2009 Abruzzo Earthquake

Reconstruction in the
Villages of Barete and Navelli (L’Aquila)

Report on activity

Rome, July 15th 2010
Reconstruction in the Villages of Barete and Navelli (L’Aquila)

Report on activity

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I. Operational Framework

1.1 Country / Region
Italy / Abruzzi region

1.2 Context
Italy is located in Southern Europe and is formed by the long, boot-shaped peninsula in the Mediterranean and a number of islands including Sicily and Sardinia. The Apennine Mountains form the peninsula’s backbone; the Alps are its Northern boundary. Italy is on the border of the Eurasian tectonic plate touching the African plate; therefore several volcanoes in Italy are active: Etna, the largest active volcano in Europe, Volcano, Stromboli, and Vesuvius.

1.3 Incidence
A strong earthquake measuring 6.3 on the Richter scale hit central Italy shortly after 3:30 a.m. on Monday the 6th of April 2009. More than 300 people lost their lives. The quake was centered around the mountainous Abruzzi region east of Rome. Houses, churches and other buildings in the old city of L’Aquila, about 95 km east of Rome, and its surrounding villages were devastated, leaving tens of thousands of people homeless in the region. The quake was the strongest to have hit Italy in recent years. Several aftershocks in the first week measured between 4.3 and 5.3 on the Richter scale followed in subsequent months by 3-5 times daily aftershocks measuring between 1.5 to 3.5 on Richter scale. The government of Italy declared a state of emergency. Three months later almost 22’000 persons were still living in tents, 30’000 people found private accommodations in the area or had been accommodated in hotels along the Adriatic sea, some 50 kilometers away from L’Aquila. Before winter, the Italian government sought to provide all families that had lost their home in the earthquake a prefabricated house.

1.4 Target population
In Barete, a small village 20 km north-west of L’Aquila and 800 m above sea level with 633 inhabitants, 10% of the houses were been destroyed. The only medical clinic in the village was located in the public school of the town, which was seriously damaged by the earthquake. The local authorities and the Civil Protection Department reconstructed a temporary village of 15 wooden houses for people who had lost their homes. In the center of this village a wooden structure for the school and the medical clinic was planned and built.

The community of Navelli, 30 km south-east of L’Aquila and 760 m above sea level has two constituent villages: in the main village of Navelli, with 630 inhabitants, the houses were only partially damaged but in the smaller second village of Civitaretenga, with some 450 habitants, almost half of the village was irreparably damaged. The local authorities and the
Civil Protection Department built a temporary village of 20 wooden houses for people who lost their homes. The local administration building of Navelli was seriously damaged by the earthquake and had to be demolished. In this building, on the ground floor, there was a small clinic and rooms for medical services.

1.5 Origin of proposal
From the beginning of the emergency the local branch of the ItRC in L'Aquila, was active in first aid and ambulance services. The Italian Red Cross was active immediately after the earthquake its national structure with its emergency centers for the Northeast and Center of Italy and with the local branches in regions near Abruzzo. The ItRC managed 9 camps for the affected families, providing food, water, psycho-social support and support of the local health authorities in medical services. Moreover, the ItRC managed a logistical warehouse in Avezzano, a town near L'Aquila, where all food and non-food items donated through national and international appeals to solidarity were collected. During the first three months after the earthquake the ItRC employed more than 8'000 operators and volunteers, providing 1 million meals to roughly 20'000 people.

After this first emergency response the ItRC was asked by the Civil Protection Department and three communities to support and to co-finance the reconstruction of family houses in Onna, a clinic with community rooms in Barete and another clinic with local administration facilities and a big community meeting room in Navelli. The ItRC found other donors for the family houses in Onna. In Navelli and Barete, the ItRC asked the SRC to support them with those two projects.

1.6 Reasons for choice of project
Two SRC representatives observed during their monitoring and assessment missions to Italy, Martin Fuhrer at the beginning of May 2009 and Thomas Kumpera by middle of June 2009, both in cooperation with the ItRC, the difficulties and problems during the first two emergency projects of SRC (first the tents, beds and blankets, than the field kitchen, food and staff).

For the beneficiaries, the communities and the Italian Government with their operational Civil Protection Department the most important needs were

A) to find a temporary housing solution for 13’000 families for the next five to eight months before winter time, and

B) reestablish the infrastructure within the communities (health system, schools, social meeting rooms, community administration, etc.).

Since the SRC has a wide experience in basic community healthcare, the SRC tried to focus on community houses with such infrastructure.
II. Project

2.1 Project objectives

2.1.1 General Objective
A community needs work and the inhabitants in this community wanted to live the same life they had before the earthquake. In each of the two municipalities, Barete and Navelli, a single doctor had 15 - 20 consultations daily mostly to somewhat elderly people (60 % of the citizens of those municipalities were older than 60 years). To guarantee suitable basic community healthcare assistance to the population, common meeting rooms for social or political gatherings and space for ordinary administrative activities of the community were necessary. Houses and apartments for affected families who had lost their houses were built by the Civil Protection Department.

2.1.2 Specific Objective

A) To build a wooden prefabricated, environmentally sustainable building of around 85 m$^2$ for the clinic in Barete.

B) To build a wooden prefabricated, environmentally sustainable building of around 150 m$^2$ for the community administration and the clinic in Navelli.

2.2 Project description

Planning and construction
Both buildings were built on public property (in both cases the municipalities owned the land). Both buildings are the property of the two municipalities and are used for community services. The anti-earthquake construction measures were approved by the Civil Protection Department and are compliant with the urban and environmental constraints of the area. Both municipalities defined their projects with the agreement of the Civil Protection Department and both undertook all the administrative procedures for the realization of the buildings. All administrative and technical documents were provided to the Italian Red Cross.

Architects from the National Civil Protection Department made the plans for those two buildings. Construction companies were be chosen by the two municipalities in compliance with public administrative procedures. In Navelli the technical office (Ufficio Tecnico) of the municipality carried out the construction work on the project, while in Barete the firm Di Emidio Progetti s.r.l. carried out the work.

The health post in Barete has 4 rooms (medical study, waiting room, surgery, hall) and 2 bathrooms with a total 85 m$^2$. 
Health post in Barete

<table>
<thead>
<tr>
<th>Room</th>
<th>Surface (square meters)</th>
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<tbody>
<tr>
<td>Reception</td>
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<tr>
<td>Waiting room</td>
<td>20.86</td>
</tr>
<tr>
<td>Public WC (w/ disabled access)</td>
<td>3.18</td>
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<tr>
<td>Medical study</td>
<td>13.53</td>
</tr>
<tr>
<td>Heating unit</td>
<td>5.12</td>
</tr>
<tr>
<td>Surgery</td>
<td>13.53</td>
</tr>
<tr>
<td>WC</td>
<td>2.79</td>
</tr>
<tr>
<td>Hall spaces/misc.</td>
<td>5.39</td>
</tr>
</tbody>
</table>

The clinic and the community administration building in Navelli has 7 rooms: 2 medical consultation rooms each with WC and dressing room for the patients, one waiting room with a toilet, 3 offices and one conference room with one ladies and one men toilette with a total 150 m². The new multifunctional building in Navelli, with a canvas structure in laminated pine, was realized on a total surface area of 150 square meters, and house the council room, technical and administrative offices, the office of the Mayor, two waiting spaces and rooms for clinics and medical services.

The two buildings are pre-fabricated and earthquake-resistant in accordance with the guidelines of the Department of Civil Protection and are said to be “MAP”; such buildings are built atop earthquake-proof reinforced concrete slabs with wooden support columns while the walls and siding are made of composite materials (law 10/91 s.m.i.).

All structural materials, walls, roofs, and windows are processed (flame retardant, anti-humidity, woodworm resistant); hydraulic fittings and interior facilities (electricity, water and sewer) are in accordance with European Community rules and are certified by the Authorities. All materials were made in the EU (Law n. 10 of 1991).

The houses were built by companies certified by the National Civil Department (“infrastructure” function). Municipalities were the implementing agencies under the Prime Ministerial Decree num. 39 of 2009 and the citizens were not involved in any phase of construction.

The works of urbanization (public light, water, electricity, sewage, streets and public parks) were in accordance with the Prime Ministerial Decree num. 39 of 2009 with the project identified and approved by the National Civil Department (“infrastructure” function), were carried out by suitable contractors that were certified for a public call for tenders, as well as current legislation in Italy. That operation was completed rapidly.
Use and maintenance of the buildings

The two community buildings are being used by all members of their communities: elderly people, adults and children of both genders. The infrastructure and the furniture for the clinics and the community administration offices was set up and financed by the two municipalities and both are in charge of all activities, including management and maintenance of the two buildings. In particular for the health post, the Municipality of Barete is working in collaboration with the National Health Service (NHS).
In compliance with Italian law, the staff of the health post is paid by the NHS and the staff works in social offices from the Municipalities.

2.3 Risk analysis
The administrative matters pertaining to the ground in which the two community buildings were built were taken care of by the relevant Municipalities and the Civil Protection Department, the construction plan project executive (earthquake-resistant and environmentally sustainable) were approved by the Civil Protection Department.
The possible risks were linked to the ability of contracting companies to respect the agreed upon deadlines (delivery before mid-October) because of climatic conditions or suppliers.

2.4 Project indicators and comparison indicators
The two buildings are constructed and in use: Patients are using the clinics, the community administration in Navelli is running again and the meeting rooms are regularly used.

2.5 Phasing-out scenario and perspectives for the continuation of the project
SRC will phase out with their activities of the emergency response with 231 tents, 1155 field beds and 2310 blankets, and the post emergency response with a mobile field kitchen, food and staff and reconstruction of two community buildings.
III. Coordination between Local Partners

3.1 Participant RC National Society
Swiss Red Cross (SRC)

3.2 Operational RC National Society
Italian Red Cross Society (ItRC)

3.3 Coordination - Support
International Federation of Red Cross/Red Crescent National Societies (IFRC) National Red Cross International Red Cross/Red Crescent Federation (IFRC) is coordinating between other RC-National Societies and ItRC but had no impact on this project.

3.4 National and local authorities
Local authorities (Municipalities of Barete and Navelli) and national authorities (Civil Protection Department).

3.5 Other institutional donors
The Swiss Red Cross reconstruction project was financially supported by the Swiss Solidarity and private donors.
IV. Resources used in Project Implementation

4.1 Material
- 2 prefabricated wooden buildings in form of a temporary housing module with following main components, which can be disassembled and reused:

  In Barete:
  - Site preparation (groundwork/fundament), including electrical service, gas system, drinking water and sewage organized and coordinated by the community Barete;
  - 1 health post with one consultation room/office, a waiting room and two bathrooms on one floor (85 m²) with the necessary infrastructure and furniture (office, consultation of patients, chairs and one table in the waiting room).

  In Navelli:
  - Site preparation (groundwork/fundament), including electrical service, gas system, drinking water and sewage organized and coordinated by the Municipality of Navelli;
  - 1 building for the community administration (± 90 m²): three offices for five working places, waiting room, meeting room, toilets and necessary infrastructure (furniture);
  - clinic with two consultation rooms/offices, a waiting room and 3 bathrooms (60 m²) with the necessary infrastructure (office, consultation of patients, chairs and one table in the waiting room).

4.2 Personnel
- Employees of construction company (included in the main contract with the company),
- ItRC Coordinator (80 % for three months),
- Beneficiaries (as volunteer workers during construction).

4.3 Finances
Budget in Annex III
V. Project Monitoring

Monitoring was carried out directly by the project coordinator of the DM unit of the Swiss Red Cross.

5.1 Monitoring
The ItRC coordinator monitored the planning and construction with two reports for the SRC: the first one was two months after beginning of the works, about the working progress, and the second was one month later, when the buildings were handed over and in effective use (clinics, community administration, meeting rooms).

5.2 Evaluation
No external evaluation is foreseen.

5.3 Audit
The accounting will be controlled by the SRC emergency relief coordinator and SRC finance department/controlling and put under the rules of the annual finance audit of Swiss RC.
VI. Visibility

On the two buildings, small logos of Swiss Solidarity, Italian Red Cross, and Swiss Red Cross will be placed. SRC informed Swiss medias during construction and for the inauguration of the two buildings, according with ItRC.

VII. Annexes

<table>
<thead>
<tr>
<th>Annex</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Maps of earthquake affected area</td>
</tr>
<tr>
<td>II</td>
<td>Plans of the two buildings</td>
</tr>
<tr>
<td>III</td>
<td>Pictures</td>
</tr>
<tr>
<td>IV</td>
<td>Financial and Administrative Report</td>
</tr>
</tbody>
</table>
Annex I  Maps of earthquake affected area

06 Apr 2009 - Strong earthquake left at least 10 dead and damage to houses, buildings and churches.
Annex II Plans of the two buildings

A) Barete
B) Navelli
Annex III    Pictures

A) Barete:

December 10th, 2009: Completed and furnished clinic in Barete
B) Navelli

June 10th, 2010: Nearly completed multifunctional structure in Navelli
Annex III: Administrative and financial report

III.1 Barete

August 12th 2009: the Municipality of Barete (Protocol no. 803) had requested the National Civil Protection Department and the ItRC a prefabricated to be utilized as a health post following the terrible earthquake that struck the Province of L'Aquila on April 6th. The request had been delivered to ItRC by Fabio Torretta, representing ItRC in DiCoMac (the mobile structure activated by the National Protection Department to support relief operations), on 21st May 2009. After inspection of the site designated by the municipal authority, and following several meetings, the construction project worth 74,000,00 euro was delivered to the Municipal authority by Fabio Torretta and by Michele De Tommaso, representing the ItRC.

Meanwhile the Municipal administration had proceeded in the approval of the final construction project (following Resolution no. 37 dated 14th July 2009). The construction of the health post which consists of a wooden prefabricated, environmentally sustainable building of around 85 m², was approved by the technical office (Ufficio Tecnico) and given to the firm Pacifici Emidio s.r.l.

August 17th 2009: the ItRC National Commissioner had confirmed his willingness to complete the intervention in Barete (Note No. 56630).

August 28th 2009: the Municipality of Barete made to ItRC and to DiCoMac a formal request for the construction in Barete of a prefabricate to be utilized as a health post (Prot. No 1471 – received by ItRC on 30th August, Prot. 922) for an amount not exceeding 74,000,00 euro. The request included the delivery of the final construction project as drawn by the Pacifici Emidio firm and realized by the CMV firm (Cooperativa Muratori Verrucchio).

September 17th 2009: the ItRC National Commissioner Francesco Rocca ordered (Order No. 0282/09) the ratification of the Convention between the National Protection Department and the Municipality of Barete and the final ratification of the Memorandum of Understanding with the Swiss Red Cross for the construction of the health post in Barete for a maximum expenditure of 74,000,00 euro.

October 15th 2009: the Acting Director General Leonardo Carmenati allocated the realization of the project to the 12th Department of the ItRC denominated “emergency activities and international operations” (as per Directorate Determination no. 178/09) and to allocate the total amount of 74,000,00 according to the following procedure:

- 50% (equal to 37,000,00 euro) after project delivery, duly validated and approved;
- 40% (equal to 29,600,00 euro) after delivery of a report recording 90% of the working progress subscribed by the Municipality and by the ItRC;
- Settlement or the remaining 10% (equal to 7,400,00 euro) after delivery of the relevant documentation of expenditure, structural resistance report, technical and administrative report which includes also approval by the tester or by the construction company.
December 4th 2009 a Convention was stipulated between the ItRC and the Municipality of Barete for the construction of the health post. The ItRC was represented by the National Commissioner Francesco Rocca while the Municipality of Barete was represented by the Mayor Leonardo Gattuso.

Prior to the stipulation of the Convention the ItRC and the Civil Protection Department had already identified the type of intervention to be made in Barete (i.e. The construction of a health post) and the Municipality of Barete had approved such intervention (Resolution No. 37) on the 14th July 2009. Following the Resolution, the ItRC, through its

On 17th September 2009 the ItRC had approved the project (Commissarial Order No. 282) for an amount not exceeding 74.000,00 euro.

Following this procedure, the Municipality of Barete had agreed with the ItRC to realize the health post according to the project already approved by the City Council (approval no. 37 dated 14th July 2009) and sent to the ItRC on the 28th of August 2009 under the name "Health Post" (Ambulatorio) under Note no. 1471 for an amount not exceeding 74.000,00 euro to be allocated according to Directorate Determination no.178/09

December 9th 2009: the National Civil Protection Department represented by Bernardo De Bernardinis approved the agreement (Protocol no. 88032/09).

December 14th 2009: following Directive Order No. S12/96, the ItRC issued a first payment of 37.000,00 EURO to the Municipality of Barete. The payment was made under Chapter 139, Protocol No. 76353/09. The payment was in line with Directorate Determination no. 178/09 dated 15th October 2009.

The remaining installments will be granted as soon as the Municipality of Barete will send to the ItRC the required working progress reports.

Financial Report Summary

<table>
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<tr>
<th>CONTRIBUTIONS</th>
<th>COSTS</th>
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<td>1 Convention of 04/12/09</td>
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<td>EUR 74’000’,00</td>
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<tr>
<td>2 Directive order N. S12/96 of 14/12/09</td>
<td>Deposit</td>
<td>EUR 37’000’,00</td>
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<td>Remaining to pay</td>
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<td>EUR 37’000’,00</td>
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<td>3. Waiting to receive the 90% Progress Report. Amount to be eventually granted: 29.600,00 EURO</td>
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<td>EUR 37’000’,00</td>
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<tr>
<td>4 Recapitulation</td>
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<td>1st payment D.D. 96 14th December 2009</td>
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<tr>
<td>Remaining to pay</td>
<td></td>
<td>EUR 37’000’,00</td>
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</tbody>
</table>
Navelli

On 31st August 2009 (protocol no. 3564 received by ItRC with prot. 928/09) the Municipality of Navelli transmitted the project for the realization of a polyvalent structure in Navelli for medical posts and offices of the Municipality. The project was realized by the technical office of the Municipality of Navelli under the direction of Ing. Sebastiano Angelone.

On 17th September 2009 the ItRC National Commissioner Francesco Rocca ordered (Order No. 0283/09) the approval of the final project proposed by the Municipality of Navelli for a maximum expenditure of 155,200,00 euro.

The National Commissioner also appointed the Acting Director General Leonardo Carmenati to set forth the procedure in order to:

- Sign a Convention between the National Protection Department and the Municipality of Navelli to realize the construction of the structure;
- Follow the procedure to ratify the financial investment to be carried out by the ItRC;
- Ratify the Memorandum of Understanding with the Swiss Red Cross for the construction of the polyvalent structure in Navelli for a maximum expenditure of 155,200,00 euro.

On 15th October 2009 the Acting Director General Leonardo Carmenati allocated the realization of the project to the 12th Department of the ItRC denominated “emergency activities and international operations” (Directorate Determination no. 179/09) which had control over the total amount of 155,200,00 euro to be granted according to the following procedure:

- 50% (equal to 77,600,00 euro) after project delivery, duly validated and approved;
- 40% (equal to 62,080,00 euro) after delivery of a report recording 90% of the working progress subscribed by the Municipality and by the ItRC;
- Settlement or the remaining 10% (equal to 15,520,00 euro) after delivery of the relevant documentation of expenditure, structural resistance report, technical and administrative report which includes also approval by the tester or by the construction company.

On 9th December, the National Civil Protection Department represented by Bernardo De Bernardinis approved the agreement (Protocol no. 88030/09).

December 14th 2009: following Directive Order No. S12/97, the ItRC issued a first payment of 77,600,00 EURO to the Municipality of Navelli. The payment was made under Chapter 139 and received by the Municipality of Navelli under Protocol No. 4675/09 dated 25/11/2009. The payment was in line with Directorate Determination no. 178/09 dated 15th October 2009.

The remaining installments will be granted as soon as the Municipality of Navelli will send to the ItRC the required working progress reports.
## Financial Report Summary: Navelli

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<td>EUR 77'600,00</td>
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<td>works from 90% - eventually providing Deposit</td>
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<td>40% of financial burden EUR 62'080,00</td>
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<td>4 Recapitulation</td>
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