

having been duly organized and having agreed, through its officers and members, to be bound by the Constitution and By-Laws of Rotary International, which agreement is evidenced by the acceptance of this certificate, is now a duly admitted member of

Rotary International

and is entitled to all the rights and privileges of such membership.

In witness whereof the seal of Rotary International is hereto affixed and the signatures of its officers, being duly authorized, are subscribed hereto this fifteenth day of March 2000

Admission to membership in Rotary International recommended by

District Governor

President, Rotary International

NEA, NSET, TRAINING SCHOOL

नेपाल सरकार
श्रम तथा रोजगार मन्त्रालय
व्यावसायिक तथा सीप विकास तालीम केन्द्र
भैसेपाटी, ललितपुर

संक्षिप्त परिचय

२०७१

हत्केलामा सीप थमाई सृजनशील बनौ
उद्यमशीलता रोजगारी र आय आर्जनको दायरालाई
फराकिलो बनाई जीवनस्तर समृद्ध पारौ"

www.training.gov.np

Er. Dhruba Thapa
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Empowering Engineers for Prosperous Nepal

"Earthquake Safe Communities in Nepal"
NSET
National Society for Earthquake Technology-Nepal (NSET)
Bhubaneswari Parajuli
Gender, Social and Env. Mgmt. Specialist
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ANNEX 4: LOCAL PRESS

NEWS DIGEST

School enrolments fall 3 yrs in a row

KATHMANDU: Schools enrolments have continued to decrease for the past three years owing to a sharp decline in population growth and crackdown on fake institutes. The economic survey released on Monday shows that students from grades one to 10 dropped to 7,071,253 last session from 7,444,134 in 2011. (Details on Pg 3)

Noose tightens on foreign PR holders

KATHMANDU: As many as 1,200 civil servants holding or applying for permanent residence or citizenship in foreign countries face government action with Parliament approving the fourth amendment to the Civil Service Act. Parliament had on Friday endorsed the amendment provisioning action against those holding such privileges while in government service. (Details on Pg 3)

Conservation school in Chitwan

KASARA: The Chitwan National Park has established a nature conservation school on its premises to promote and enhance the skills of security personnel mobilised for wildlife conservation. The school will train security personnel on various conservation practices and policies before assigning them to guard the protected areas. (Details on Pg 4)

Siberia barracks collapse kills 23

MOSCOW: Twenty-three Russian soldiers were crushed to death after their military barracks collapsed in Siberia, the latest disaster to hit a country known for shoddy construction work and lax safety standards. An entire section of military barracks collapsed on Sunday evening just outside Omsk. (Details on Pg 5)

Greece seals new bailout deal

BRUSSELS: Greece reached a desperately-needed bailout deal with the eurozone on Monday, in a historic agreement to prevent the country crashing out of the euro. PM Alexis Tsipras agreed to tough reforms after 17 hours of talks in return for a three-year bailout worth up to 86 billion euros. (Details on Money III)

Budget to focus on quake recovery

PRITHVI MAN SHRESTHA
KATHMANDU, JULY 13

Finance Minister Ram Sharan Mahat will present the budget for the next fiscal year on Tuesday with special focus on reconstruction and infrastructure development.

In the aftermath of the April 25 earthquake, the government is allocating huge resources for rebuilding as well as for major infrastructure projects. Multiple sources said around Rs100 billion will be allocated for reconstruction works to be mobilised through the National Reconstruction Authority. There will also be significant budget for the purpose under the regular programme.

budget 2015-16

Senior officials at the Finance Ministry said the budget size would be around Rs821 billion. The National Planning Commission (NPC) had set Rs841 billion as its ceiling.

Highly placed government sources said the budget will basically focus on the implementation of ongoing programmes rather than introducing new ones. Since a huge workforce is required for reconstruction, the government is set to announce a major programme to train 50,000 people on plumbing, electrical skills and carpentry.

Amid increased demand for budget for roads and smaller projects from lawmakers, the government is allocating small funds for their survey and design, according to the Finance Ministry.

However, the ministry has been forced to increase funds for the Constituency Development Programme (CDP). Following intense pressure from Constituent Assembly members, the government will increase the amount to Rs15 million for each constituency, up from the current Rs10 million.

On social security, the budget will bring cheers to the elderly and other beneficiaries of state allowances. Sources said the social security allowance for the elderly people will be doubled, which is Rs500 per month currently. The allowance for other beneficiaries such as differently-abled will also rise. "There is also the possibility of salary increment of government employees," said the source.

With the government announcing to hold local elections within the next fiscal, a significant amount of money will have to be set aside. In order to develop backward border areas in Tarai, the government is launching a special programme.

As far as the agriculture sector goes, the government is set to increase subsidies in seeds. "There is a plan for providing up to 10,000 tonnes of subsided seeds of cereal products including rice and wheat," a source said.

On infrastructure development, the government will start the construction of the Thankot-Naubise Tunnel Road. The Japan government has pledged its assistance for the project. The feasibility of other possible tunnel highways will also be studied. Another new initiative is expanding some sections of the East-West Highway into four lanes.

The Narayangadh-Mugling stretch, which has mostly remained in poor shape, will have two lanes. Works on the proposed East-West Electric Railway and the Kathmandu-Pokhara Electric Railway would be carried out with priority.

In order to speed up development projects, the government will lay special emphasis on budget implementation. Now on, large priority projects need no approval from the NPC for implementation while their project chiefs will serve full term for efficiency.

SCHEMES TO WATCH

- Around Rs100 billion for reconstruction works under National Reconstruction Authority
- Significant budget for rebuilding under regular programme as well
- Budget size around Rs830 billion
- Training 50,000 people on plumbing, electrical skills and carpentry
- Rs15 million for each constituency under CDP
- Monthly elderly allowance to grow from Rs500 to Rs1,000
- Special programme for border area development in Tarai
- East-West Highway expansion

'Treat climate change as nat'l security'

OSLO: Governments should treat climate change as seriously as threats to national security or public health, partly by focusing more on the worst scenarios of rising temperatures, a report says.

Crop failures, extreme heat waves or high rates of sea level rise could be so harmful that governments should examine even small chances of the most severe impacts, according to the study by about 60 experts that was released on Monday.

Almost 200 governments will meet in Paris in December to try to work out a global deal to slow climate change. (Reuters)

NATIONAL ANIMAL

Janajati CA members bat for rhino

'Sta let

POST REPORT
KATHMANDU, JULY 13

The major parties ning to amend the Constitution in extend the tenure Constituent Assem the delineation of units, in case they fa the row before statu gation.

Cross-party lead their first priority is tentative demarcat a month, and then pa the new constituti UML Chairman KP is thought to have t est stance on the fe up, is also flexible to state borders witho

If there is no a among the parties o demarcation, lead they will amend t sions in the Constitution. The tion drafting proce not be delayed eve consensus on the be

Article 138 of th Constitution says t tion of federal p their number an should be decided b

2015 www.thehimalayantimes.com
NATIONAL

Quake victims yet to get money to build temporary shelters

Himalayan News Service
Ramechhap, June 16

The government had decided to distribute Rs 15,000 to each household destroyed by the earthquake to help quake victims construct temporary shelters by mid-June. However, the majority victims, are yet to get the relief amount in Ramechhap.

Leave alone the relief amount, the VDCs and DDCs here haven't even distributed identity cards to quake victims in the district.

Two municipalities and 45 VDCs were devastated by the deadly quake of April 25 and its aftershocks in the district. But till now, the DDC has released the amount only in Namadi, Rampur, Makadum, Khimti, Farpur, Bijulikot, Kubukasthali, Gumdel and Rakathum VDCs and Manthali municipality. Among these VDCs, only 500, 700 and 500 households of Rampur, Namadi and Gumdel respectively have been provided with the amount. The relief fund is yet to reach the remaining VDCs and one municipality.

Identity cards have been distributed in 16 wards of Manthali municipality. However, distribution of the ID card is yet to start in Ramechhap Municipality.

NC leader and former state minister for Water Resources Laxman Prasad Ghimire complained that it would take four more months to distribute the relief amount to victims due to the modus operandi of government staff.

"Some VDCs have no secretary while others are running with temporary staff," Ghimire said, adding, "Problem has been seen even in the collection of data on victims."

Ghimire commented that distributing cash to victims for temporary shelters was proving an arduous task. He asked that the DAO, DDC and other local government agencies were responsible for providing the relief amount at the earliest.

Narayan Prasad Subedi, officer at DDC, said there had been delay in distribution of ID cards and relief amount to the victims.

Quake victim Narayan Shrestha from Pakarbash lamented that he was yet to get the relief fund though one week had passed since he received an ID card saying his house was completely damaged.

Pakarbash VDC Secretary Kewal Kumar Das said they were having a hard time distributing cash as pressure was mounting to add the number of households destroyed by the quake for the relief amount.

ve-ins

al Rajan Magar informed that d 80 households of Kharpa-8 were deprived of drinking wa- er Jukekhola Village Drinking Project was damaged due to ve-in.
larly, vehicular movement has

Reconstruction stressed

Himalayan News Service
Damauli, June 16

Nepali Congress Vice-president Ramchandra Paudel today stressed that the government required to launch the reconstruction plan as a national campaign

quake displaced along with construction of the country.

"Though the massive qu has caused a lot of damage in country, it has also given an portunity for renovation of country. Hence, all of us sho extend our hands to make it h

cussion

NHRC anel

stage with former rebels aiming their actions as olitical' while other parties guing that they were 'crimi- al acts'. The issue of rights olation is said to have been t behind once the former bel party emerged as the gest party in the first onstituent Assembly elec- on in 2008. Parliamentarians other parties also never ised the issue.

"Consequently, the issue emained in shadow ever nce," said Shrestha. "We ave been breaching the con- itutional provision, ulti- ately giving continuity to mpunity on rights violation."

On the other hand, the HRC has been submitting its eport regularly. The national ights watchdog has been uthorised to investigate and ecommend the government r action on rights violation. he constitutional body has ecommended actions in 715 ases of grave human rights iolation. So far, 105 recom- endations have been imple- ented, all of them related to roviding compensation to he victims.

"If the report is tabled at he Parliament, we could ake the government ccountable," said Shrestha.

All eyes on durbars, temples; no attention to private houses

ANUP OJHA
KATHMANDU, JULY 8

As the government focuses on the renovation of the World Heritage sites and temples, private houses of archaeological importance in Kathmandu, which actually are greater in number, receive no attention of the government and conservationists.

The Kathmandu Metropolitan City (KMC) has identified a total of 1,132 houses of archaeological value owned by individuals in inner Kathmandu.

According to the Home Ministry, as many as 36,973 private houses in the Capital have been destroyed while 50,753 suffered partial damage in the April 25 earthquake and its aftershocks. The KMC has demolished only around 300 houses so far.

Shriju Pradhan, chief of the Cultural Heritage and Tourism Department at the KMC, said the traditional houses with fine brickworks, and woodcarving on the doors and windows are also listed as structures of archaeological value.

> As many as 36,973 private houses in the Capital have been destroyed while 50,753 suffered partial damage in the quake

According to Rohit Ranjitkar, conservation architect and country director of the Kathmandu Valley Preservation Trust, houses older than a century are considered archaeologically significant.

Pradhan said that most of these houses are located in Basantapur area, Indra Chowk, Chhetrapati, Thaidal and inner parts of the Bishnumati corridor.

"Sadly, these houses are not in priority. Destroying them means destroying our heritage and our own history. The government must provide subsidies to rebuild them in their original shape," said Pradhan.

Ranjitkar said renovating and rebuilding private houses that form our heritage is equally important, not just for tourists but to preserve our history.

"We may have the perception that only temples, palaces, monasteries and sattals are heritage sites. Private houses with architectural designs are our heritage too," said Ranjitkar.

With monsoon, houses that got cracks are at great risk of collapsing. "We have not even tarpaulins to cover our damaged houses. Colour of doors and windows, and their woodwork are fading due to rain," said Laxmi Dangol, 53, who owns a traditional house in Teku.

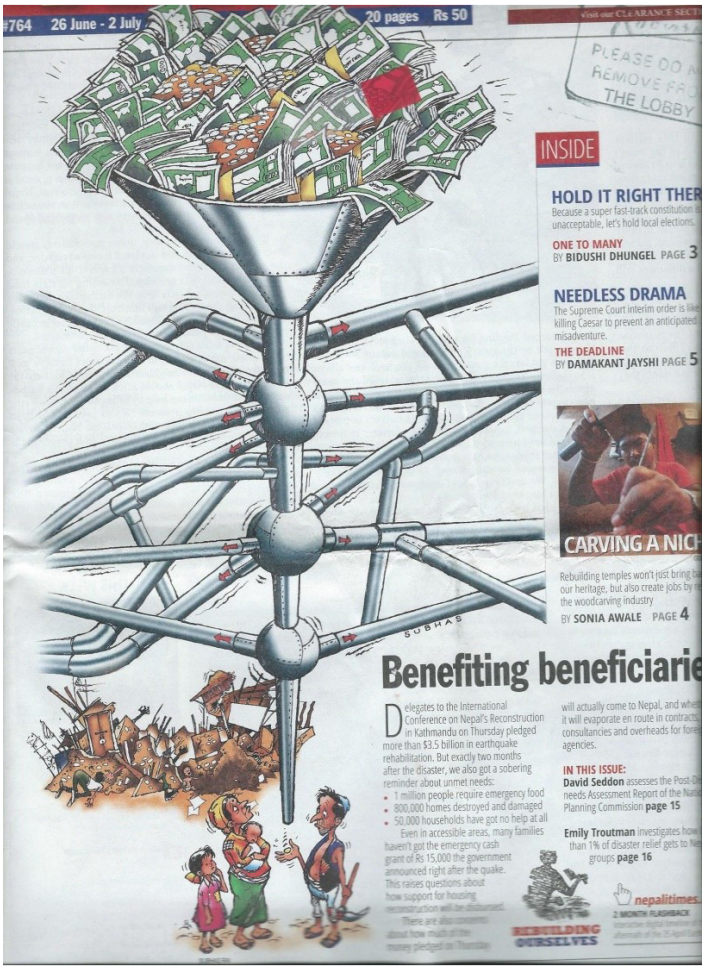
Dangol and her 15-member joint family have been living in two tents in an open space in front of their house for two-and-a-half months. Their house has suffered cracks and is tilted slightly.

Dhanapati Sapkota, chief of the implementation division at the KMC, said they would destroy houses that pose threats to the public. "Due to limited resources, we are unable to support owners of houses of archaeological importance in pulling them down," he said.

buildings of archaeological importance

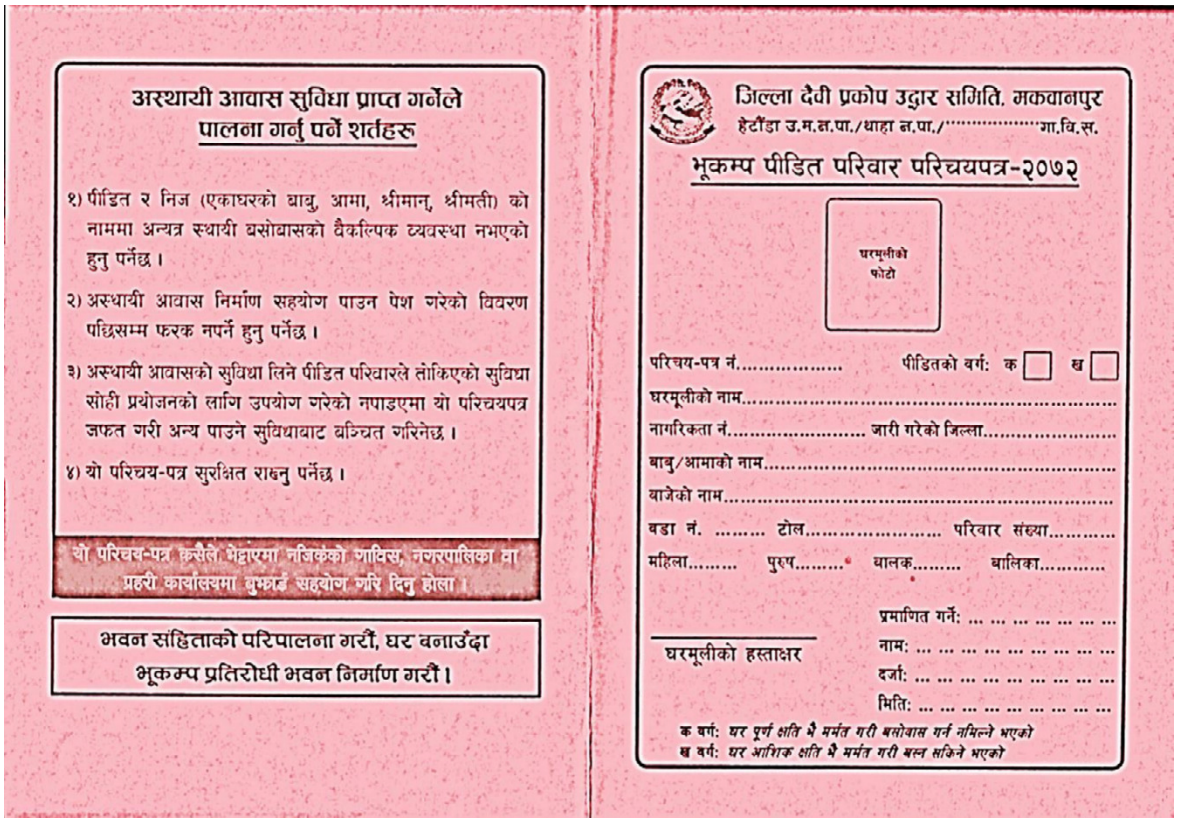
A private house at Baidhya Chowk, Naradevi, ward number 18 in Kathmandu. PHOTO COURTESY: KMC

asar blackbucks relocated Flat owners baulk at return



ANNEX 5: OFFICIAL DOCUMENTATION AND OTHER ORGANIZATIONS

RATO CARD



अस्थायी आवास सुविधा प्राप्त गर्नेले पालना गर्नु पर्ने शर्तहरू

१) पीडित र निज (एकाघरको बाबु, आमा, श्रीमान्, श्रीमती) को नाममा अन्यत्र स्थायी बसोबासको वैकल्पिक व्यवस्था नभएको हुनु पर्नेछ ।

२) अस्थायी आवास निर्माण सहयोग पाउन पेश गरेको विवरण पछिसम्म फरक नपर्ने हुनु पर्नेछ ।

३) अस्थायी आवासको सुविधा लिने पीडित परिवारले तोकिएको सुविधा सोही प्रयोजनको लागि उपयोग गरेको नपाइएमा यो परिचयपत्र जफत गरी अन्य पाउने सुविधाबाट वञ्चित गरिनेछ ।

४) यो परिचय-पत्र सुरक्षित राख्नु पर्नेछ ।

यो परिचय-पत्र कसैले भेट्टाएमा नजिकको प्रहरी, नगरपालिका वा गाउँ कार्यालयमा बुझाइ सहयोग गरि दिनु होला ।

भवन संहिताको परिपालना गरौं, घर बनाउँदा भूकम्प प्रतिरोधी भवन निर्माण गरौं ।

जिल्ला दैवी प्रकोप उद्धार समिति, मकवानपुर
हेटौंडा उ.म.न.पा./थाहा न.पा./.....गा.वि.स.

भूकम्प पीडित परिवार परिचयपत्र-२०७२

घरमूलीको फोटो

परिचय-पत्र नं..... पीडितको वर्ग: क ☐ ख ☐

घरमूलीको नाम.....

नागरिकता नं..... जारी गरेको जिल्ला.....

बाबु/आमाको नाम.....

बाजेको नाम.....

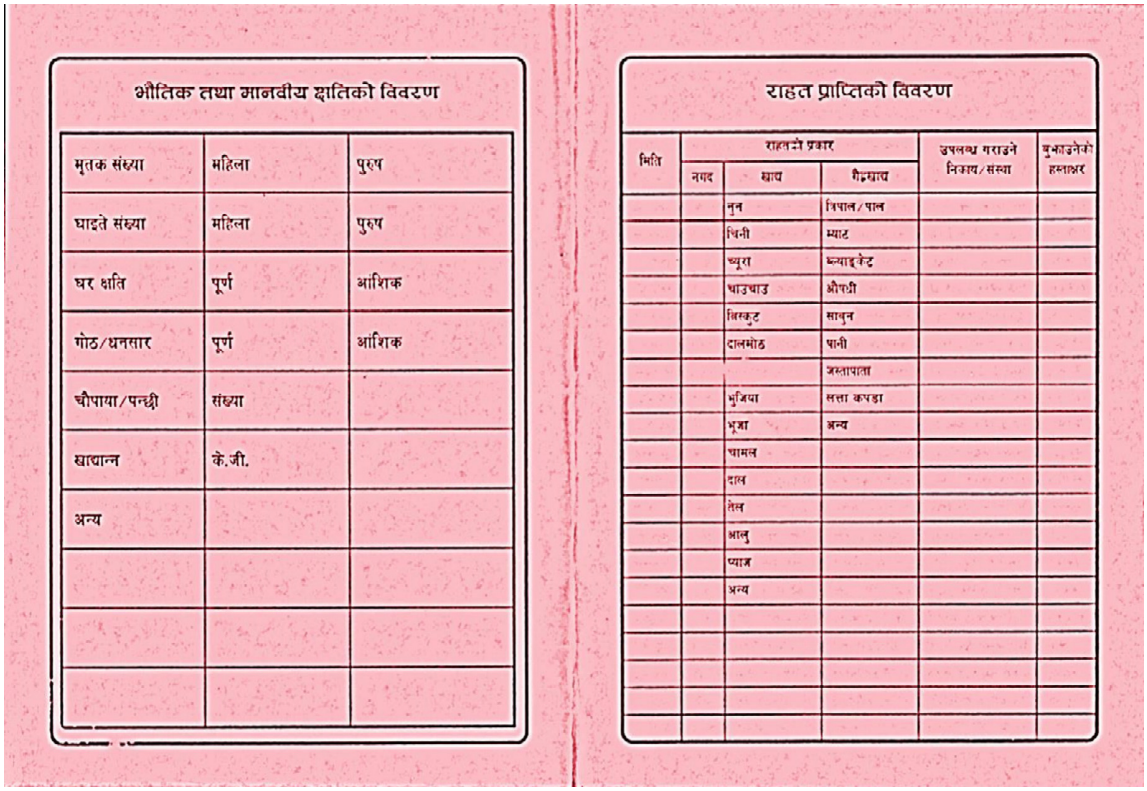
वडा नं. ..... टोल..... परिवार संख्या.....

महिला..... पुरुष..... बालक..... बालिका.....

घरमूलीको हस्ताक्षर

प्रमाणित गर्ने: ... ...
नाम: ... ...
दर्जा: ... ...
मिति: ... ...

क वर्ग: *घर पूर्ण क्षति भै मर्मत गरी बसोबास गर्न नमिल्ने भएको*
ख वर्ग: *घर आंशिक क्षति भै मर्मत गरी बस्न सकिने भएको*



भौतिक तथा मानवीय क्षतिको विवरण

मृतक संख्या	महिला	पुरुष
घाइते संख्या	महिला	पुरुष
घर क्षति	पूर्ण	आंशिक
गोठ/धनसार	पूर्ण	आंशिक
चौपाया/पन्छी	संख्या	
खाद्यान्न	के.जी.	
अन्य		

राहत प्राप्तिको विवरण

मिति	राहतको प्रकार			उपलब्ध गराउने निकाय/संस्था	बुझाउनेको हस्ताक्षर
	नगद	खाद्य	गैरखाद्य		
		नुन	त्रिपाल/पाल		
		चिनी	म्याट		
		च्यूरा	ब्ल्याङ्केट		
		चाउचाउ	औषधी		
		बिस्कुट	साबुन		
		दालमोठ	पानी		
			जस्तापाता		
		भुजिया	लत्ता कपडा		
		भुजा	अन्य		
		चामल			
		दाल			
		तेल			
		आलु			
		प्याज			
		अन्य			

AGRAGAMI APPLICATION WARD MODEL

श्रीमान् अध्यक्ष ज्यू

श्री ..... बचत तथा ऋण सहकारी संस्था लि.

....., मकवानपुर

ऋण आवेदकको फोटो

विषय:- ऋण पाउँ भन्ने बारे ।

महोदय,

म श्री..... को नाती/नातिनी/बुहारी श्री..... को छोरा/छोरी/श्रीमती ..... जिल्ला..... न.पा./गा.वि.स..... वडा नं..... बस्ने यस संस्था अन्तर्गत श्री..... समूहको सदस्य हुँ । मलाई तपशिलमा उल्लेखित व्यवसाय संचालन गर्न रु. ..... अक्षरुपी रु. ..... मात्र आवश्यक भएको हुँदा मिति ..... भित्र ..... प्रतिशत ब्याज समेत फिर्ता गर्ने गरि निम्न लिखित शर्त तथा जमानीमा कर्जा उपलब्ध गराई दिनु हुन यो निवेदन पेश गरेको छु ।

क्र.सं.	परियोजनाको नाम	परियोजनाको लागत			परियोजनाबाट हुने प्रत्यक्ष उपलब्धी	कैफियत
		आफ्नै श्रोत	संस्थाको कर्जा	कुल लागत		

शर्तहरु:

१. संस्थाबाट लिएको कर्जा चुक्ता नहुन्जेलसम्म उल्लेखित परियोजना र सो बाट उत्पादन वा बृद्धि भएको वस्तु/जेथा धितोको रुपमा राख्न मंजुरी छ ।

२. परियोजना असफल भएमा वा घाटामा गएमा मेरो घर घरानाबाट सावाँ ब्याज चुक्ता गर्नेछु ।

३. मैले कबुल गरेको समय भित्र सावाँ तथा ब्याज भुक्तानी गरिन भने संस्थाको नियमानुसार बिलम्ब शुल्क तिर्न मञ्जुर छु ।

धन जमानी वा धितो जमानी विवरण

क्र.सं.	जमानी बस्ने समूह वा व्यक्तिको नाम	ठेगाना	जमानी दिनेको बचत/शेयर वा धितो विवरण	जमानी बस्न कबुल गरेको रकम	कर्जा माँग गर्ने निवेदकले कर्जा चुक्ता नगरेमा समूहले बसेको जमानी बराबरको रकम बुझाउन मंजरी छ भनी दस्तखत गन

माथि उल्लेखित शर्तहरु पालना नगरेमा वा मैले दिएको जानकारीहरु झुठ्ठा ठहरेमा ऐन नियमानुसार सहँला बुझाउँला ।

भवदीय,

दस्तखत:

नाम:

सम्पर्क नं.

सम्बन्धित समूहको सिफारिस/निर्णय

प्राप्त निवेदन माथि छानविन तथा स्थलगत निरीक्षण गर्दा माथि उल्लेखित व्यवसाय संचालन गर्नका लागि रु. ..... अक्षरुपी रु. .....मात्र स्वीकृत गर्ने / सिफारिस गर्ने निर्णय गरियो ।

अध्यक्ष　　सचिव　　कोषाध्यक्ष

सम्बन्धित समूहको लागि आवश्यक शर्तहरु

१. उक्त कर्जाको लागि समूहका सबै व्यक्ति जमानी रहन मंजुरी छ ।

२. कर्जा लिने सदस्यले कर्जा नतिरे समूहका सबै सदस्यले दामासाहीको हिसाबबाट कर्जा र सो मा लाग्ने ब्याज चुक्ता गर्नेछौं ।

कार्यालयले भर्ने

१) ऋण मागकर्ताको शेयर रकम :-

२) जम्मा बचत रकम :-

३) अघिल्लो ऋण भुक्तानी मिति :-

४) ऋण भुक्तानी किस्ता :-

५) ऋण भुक्तानी प्रकृया :-

६) अन्य :-

सिफारिसकर्ता व्यवस्थापक

नाम :-

दस्तखत :-

मिति :-

ऋण समितिको सिफारिस/निर्णय

उपरोक्त सिफारिसको आधारमा छानविन गर्दा माथि उल्लेखित व्यवसाय संचालन गर्न रु. ..... अक्षरुपी रु. ..... स्वीकृत गर्ने स्वीकृतिको लागि सिफारिस गर्ने निर्णय गरियो ।

ऋण उप-समिति संयोजक

नाम:　　दस्तखत:　　मिति:

संचालक समितिको निर्णय

आज मिति ..... मा .....को अध्यक्षतामा बसेको संचालक समितिको निर्णयानुसार उपरोक्त सिफारिसको आधारमा श्री ..... लाई ..... व्यवसाय संचालन गर्न कर्जा रकम रु. ..... अक्षरुपी ....मात्र स्वीकृत गर्ने निर्णय गरियो ।

अध्यक्ष

नाम:　　दस्तखत:　　मिति:

MODEL VDC AGRAGAMI APPLICATION

लिखितम तपशिलका ऋणी आगे म/हामी ऋणीले यस श्री अग्रगामी कृषि सहकारी संस्था लिमिटेड, भीमफेदी-२ मकवानपुर बाट ..... कार्य गर्ने वापत तपशिलका शर्तहरु पालना गरी रु. .....
(अक्षरेपी .....) ऋण कर्जा लिनको लागि यो तमसुक गरिदिएको छु/छौं । सो ऋण कर्जा वापत तपशिलको मेरो/हाम्रो मञ्जुरनामा दिनेको जेथा धितो राखेको छु/छौं । सो ऋण कर्जा तपशिलका शर्तको अधिनमा रही बुझाउने छु/छौं । नबुझाई आलटाल गरेमा वा शर्त उल्लंघन भए गरेमा कानुन बमोजिम कारवाही गरी असुल उपर गरी लिनु होला भनी मेरो/हाम्रो मनोमान खुशी राजीसँग होस् हवास दुरुस्त राखी श्री अग्रगामी कृषि सहकारी संस्था लिमिटेडको कार्यालय भीमफेदी-२ मकवानपुरमा बसी तमसुकमा सहीछाप गरी दिए/दियौं । साक्षी किनाराका सदर छन् ।

दा० / बा०

तपसिल

ऋणीको नाम, थर :- ..... नागरिकता नं. .....
ठेगाना :- ..... नागरिकता दिने कार्यालयको नाम :- .....
उमेर :- ..... नागरिकता लिएको मिति :- .....
बाबुको नाम/पतिको नाम :- ..... बाजेको/ससुराको नाम :- .....

जग्गाको विवरण :-

जिल्ला	गा.वि.स./न.पा.	वडा नं.	किसिम	कित्ता नं.	क्षेत्रफल	दर्तावालाको नाम	कैफियत

माथि उल्लेखित जग्गाले चर्चेको घर, गोठ, टहरा समेत ऋण प्रयोजनको लागि रोक्का रहेको छ ।

चल/अचल जायजेथा जमानी दिने/मञ्जुरीनामा दिनेको :-

जमानी/मञ्जुरीनामा दिनेको नाम, थर :- .....
ठेगाना :- ..... उमेर :- .....
नागरिकता दिने कार्यालयको नाम :- .....
नागरिकता लिएको मिति :- ..... नागरिकता नं. .....
बाबुको/पतिको नाम :- .....
बाजेको/ससुराको नाम :- .....

दस्तखत :	
दा०	बा०

माथि उल्लेखित जग्गा रोक्का/बन्धकी राखी उल्लेखित ऋणीलाई माथि लेखिए बमोजिम सम्म ऋण कारोबार गर्न मेरो मञ्जुरी छ । ऋणीले स्वीकार गरेका शर्तहरु मेरो हकमा पनि लागू हुनेछ ।

साक्षीहरु

ऋणीले मञ्जुर गरेको शर्तहरू :-

१. यस श्री अग्रगामी कृषि सहकारी संस्था लिमिटेडले समय समयमा दिने नीति निर्देशन र शर्त यस तमसुकमा लेखिएको सरह मानी पूर्ण रुपले पालना गर्न मञ्जुर छु/छौं ।
२. उक्त ऋण रकममा वार्षिक.....प्रतिशतका दरले किस्ताबन्दीका रुपमा तथा पछि परिवर्तित ब्याजदर बमोजिम संस्थाले ऋण स्वीकृत गरेको पत्रमा तोकेको ऋण भुक्तानी कार्यक्रम अनुसार मासिक ब्याज र सावाको अन्तिम किस्ता भुक्तानी २०७.....साल.....महिना.....गते भित्र बुझाउने छु/छौं ।
३. तोकिएको समयमा कर्जा चुक्ता नगरी संस्थाले पटक पटक ताकेता तथा असुली कारवाही गर्नु परेमा सो वापत लागेको खर्च व्यहोर्न मञ्जुर छु/छौं ।
४. उपरोक्त धितो यस भन्दा अधि कुनै प्रकारको लिखित गरी हक छोडी दिएको र बन्धक समेत रहेको छैन र कुनै अड्डा अदालतको निर्णय कार्यवाहीबाट अरु कसैको हक हुन गएको, कुनै खर खिचोला र झैं-झगडामा समेत परेको छैन ।
५. शर्त बमोजिम किस्ता चुक्ता नगरेमा कुनै पनि किस्ता चुक्ता गर्ने अवधि नाघेपछि यस संस्थालाई लेखी दिएको धितो, बैंकमा रहेको मेरो र हाम्रो कुनै खाताको रकमबाट कट्टी गरी असुल उपर गरी लिन पाउने र यस संस्थाबाट ऋण लिई निर्माण वा खरिद वा व्यवस्थित गरिएका परियोजनबाट संस्थाले सावा, ब्याज र अन्य दस्तुर असुल उपर गरी लिन पाउने, नपुग भएमा वा धितो कच्चा भएमा मेरो र हाम्रो घर घरानाका अन्य चल अचल जायजेथा समेत रोक्का गरी वा नगरी लिलाम बिक्री वा अन्य व्यवस्था समेत गरी असुल उपर गरी लिन पाउनेछ ।
६. अन्य कुराहरु यस संस्थाको नियम र निर्णय अनुसार (अक्षरश) पालना गर्ने स्वीकार्ने छु/छौं ।
७. स्वीकृत ऋण सिमा सम्मको कारोबारमा पटक पटक कर्जा भुक्तानी तथा थप गर्दा उत्पन्न भएको दायित्व यसै तमसुक बमोजिम भए गरेको स्वीकार गर्न मञ्जुर छु/छौं ।

दस्तखत :	
दा०	बा०

ईति सम्वत् २०७ साल महिना गते रोज शुभम्

संस्थाको प्रयोजनको लागि :-

१. धितो रोक्का पासको लागि संस्थाबाट प.सं. ..... च.नं. ..... मिति .....
२. मालपोत कार्यालय ..... बाट धितो रोक्का भएको प्राप्त पत्रको प.सं. ..... च.नं. ..... रोक्का रकम रु. ..... मिति .....

RECOGNITION VISITS BY JUANJO RODRÍGUEZ (Bhimphedi Project)

COMMENTS ON THE REVIEW OF HOUSING - June 25-27, 2015-07-05

Ward Nº1- ChapBhari

1.- Uthar Gorkhali	Alone	Serious damage	Repairable	Inhabited
2.- Maiya Gorkhali	Family 5	No damages	No need	Inhabited
3.- Rutdra Rana	Family 5	Cracks	Repairable	Inhabited
4.- Ram Pashak	Family 8	Cracks	Repairable	Inhabited

The rest of the houses up to 10 in total that we have seen:

- Serious problems only in one.
- The majority complains that the engineer qualifies as non-structural.
- Some houses in Spain have cracks larger than those seen here.
- Two previous problems that were reviewed were observed in two of the houses
- Everyone lives in their houses
- In our opinion, they only need repairs
- In no case it is considered necessary to provide material for temporary shelter
- We estimate more adequate financial aid for repairs (<15,000 rps).
- In this Ward we have only seen a house with significant damages.

Ward Nº2 - Bhimphedi Bazaar

We have internally visited 4 houses located on the main street, all of them with serious damages, but they do not claim economic help because they are families with economic resources.

Only in the case of the Anisha Thapa family's home, they need an economic solution or material for temporary shelter, but this case is special since it is a rented house. The help should go to the tenants more than to the owner who has his own resources.

Ward Nº4

We visited two houses, both with serious damages, and in the case of one of them the owners assure that they are sleeping in a fortune shop that they have in the back garden (it appears in one of the photos).

Ward Nº7 Supping

1.- Pudashaini Ammarnath	Family 8	Serious	Rebuild Inhabited
2.- Bhoj Raj Sapkota	Family 5	Destroyed	Rebuild
3.- Shiva Ram Pudashaini	Alone	Serious	Rebuild Inhabited
4.- Kabita Hachar	Family 7	Destroyed	rebuild has RT
5.- Kamal Kant	Family 8	Destroyed	rebuild has RT

In this Ward nº7 we have seen the houses in worse global conditions of the rest of the Ward that we have visited. We consider that this Ward would be one of the candidates to include more than 12 financial aids.

We have not been able to visit other Wards due to the limit of days that we could spend in Bhimphedi and the monsoon rains.

PHOTOGRAPHS VISIT JUANJO RODRÍGUEZ

WARD 1

Photographs Juanjo Rodríguez

WARD 2

Photographs Juanjo Rodríguez

WARD 4

Photographs Juanjo Rodríguez

WARD 7

Photographs Juanjo Rodríguez

ANNEX 6: REGULATIONS AND REFERENCED BIBLIOGRAPHY

- NEPAL NATIONAL BUILDING CODE.NBC 203:1994. *Guidelines for earthquake resistant building construction: low strength masonry.* Ministry of Physical Planning and Works, DUDBC.Babar Mahal, Kathmandu, Nepal, 2060.

- BUILD CHANGES RECONAISSANCE REPORT. http://www.buildchange.org/wp-content / uploads / 2015/06/2015-Nepal-EQ-Reconnaissance-Report Build-Change.pdf .

- SEISMIC MANUAL OF COLOMBIA. *Construction, Evaluation and Rehabilitation Manual for earthquake resistant homes.* Colombian Association of Seismic Engineering.

- Lorenzo Gálligo, Pedro- UPC. *TCD A roof to live.* Edition 1UPC editions, 2005.

- Kuroiwa, Julio. *Disaster reductionEn armonía con la naturaleza.* Lima:PAHO, 2002

- Arnold, C., Reitherman, R., *Configuration and seismic design of buildings.* Mexico:Limusa, 1987.

ANNEX 7: ENTITIES PARTICIPATING IN THE PROJECT

BHIMPHEDI AWASUKA

MAIN ORGANIZATIONS (Active Role)

Friends of Nepal (http://www.amicsnepal.org) provides local knowledge of the village, its social situation, its culture and has a Catalan person working in Bhimpedi. It also supports financially an important part of this program, through donations received for earthquake relief.

Human ResourcesMonica Sans, Program Coordinator, Dani Roig, Economical Supervisor.

Base-A, a group of young architects who understand architecture as a social transformation tool (http://base-a-org.blogspot.com), provides technical support and experience on cooperation projects in other countries. Anna Altemir is the responsible person.

Human ResourcesAnna Altemir, Technical Coordinator, Emma Ferrer, Andrea Llanas, Valèria Cid, architects.

Universitat Politècnica de Catalunya (UPC) will provide last-year students participation to the program and Dr. Pedro Lorenzo's counseling.

Center de Cooperació per al Desenvolupament (http://www.upc.edu/ccd) as cooperation department of UPC University, will provide financial support to students and professors traveling to the site. Human Resources: Pedro Lorenzo, Xavi Ortega.

Caldes Solidària (http://caldessolidaria.blogspot.com.es/) An NGO provides financial support to the first stage of this program (6 months, up to December 2015).

Human Resources Daniel López, Professor UPC, CCD and Caldes Solidària membre.

LOCAL ORGANIZATIONS (Active Role)

Agragaami Krisak Krishi Sahakaari An agricultural cooperative based in Bhimphedi, that has collaborated with Friends of Nepal in the past, will provide the counterpart support to this program. Human Resources: Ranjit Rana (President), Ram Think (Secretary), Anju Lama (Board Member)

Rotary Club Kantipur An institution based in KTM that has collaborated with Friends of Nepal in the past, on Bhimhedi Projects, will provide support to this program. Human Resources: Bhuphendra Man Pradan, Club Member, Bhimphedi Coordinator.

Bhimphedi Project, a private initiative that has been running for many years, sponsoring families and projects in Bhimphedi village. Human Resources: Juanjo Rodríguez.

LOCAL ORGANIZATIONS (Consultant Role)

NSET, Nepal Society of Earthquake Technology

Amod Dixit, President (Brian Peniston's friend).

Office of the National Society for Earthquake Technology-Nepal (NSET) is located at the panoramic and planned terrain of Bhainsepati Residential Area, Sainbu VDCWard No. 4, Lalitpur where Community Earthquake Learning Center (CELC) resides.NSET office facilities are built under the roof of CELC and remain core part of CELC premises.The locality is around 2 kilometers away from Ring Road outside in southern part of Kathmandu Valley.

Contact Address:

National Society for Earthquake Technology-Nepal (NSET)
Sainbu VDCWard No. 4, Bhainsepati Residential Area, Lalitpur
Tel:(977-1) 5591000
Fax:(977-1) 5592692

Postal Address:

National Society for Earthquake Technology-Nepal (NSET)
POBox:13775, Kathmandu, Nepal
Email: nset@nset.org.np
Web: www.nset.org.np

ASF NEPAL (Architects Without Borders Nepal)

Pawan Shrestha, President Architect

Contact Address:

ASF Nepal
Sekretariat:CoursesSa
nepa, Lalitpur
E-post: asfnepal2015@gmail.com
Tel: 00977 1 5553514

NEA (Nepal Engineers Association)

Dhruba Thapha, President Engineer

Contact Address:

Pulchowk, Lalitpur
00977-1-5010253
http://www.neanepal.org.np

NAMUNA GHAR (Meeting confirmed on July 13th)

Model House to visit, newari architecture.

Rabindra Puri, arrives to KTM on July 3rd, we'll meet on July 13th at Namuna Ghar, Bhaktapur.

BRIAN PENISTON, Meeting confirmed on July 13th.

Contact provided by Merche de Hériz, through TEDxBarcelona Talks.Meeting in AN Barcelona.

Brian is a Nepal expert, and lived and worked in Nepal over 24 years.Currently, we are serving on the Advisory Board of the Foundation and are building alliances in response to Nepal's post earthquake needs.I have worked with The Mountain Institute (TMI) since 1996 through mid 2014, managing National Park east of Mount Everest, and managed TMI's Himalayan Regional Programs in biodiversity conservation, natural resource management, sustainable livelihoods and cultural restoration.Brian helped design integrated conservation and development projects in 14 other countries throughout Asia,

working with many international agencies, starting overseas work as a US Peace Corps volunteer. He is Director / Founder of Markets and Communities, Inc. and Ennovent's Representative-America.

DEPARTMENT OF ARCHITECTURE, Pulchowk Campus Institute of Engineering, TriBhuvaneswari University
Contact given by Pedro Lorenzo, through Margarita Alonso (ASF).

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BUILDCHANGE (pending meeting confirmation)
Francesc Belart has been in touch with them, pending meeting confirmation. Francesc will probably be an active collaborator on the reconstruction project, on the site in late fall, because of his "mountaineering architecture" experience in Catalonia.

OTHER ORGANIZATIONS (Consultant Role)

Catalonia Carpenters Guild, Salvador Ordóñez
ASF Castilla-León & Red ProTerra, José Maria Sastre
ASF International, Xavi Codina (president), Margarita Alonso
Alfons Soldevila, architect, experience in experimental architecture and emergency shelters.