**ANNUAL REPORT FOR NGO DEVELOPMENT**

**CO-OPERATION PROJECT**

**YEAR** 2012 **PROJECT CODE** 31C710

Hankkeen perustiedot

# 1. Basic information on the Project

1.1 Name of Organization registered in Finland

The Finnish Children and Youth Foundation (FCYF)

1.2 Name of Organization in English

Esquel Foundation

1.3 Name of Project in Finnish

1.4 Name of Project in English

Development of rural schools and communities with solar energy in Ecuador

1.5 Name of Project in other relevant language

Desarrollo de escuelas rurales y comunidades con energía solar en Ecuador

1.6 Location of Project (country, province, village/community)

**Country:** Ecuador

**Province:** Bolívar

**Province:** Chimborazo

1.7 Name of co-operation Partner

Fundación Esquel (Esquel Foundation)

1.8 Planned initiation and termination dates of the Project

Start: June 1st, 2010

End: December 31th, 2012

**1.9 Summary of the core idea of the Project and the key results and impacts achieved (see Project plan, 1.11.)**

The objective of this project is focused on implementing devices that provide solar energy to the selected schools, thus encouraging the use of alternative environmentally friendly energies.

To fulfill the project objectives for first semester 2012, a number of actions were taken to support the implementation of planned activities in response to the changes which occurred. Below are the main steps taken in the project:

1. The first outcome comprises the provision of electric power through the installation of solar photovoltaic panels and the provision of safe electrical installation to ensure ongoing flow of energy for the smooth operation of educational and social activities at the selected educational centers. The actions included:

- Carrying out and preparation of the Baseline Assessment prior to selecting beneficiary communities. During 2009, a baseline assessment and preparation was made in order to determine the territory of the intervention and the selection of communities and schools that would be benefited under this project. This work was performed jointly with *Imaginar*—the consulting firm, in coordination with the Provincial Directorates of Bilingual Intercultural Education for Chimborazo, Bolívar and Tungurahua. In gathering the baseline information, over 60 communities were visited in the three provinces. In 2011, and once funds became available for project implementation, 20 communities were selected within the provinces of Chimborazo and Bolívar; it was determined that the quality of conventional electric power grid available had very low performance.
- Socialization of the project among local actors at Bolívar and Chimborazo: During January and February, 2011, socialization processes were carried into effect at the two selected provinces. Such actions were aimed at local actors, authorities and institutions and mainly directors, teachers, parents, and also community directors and leaders at the selected sites. This activity enabled the preparation of a local actors' map and the identification of institutions and officials who may become allied partners during project implementation.
- Improvement of electric installations at the selected educational centers in order to ensure that the minimum rules of safety and uninterrupted, ongoing flow. To this end, the following strategies were developed:
  - Electric Power Workshops. After an evaluation was made of the electric installations at schools (and upon having witnessed the precarious conditions of same) the project organized theoretical and hands-on training workshops on electric power installations and connections. These training activities were directed toward 400 beneficiaries comprising teachers, parents and community members, in order to provide the selected communities with community members who are duly trained on these aspects. Training on electric power installations was carried into effect between September and November, 2011.
  - Assessment of the physical condition of electric installations and infrastructure at the selected centers. The technicians responsible for constructions commissioned by Fundación Esquel and the CODESOLAR technician who was engaged to install the Solar Panels prepared a technical diagnosis on the physical conditions of the electric facilities. After a field visit performed to each educational center during June, 2012, the needs for infrastructure were fully identified as well as electric wiring issues at 20 schools within the two provinces. At a later date—and jointly with planning of solar panels installation, the new wiring/installations were to be carried into effect at these 20 educational centers.

- Distribution of solar panels according to the needs identified during the field visits and technical studies according to the needs of the educational centers: In order to fulfill this goal, CODESOLAR—a company responsible for supplying solar panels—was engaged.
  - Purchase of Solar Panels. Depending on the size of the educational centers, the pertinent technical criteria and the budget available to the procurement, it was decided that 122 solar panels would be purchased for distribution to the previously selected schools. To this end, an electric engineer specializing in photovoltaic energy was engaged, who prepared the Terms of Reference and technical specifications prior to initiating the bidding procedures for solar panels and to award the contract to a shortlist of three participating companies. CODESOLAR was awarded the contract. The consultant also performed follow-up on compliance with the requirements identified in the bidding procedure. The purchase contract was signed after having determined the pertinent requirements and guaranties.
  - Preparation of a solar panel distribution schedule: Jointly with the CODESOLAR technician, an installation schedule was prepared for the 122 solar panels to be installed at 20 schools in Bolívar and Chimborazo, bearing in mind the technical criteria identified during the field visits and in accordance with the particular needs of the educational centers.
  - Customs Clearance for Solar Panels. On 7th September, 2012, the 122 solar panels arrived in Ecuadorian territory and were cleared through customs. Batteries arrived on 26th September and the installation was started during the first week of October, 2012.

- Installation of the solar panel system at 20 selected schools in Bolívar and Chimborazo: The installation at all 20 schools was accomplished between 1st and 28th October. During the process, community members and teachers at the educational centers showed interest and participated in the activity, thus becoming the first hands-on, on-site training. At present the Photovoltaic panel systems are operating regularly.
- Selecting members of the educational community for training ends concerning use and maintenance of solar panels:
  - In July, 2012 the Management of Solar Panels workshop took place for school supervisors, officials, teachers and directors at the selected schools within the province of Bolívar. As part of the agreement entered into with the *Universidad Estatal de Bolívar* and taking advance of a exchange of students program in Ecuador (from the School of Systems at the *Universidad de Cataluña* in Spain), training was carried into effect in regard to “solar panels and the benefits offered by renewable technologies”. Such training activity clarified many doubts harbored by the participants and also mentioned the economic and environmental benefits that these technologies offer.
  - In December, 2012, CODESOLAR provided pertinent training on maintenance and use of the photovoltaic panels systems. A total of 2 training activities were completed in Bolívar and in Chimborazo, respectively, directed toward teachers, parents y community members. Workshops were theoretical and hands-on. They were imparted at one of the selected communities in order to be able to operate the equipment and turn the learning process more effective. This methodology helped clear many doubts and concerns; it also provided technical abilities and skills to operate the equipment. Each workshop lasted 8 hours.

- Sign delivery-receiving acts to legally transfer title of the solar panels to the community representatives. In November, 2012 delivery-receiving acts for panels and computers were signed and delivered to the Provincial Directorates for Intercultural and Bilingual Education at Bolívar and Chimborazo.
- Workshops with the educational community at selected communities in order to create conscience awareness on the environmental benefits brought forward by clean energy, and to instill a community sense of ownership of this technological tool:

- The first training activity was carried out in June, 2011, with officials, supervisors, and teachers from the selected schools in Bolívar. The training process involved an observation tour and technical/learning visits in order to promote dissemination of innovations—both concerning teaching/learning processes and on alternate technology that is environmentally friendly. The project visited the community of Catitahua, Province of Tungurahua and the community of El Troje, in the province of Chimborazo.
- The second training activity was carried into effect during December de, 2012, with the participation of technicians, teachers, and directors at the 10 schools selected in the province of Chimborazo. The training was completed with the visit to the Interpretation of Alternate Technologies center at Fundación Mashcana, located at the community of El Troje, in Chimborazo.

  These activities intended to strengthen the project's overall objectives and to encourage participants into replicating a few experiences aimed at raising conscience awareness on the environmental benefits brought forward by clean energies, within the context of energy sovereignty.

2.- The second outcome envisages improved quality of rural education through the use of IT teaching applications in classrooms, and to further the training processes concerning the use and maintenance of technological devices.

- Carry out an assessment report concerning potential applications of ITs within the educational context: This activity has been attained based on cooperation relationships which the Bilingual Directorate of Bolívar maintains with *Universidad Estatal de Bolívar (U.E.B)*. Fundación Esquel made the initial approach with the Director of the Information institute at Universidad de Bolívar on February, 2011. During the course of this meeting it was agreed that IT training for teachers at the bilingual directorates need use a Linux Platform concerning the use of the Ubuntu Operating System.
- Meetings held with local actors such as: community leaders, the provincial board for the intercultural bilingual education system were used as a means to define practical applications for ITs, to be applied within the educational context based on the assessment report. Meetings were held throughout the intervention with representatives of the directors of educational centers, supervisors, technical teachers, the Director of Bilingual Education and the Director of the UEB Information Institute, decided on issues concerning the training of teachers working for the bilingual jurisdiction as part of the UBUNTU operating system. Training schedules were agreed to train on solar panels for the various kinds of evaluations and visits, for the inaugural events of the computing center, for the closure event, etc. Likewise, these training options were extended to include teachers belonging to the bilingual jurisdiction of Chimborazo.

- Provide computers to the rural schools at the selected communities in order to improve their technological abilities and incorporate new teaching methodologies. The purchasing process for the computers went through various processes detailed below:
  - Establishment of a Selection Committee. During June, 2012, Fundación Esquel identified a Selection Committee to purchase 215 computers. This committee was responsible for selecting from among 7 suppliers. After the analysis, evaluation and qualification process and pursuant to technical and financial parameters prepared by Fundación Esquel's own information expert, the contract was awarded to the firm Infolink.
  - A distribution chart was prepared during June, 2012 concerning the number of computers each selected school had. It was verified that several schools had computers of their own—many donated by the central government, local governments and other NGOs; therefore, 215 computers were redistributed bearing in mind these facts, in addition to technical issues.

- The purchase of computers for selected schools: Infolink assumed responsibility to provide 215 computers to the project. Beginning as at 5th November, 2012 through to 18th November, 2012, the trial and installation process was completed for each of the computers at each one of the educational centers. Likewise, every educational center was provided with work tables and chairs, and the necessary furniture in order for children and adolescents at schools may enjoy the comfort and conditions required for the teaching-learning process. Computers are operating with the UBUNTU operating system.
- Carry out a training process with teachers at school in the use and maintenance of PCs, and on teaching methodologies that are based on IT applications.
  - Teacher training and skills building on IT techniques: Within the framework of cooperation agreements entered into with *Universidad Estatal de Bolívar* and with *Escuela Superior Politécnica de Chimborazo*, the project adopted a teacher training strategy, and was able to accomplish three training stages during 2011 and 2012 that were based on the national educational policies, the free use of software at schools. The courses were directed toward teachers and administrative personnel from the Bilingual Jurisdiction, on the use and management of the UBUNTU operating systems, BASIC and INTERMEDIATE levels, Idea Builder, Concept Generator, Project Designer and Use of the Internet as a teaching aid (with an average of 40 hours each). Beneficiaries included 600 teachers, technicians and administrative members of staff at the Provincial Directorates for Intercultural and Bilingual Education at the provinces of Chimborazo and Bolívar.
  - Teacher training in the use and maintenance of computers. Teachers' computer competences and skills were enhanced at 20 educational centers targeted by the project through on-the-job workshops providing basic and preventative maintenance on computers. Such courses were organized at the provinces of Bolívar and Chimborazo, with 60 participants benefited.
- Systematization of the experience and project knowledge: Systematization has been incorporated into a 10-minute video where the entire and timely information is gathered on the most significant components of the project.
- Prepare a communications plan aimed at disseminating the experience and knowledge acquired under the project to the community in general. The plan consisted of sharing this project experience with the mass media—both at the national and local levels. A closure

event was organized at each province, with the participation of all educational actors, authorities from allied institutions, national authorities and the mass media.

- The closure event was structured into two segments: a field visit for authorities from allied institutes and the national mass media affording them opportunity to ascertain the work launched under the project at selected schools and communities, with a formal event organized for the afternoon at partner universities.

- Implement a communications plan for the general community. Work on the plan continued throughout 2012. It included the dissemination of publications among the various communities and working with the mass media—including interviews, press releases and documentaries with national TV coverage.

## 2. Co-operation Partner and co-operation procedure

2.1 How did the co-operation Partner participate in the implementation of the Project? (E.g. Did they provide labor, economic resources, other assets?)

The Provincial Education Directorates of Bolivar and Chimborazo participated actively in all the activities, they provided support in defining, executing, follow-up and supervision of the work carried out, thus displaying their desire to improve the conditions and quality of education.

Moreover, support and solidarity on the part of the parents had been manifested through: community work, the community work days (mingas) to improve the physical conditions of their education centers and maintenance of the access routes to their communities.

2.2 Were there other parties involved in the co-operation (e.g. Finnish, local or international organizations or officials)? Please describe their role and involvement in the Project.

FCYF, had always been available to listen, guide, resolve questions and necessities that come up as the Project progresses, one had to highlight their attitude of empathy towards the working team in Ecuador.

In this Project, the inter-institutional alliances, with the Bolivar State University and with the Polytechnic University of Chimborazo, had been fundamental in the accreditation and implementation of training courses, of Free Software (UBUNTU), and preventative computer maintenance.

The Provincial Directorates for Intercultural and Bilingual Education de Bolívar and Chimborazo had constituted key actors in attaining the project objectives. Such strategic allies had enabled project activities to be developed in the actual field of work; we had been able to get in touch with the various communities actors and have initiated relationships with directors, teachers and mainly parents and community leaders. These linkages developed with the educational community also enabled participatory planning of the various project events and activities. The collaboration provided by the Directorates has been vital at the time of sending out convening notices.

## 3. Sustainability of the Project

3.1 How did predictable or unprecedented external factors affect the implementation of the Project? (Economic, social, environmental or cultural factors)

Since January, 2011, we have been governed by a new General Law for Intercultural Education, and since July 2012, we have the Normative that guides and clarifies this Education Law, which seeks to make radical changes to the current education system. In this context, the National Directorate for Bilingual Intercultural Education (DINEIB) seeks to improve the quality of education. This improvement process had to be considered within an intercultural approach that cut through all the education processes in the country. For their part, the provincial education directorates were in phase of reorganizing the Intercultural and Bilingual districts and networks.

The new Education Law pursues the following objectives:

1. To strengthen the quality of education, the consolidation of learning contexts and communities by continued efforts directed toward education, enhancing the access to education, and to promote the educational processes that are based on equity, inclusion and pertinent visualization of children and teenagers as subjects who are entitled to rights and who are the actors of learning within the context of their own cultural expressions, geographic, social and historical origins.
2. Improve the system's governance through the coordination and management of educational services to further development within the territory, and making services and procedures available to citizens, and
3. To promote citizenship participation—both in regard to the management and control/supervision of the educational activities.

The new scenarios offer opportunities to strengthen the revitalization of culture processes, as a catalyzing agent for education. The biggest risk at this time has to do with the fact that the new management model may well cause a homogenization entailing the loss of cultural acumen.

3.2 How has the local government, local organization or the beneficiaries themselves taken responsibility for the economic sustainability and continuation of the Project?

The Project activities were carried out in accordance with planning that were agreed and shared with the education authorities, in dialog and coordination with leaders of the communities and parents of children from the education centers. In this process ancestral knowledge and practices were respected and valued; this had been displayed during mingas; community meals and communication in Kichwa (indigenous language)

The spaces for dialog and cooperation were strengthened in the community. The Project succeeded in connecting with some ongoing development processes in the territory.

The central government through their ministries (Housing Ministry, Energy Ministry, Education Ministry, etc.) demonstrated interest in these technologies, with plans to introduce them as part

of State policy. Likewise, the associate universities were very interested in starting a process of technology transfer.

With sustainability in mind, allied universities at both Bolívar *(Universidad Estatal de Bolívar)* and Chimborazo *(Escuela Superior Politécnica del Chimborazo)*, exhibited interest in providing support in terms of:
Continued training processes for teachers on IT issues and technical and scientific assistance to communities through their plan aimed at establishing linkages with the communities, within the framework of renewed cooperation and inter-institutional agreements. Inter-institutional agreements entered into and still in place were evaluated and it was concluded that the objectives had been successfully accomplished. Renewal of agreements was agreed to upon the expiration thereof. The Intercultural Bilingual Directorates for the two provinces agreed to providing follow-up on the renewal of agreements.

CODESOLAR, the firm engaged by Fundación Esquel for installation of equipment for the photovoltaic panels stated its availability to perform training directed toward college professors and students, as part of the technological transfer process. This helped college authorities to design an intervention and follow-up plan on the 20 beneficiary communities.

During November and December, 2012, we contacted CNT (the National Telecommunications Corporation) in Bolívar and Chimborazo—departments of Social Inclusion—in order to request Internet services for the computer centers installed at the 20 project beneficiary schools. CNT requested additional information prior to initiating the evaluation process, and if feasible, the provision of Internet.

Likewise, we established working linkages with SECAP (Professional Training Center) in order to elicit their cooperation during training processes—especially concerning computer science and IT, Linux platform and free Software. Acknowledging the fact that SECAP is, indeed, an institution devoted to training sectors in need of education, and the fact that they had all teaching and pedagogical tools and the teaching personnel required to fulfill this task.

These actions were emphasized by the DEIBs at Bolívar and Chimborazo. Therefore, during new Operating Plans being pursued by DEIBs, these activities were anticipated as priority and vitally important issues in order to provide follow-up and continuity for actions already launched under the Project.

All of these actions were part of the Exit Plan strategies which has been provided to FCYF.

## 4. Beneficiaries

4.1 Who were the direct beneficiaries of the Project, and how many were there?

The direct beneficiaries from the two provinces are presented in the following table:

| | | | | Children | | Teachers | | Community Information | |
|---|---|---|---|---|---|---|---|---|---|
| Nº | Province | Community | School | Woman | Man | Woman | Man | Members of Community | Numbers Families |
| 1 | Bolívar | Pímbalo | Tupak Yupanki | 87 | 85 | 1 | 12 | 520 | 130 |
| 2 | Bolívar | Laihua | Gallo Rumi | 81 | 81 | 1 | 11 | 480 | 130 |
| 3 | Bolívar | Cocha Colorada | Prov. De Galápagos | 81 | 80 | 0 | 8 | 350 | 102 |
| 4 | Bolívar | Natahua | Valle de San Francisco | 14 | 15 | 0 | 2 | 185 | 36 |
| 5 | Bolívar | Pachancho | Convención de 1884 | 12 | 23 | 2 | 0 | 140 | 33 |
| 6 | Bolívar | Gradas Central | Bartolomé de las Casas | 73 | 61 | 3 | 5 | 214 | 68 |
| 7 | Bolívar | Suropogios | Humberto Vacas Gómez | 76 | 83 | 7 | 6 | 110 | 70 |
| 8 | Bolívar | Queseras | República del Ecuador | 77 | 79 | 1 | 4 | 600 | 145 |
| 9 | Bolívar | Casaichi | UEIB. Inti Churi | 86 | 96 | 6 | 10 | 356 | 20 |
| 10 | Bolívar | El Corazón | Tupak Amaru | 69 | 61 | 6 | 2 | 350 | 120 |
| 11 | Chimborazo | Guazán Santa Clarita | Guazán. Santa Clarita | 35 | 22 | 0 | 2 | 234 | 67 |
| 12 | Chimborazo | Laime San Carlos | UEIB. Rumiñahui | 117 | 101 | 11 | 7 | 1750 | 200 |
| 13 | Chimborazo | Lirio San José | Otto Arosemena Gómez | 25 | 34 | 2 | 2 | 550 | 150 |
| 14 | Chimborazo | Pull Grande | Silvia Guevara Pérez | 58 | 99 | 4 | 5 | 305 | 585 |
| 15 | Chimborazo | Guaconas La Merced | Luis Alberto Falconí | 25 | 28 | 1 | 2 | 350 | 90 |
| 16 | Chimborazo | Galte Laime | UEIB. Puruhá | 151 | 159 | 9 | 15 | 103 | 600 |
| 17 | Chimborazo | Guarguallá Grande | Rió Santiago | 32 | 30 | 1 | 2 | 497 | 76 |
| 18 | Chimborazo | Guarguallá Chico | Eduardo Mancheno | 19 | 16 | 1 | 1 | 69 | 35 |
| 19 | Chimborazo | Tranca Pucará | Tranca Pucará | 8 | 12 | 0 | 2 | 88 | 30 |
| 20 | Chimborazo | Chismaute Larcapungo | Dr. Pompeyo Montalvo | 112 | 125 | 13 | 6 | 1100 | 360 |
| **TOTAL** | | | | **1039** | **1165** | **55** | **98** | **6731** | **2687** |

Direct beneficiaries under the project can be summarized as follows:

| Institutions / organization | No. of Beneficiaries |
|---|---|
| Students at 20 selected schools | 2,204 |
| Teachers at 20 selected schools | 153 |
| Parents, leaders and community members participating in computer literacy | 300 |
| Bilingual Jurisdiction teachers trained | 600 |
| College professors | 20 |
| DINEIB supervisors and technical teachers | 15 |
| National DINEIB Technicians | 3 |
| **TOTAL** | **3,295** |

**Direct Beneficiaries of Training**:

1. Provincial Directorate teachers and administrative personnel in Chimborazo and Bolívar were trained during 2011 in the use and management of the UBUNTU Operating System, with the participation of approximately 240 persons.

2. The second state of IT training took place between January and August, 2012, addressing the direct needs of 180 participants comprising: officials, teachers, supervisors, technicians and administrative members of staff at the bilingual jurisdiction of Bolívar and Chimborazo. The training topics included Free Software applied to Teaching, and BASIC & INTERMEDIATE UBUNTU, in the case of Chimborazo.

3. A third series of training sessions took place between November and December, 2012. Topics included EDUBUNTU tools applied to classroom teaching, with training provided to 180 teachers belonging to the bilingual jurisdiction at the two provinces.

Sixty (60) teachers were trained at the beneficiary schools on issues such as Preventative and Basic Computer Maintenance at Bolívar and Chimborazo.

During the training processes imparted by CODESOLAR on the Use and Maintenance of Solar Panels at Bolívar and Chimborazo, as well as the workshop developed by exchange students from the *Universidad de Cataluña* and teachers from the *Universidad Estatal de Bolívar*, teachers belonging to the Bilingual Jurisdiction of Bolívar were trained on the Use and Management of Solar Panels. Beneficiaries included 68 previously selected community members.

Two training activities were launched in December, 2012 on the environmental benefits brought forth by alternate technologies. We had 45 participants from the Directorates at Bolívar and Chimborazo, as well as teachers from the selected schools.

A detail is included below citing Training Beneficiaries:

The total direct beneficiary population is summarized in the following table:

| Institutions / Participants | No. of Beneficiaries |
|---|---|
| First Stage: Basic Ubuntu (Chimborazo and Bolívar) | 240 |
| Second Stage:Basic and Intermediate Ubuntu at Chimborazo; Basic Ubuntu at Bolívar | 180 |
| Third Stage: Edubuntu as a teaching tool, applied to the classroom. | 180 |
| Course on Computers Basic and Preventative Course (Bolívar and Chimborazo) | 60 |
| Training on the use and maintenance of Solar Panels (Bolívar and Chimborazo) | 68 |
| Training on the benefits of using alternate technologies; Solar Panels (Bolívar and Chimborazo) | 45 |
| **TOTAL** | **773** |

4.2 Who were the indirect beneficiaries of the Project?

The indirect beneficiaries of the project were the parents of the students, the families and the members of the communities participating

| Population Segment | Nº of indirect Beneficiaries |
|---|---|
| Families from Bolívar (Guaranda) | 854 |
| Families from Chimborazo (Guamote and Colta) | 2.193 |
| Community members from Bolívar(Guaranda) | 3.305 |
| Community members from Chimborazo (Guamote and Colta) | 5.046 |
| **Total indirect beneficiaries** | **11.398** |

4.3 How did the beneficiaries participate in the Project?

N / A

If the project support granted was 20.000 € or more, please answer the following question:

4.4 Please specify the way in which each group of beneficiaries participated in the Project.

Between January and August, 2012 we interacted with the following stakeholders:

NATIONAL DIRECTORATE FOR INTERCULTURAL BILINGUAL EDUCATION (DINEIB)

In the framework of the inter-institutional agreement signed with other NGOs like UNICEF and CARE, work was carried out on a statistical record of school enrollment and permanence during the last ten years. This record was developed applying a gender, territory and intercultural approach.
Additionally it was decided to carry out an investigation to determine the level of exclusion and permanence of children and teenagers in the SEIB (Intercultural Bilingual Education System), with the goal of advocating for a local action and incidence plan designed to achieving public policies based on the specificities of the different provinces. The provinces selected for this process are: Esmeraldas, Cotopaxi, Chimborazo, Bolívar, Tungurahua, Pichincha, Zamora and Sucumbíos. It is important to note that this Project provided logistic support only in the provinces of Chimborazo and Bolívar, however, the technical support from Esquel were general.

TEACHERS

From January to August of this year, teachers were who collaborated most with the Project. They received training and committed to replicating, introducing and sharing with teachers that could not attended the workshops, the knowledge acquired and to put this knowledge into practice in the classroom with the children.

PARENTS AND LOCAL COMMUNITY

Parents as well as community members, demonstrated a great interest in seeking, training and capacitation spaces, thus the first training on solar panels that was carried out in the community of Guazán Santa Clarita, was well attended. This participation was effective given that the methodology for transferring technology was carried out in manner which combined theory with practice.

TEACHERS FROM POLYTECHNIC SCHOOLS AND UNIVERSITIES

As part of the existing cooperation agreements between universities and polytechnic schools, carrying forward the training plan directed toward teachers and administrative personnel at the Bilingual Directorates of Bolívar and Chimborazo were vital important. Such training activities were fulfilled based on the political will shown by the authorities and by the professional zeal of teachers at these centers of higher learning.

## 5. Project objective, implementation and monitoring

OBJECTIVE

| |
|---|
| 5.1 Has the objective(s) of the Project remained the same as in the original Project plan? If they have changed, please describe how. |

The objective kept the same:

The long-term development objective is to provide a solar energy system in order to improve rural education in the Ecuadorian provinces of Chimborazo and Bolívar.

| |
|---|
| 5.2 Have the objectives of the Project been implemented by the activities as mentioned in the Action Plan? If the activities are different from the original plan, please state the reason for the change and the nature of the current plan of action. Has the Project proceeded according to the original timetable? |

In achieving the results of the Project we have had delays in the progress of results 1 and 2, for the following reasons:

The project adhered to the action plan. Justified deviations responded to the fact that the bidding procedure for the provision of solar panels—as originally planned for (i.e., direct purchase in Finland) was not possible to accomplish. The strategy varied and such equipment was purchased in Ecuador.

A duly approved budgetary reassignment was made in order to address the need to improve the facilities at the educational centers. Thanks to the fact that CODESOLAR assumed the costs of electrical installations, the budgeted allotment was reassigned to make improvements at such schools.

The insufficiency manufacturing production experienced at computer manufacturing plants in Thailand (due to the natural phenomena taking place in that country in early 2012) also had an impact on the cost of computer equipment; therefore the need was felt for prices to be stabilized and in this manner optimize financial resources for this purchase. The bidding procedures consumed three months (July to September) and by November, 2012 the computers were ready to be tested and installed at the selected schools at Bolívar and Chimborazo.

IT and computer maintenance Workshops were delayed until July, 2012 due to the fact that training activities were carried into effect in alliance with the Universidad de Bolívar and ESPOCH; the availability of computer centers had to be negotiated with the Schools of Educational Sciences at the universities of Bolívar and Chimborazo, respectively.

If the project support granted was less than 20.000 €, please answer the following question:

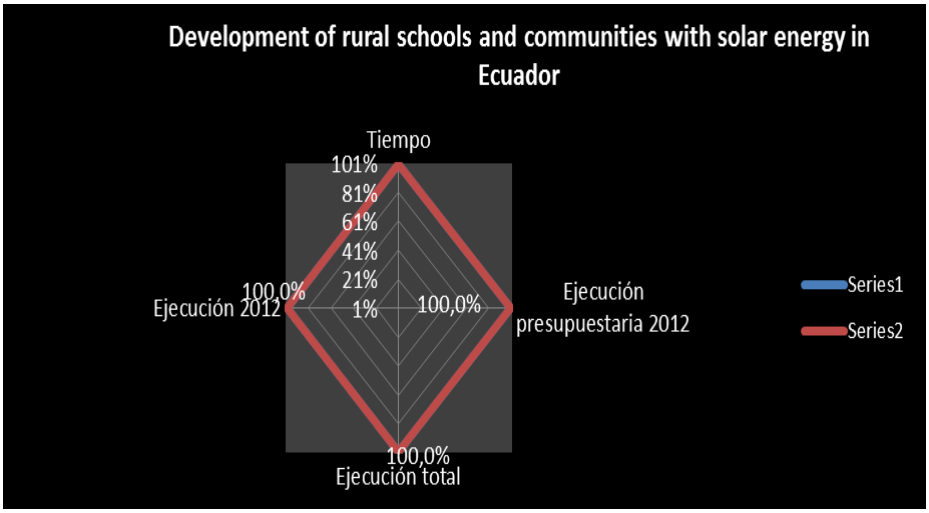
| |
|---|
| 5.3 Please estimate how and how successfully the objectives of the Project have been achieved from the beginning of the Project and during the reporting year. |

N / A

If the project support granted was less than 20.000 €, please answer the following question:

| |
|---|
| 5.4 Please describe the results that have been achieved since the beginning of the Project. |

At present the progress of the Project is 100%.




R1: Community centers (schools, community centers and others) have solar energy and safe electrical devices to guarantee a constant energy supply, which allows for the development of educational and social activities.

For this result, the project was expected to implement the advances described in the following chart, the activities implemented are A1, A2, A3 and A8.

| **Activities** | **Percentage of completion** |
|---|---|
| A1. Carry out a technical diagnosis to identify the electrification needs of rural communities in the provinces of Chimborazo and Bolívar, in order to select the communities which will benefit from the solar energy system. | 100% |
| A2. Meetings to be held with local actors such as: the parish boards representatives (Juntas Parroquiales), the community leaders, provincial board of the Intercultural bilingual education system, community based organizations, among others to: socialize the project objectives and define where to install the panels. | 100% |
| A3. Improvement of the selected communities' electrical devices to guarantee minimum safety standards. | 100% |
| A4. Delivery of the solar panels by the provider in the selected communities. | 100% |
| A5. Installation of solar panels by the provider in the selected communities. | 100% |
| A6. To select a group in each community and carry out a training process in solar panels management and maintenance by the provider. | 100% |
| A7. To sign the delivery certificate that assures the legal transference of the solar panels property with the community representatives. | 100% |
| A8. To carry out a workshop in each community to raise awareness about the benefits of solar panels and create a Community sense of ownership of this technological tool. | 100% |

A1. Carry out a technical diagnosis to identify the electrification needs of rural communities in the provinces of Chimborazo and Bolívar, in order to select the communities which will benefit from the solar energy system.

This activity was carried into effect during 2010. The assessment allowed the project to select schools according to previously identified objectives and strategies. The list of selected schools follows:

| PROVINCE OF CHIMBORAZO | | |
|---|---|---|
| **SCHOOLS** | **COMMUNITIES** | **DISTRICT** |
| Eduardo Mancheno | Guargallá Chico | Guamote |
| Guazán Santa Clarita | Guazán | Guamote |
| Otto Arosemena Gómez | Lirio San José | Guamote |
| Tranca Pucára | Tranca Pucará | Guamote |
| Luis Alberto Falconí | Guacona La Merced | Colta |
| UE. Rumiñahui | Laime San Carlos | Guamote |
| Silvia Guevara Pérez | Pull Grande | Guamote |
| Dr. Pompeyo Montalvo | Chismaute Alto | Guamote |
| Río Santiago | Guargalla Grande | Guamote |
| UE. Puruhá | Galte Laime | Guamote |

| PROVINCE OF BOLÍVAR | | |
|---|---|---|
| **SCHOOLS** | **COMMUNITIES** | **DISTRICT** |
| Tupak Amaru | El Corazón | Guaranda |
| Valle de San Francisco | Natagua | Guaranda |
| Convención de 1884 | Pachancho | Guaranda |
| Provincia de Galápagos | Cocha Colorada | Guaranda |
| Gallo Rumi | Laigua | Guaranda |
| Tupak Yupanki | Pímbalo | Guaranda |
| U.E. Inti Churi | Casaichi | Guaranda |
| Bartolomé de las Casas | Gradas Central | Guaranda |
| República del Ecuador | Queseras | Guaranda |
| Humberto Vacas Gómez | Suropogios | Guaranda |

A2. Meetings to be held with local actors such as: the parish boards representatives (Juntas Parroquiales), the community leaders, provincial board of the Intercultural bilingual education system, community based organizations, among others to: socialize the project objectives and define where to install the panels.

- Two socialization processes took place at Bolívar and Chimborazo, involving various actors and institutions. Socialization was a networking strategy to include other groups and institutions who could become fundamental allies for the project ends. Whenever the interests of the parties are mutual, other institutions and social actors get together, thus enhancing participation and complementation of their potential. It became a spiral that promotes sustainability for the process.

- As was previously described, we were able to link this project to the most important universities at each province, as well as with public institutions responsible for providing training and connections to the Internet.
- At this time, we had two agreements signed: the first one with *Universidad de Bolívar* and the second one with *Escuela Superior Politécnica de Chimborazo*. The main objective under these agreements has to do with generating a social impact on the innovation, transmission of knowledge and support in terms of training workshops in order to broaden coverage and attain sustainability for the processes.
- For this project in particular, the following map of actors was prepared, involving those who played a key and instrumental role in attaining the project objectives:

| Name | Institution | Province | Remarks |
|---|---|---|---|
| Marcelo Donoso | CNT Social Inclusion Program | Chimborazo | Responsible for providing Internet services to the rural sector within the province of Chimborazo, |
| Ing. Javier Dávalos | CNT | Chimborazo | Manager, CNT a Chimborazo. |
| Ing. Gloria Padilla | EERSA. (electric power company) | Chimborazo | Technical, Operations and Maintenance Department. |
| Ing. Fausto Suárez | EERSA. (electric power company) | Chimborazo | Public Relations |
| Arq. Henry Pinos | DINSE | Bolívar | Responsible for negotiating resources for building classrooms at Bolívar |
| Ing. Susana Patiño | CNT | Bolívar | Connectivity Plan, CNT |
| Dr. Carlos Jácome | Universidad Estatal de Bolívar | Bolívar | Research Department |
| Dr. Henry Vallejo | Universidad Estatal de Bolívar | Bolívar | Computer Information Department |
| Dra Yolanda Díaz | ESPOCH | Chimborazo | Dean, School of Science |
| Dr. Carlos Pilamunga | ESPOCH | Chimborazo | Vice-dean, School of Science |
| Dr. Celso Recalde | ESPOCH | Chimborazo | Representative, Alternate Technologies Group |
| Ec. Jaime Venegas Salinas | Universidad Estatal de Bolívar | Bolívar | Professor, Entrepreneurship Group |

A3. Improvement of the selected communities' electrical devices to guarantee safety minimum standards.

- In fulfilling this activity, the specialist charged with construction and the CODESOLAR technician charged with the installation of Solar Panels, a technical assessment was made after a very detailed visit to each one of the educational centers throughout June, 2012. Infrastructure needs were identified and electric installations issues determined at the 20 schools comprised within the two provinces.
- Once the fact was identified that as part of the contract with CODESOLAR included the overall installation of electric wiring/and other at each one of the 20 selected schools, an

evaluation of reconditioning required on the structure was prepared in order to ensure safety standing of the schools, of the solar panels, and of the computers.

**Summarized chart on the infrastructure status and requirement at beneficiary schools:**

| CHIMBORAZO | | |
|---|---|---|
| **COMMUNITY** | **SCHOOL** | **INFRASTRUCTURE REQUIREMENTS** |
| Guaconas la Merced | Luis Alberto Falconí | The photovoltaic panels were to be installed on the slab; therefore, no additional work is required on the roofing. Floors are wooden with reinforcement required on the area where the cabinet would be located and the handrail whereby access is gained to the computer center. |
| Laime San Carlos | UEIB, Rumiñahui | It is a new building |
| Lirio San José | Otto Arosemena | The metal structure supporting the solar panels needs to be fastened and secured. |
| Pull Grande | Silvia Guevara Pérez | Protect solar panels with a wall and place the access door on the terrace. |
| Galte Laime | UEIB.Nación Puruhá | It is a new building that needs painting |
| Guazán Sta. Clarita | Guazán Sta. Clarita | Computer classroom needs to be painted and access to the classroom paved |
| Tranca Pucará | Tranca Pucará | Flooring to protect the windows needs to be reconstructed, making sure that the metal structure on which solar panels are placed is adequately fastened. Computer classrooms need to be painted. |
| Guraguallá Chico | Eduardo Mancheno Cajas | Construction features include wooden floors that need to be reinforced at the site where the cabinet will be installed and roofing is also a combination of wood and cement fiber and will also require reinforcement in order to fasten the metal structure on which solar panels will be installed. |
| Guarguallá Grande | Río Santiago | Computer classroom needs paint and terrace reinforced where solar panels were installed. |
| Chismaute Larcapungo | Pompeyo Montalvo | Pave the battery cabinet location; paint the classroom. |
| **BOLÍVAR** | | |
| Pachancho | Convención de 1884 | Pave the site where solar panels are to be installed, on the floor. Classroom needs painting. |

| | | |
|---|---|---|
| Natagua | San Francisco | Due to the strong winds prevailing in the area, photovoltaic panels will need to be installed on the floor; hence it will need to be paved. The site will then be enclosed by a mesh fence that will constitute the community's counterpart. Paint will also be provided. |
| El Corazón | Tupak Amaru | Needs painting and access to solar panels reinforced. |
| Casaichi | Inti Churi | Needs painting. |
| Queseras | República del Ecuador | Computer classroom needs painting and solar panels site needs to be fenced in. |
| Gradas | Bartolomé de las Casas | No intervention required. |
| Suropogios | Humberto Vacas Gómez | No intervention required. |
| Cocha Colorada | Province of Galápagos | No intervention required. |
| Laiwa | Gallo Rumi | No intervention required. |
| Pímbalo | Tupak Yupanqui | Floors need repair, painting needed too. |

A4. Delivery of the solar panels by the provider in the selected communities.

CODESOLAR prepared a tentative distribution and installation plan for solar panels, beginning as at October.

**Distribution chart for supplementary equipment comprising photovoltaic system according to the number of solar panels installed:**

| **CHIMBORAZO** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **No** | **School** | **Community** | **Solar Panels** | **Reverser** | **Regulators** | **Batteries** | **New electrical wiring** | **Installation date October, 2012** |
| 1 | Eduardo Mancheno | Guargallá Chico | **2** | 1 | 1 | 2 | YES | 01 & 02 |
| 2 | Guazán Santa Clarita | Guazán Sta. Clarita | **3** | 1 | 1 | 2 | YES | |
| 3 | Otto Arosemena Gómez | Lirio San José | **4** | 1 | 1 | 2 | YES | |
| 4 | Tranca Pucára | Tranca Pucará | **2** | 1 | 1 | 2 | YES | 03 |
| 5 | Luis Alberto Falconí | Guaconas La Merced | **5** | 1 | 1 | 2 | YES | 04 & 05 |
| 6 | Silvia Guevara Pérez | Pull Grande | **7** | 1 | 2 | 4 | YES | |
| 7 | UE. Rumiñahui | Laime San Carlos | **9** | 1 | 2 | 4 | YES | 08 |
| 8 | Dr. Pompeyo Montalvo | Chismaute Alto | **7** | 1 | 2 | 4 | YES | 09 |
| 9 | Río Santiago | Guargallá | **6** | 1 | 1 | 4 | YES | 10 |
| 10 | UE. Puruhá | Galte Laime | **8** | 1 | 2 | 4 | YES | 11 |
| **BOLÍVAR** | | | | | | | | |
| 11 | Tupak Amaru | El Corazón | **6** | 1 | 1 | 2 | YES | 15 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12 | Valle de San Francisco | Natahua | **2** | 1 | 1 | 2 | YES | 16 |
| 13 | Convenio 1884 | Pachancho | **4** | 1 | 1 | 2 | YES | 17 |
| 14 | Province of Galápagos | Cocha Colorada | **6** | 1 | 1 | 4 | YES | 18 |
| 15 | Gallo Rumí | Laihua | **7** | 1 | **2** | 4 | YES | 19 |
| 16 | Túpac Yupanqui | Pímbalo | **9** | 1 | 2 | 4 | YES | 20 |
| 17 | UEIBF Inti Churri | Casaichi | **9** | 1 | 2 | 4 | YES | 22 |
| 18 | Bartolomé de las Casas | Gradas | **9** | 1 | 2 | 4 | YES | 23 |
| 19 | República del Ecuador | Las Queseras | **9** | 1 | 2 | 4 | YES | 24 |
| 20 | Humberto Vacas Gómez | Surupogios | **8** | 1 | 2 | 4 | YES | 25 & 26 |
| | | | **122** | **20** | **30** | **64** | | |

**A5.** Installation of solar panels by the provider in the selected communities.

Installation of panels was based on the TORs and the contract entered into with CODESOLAR. It is important to point out that this company provided added value to the work since it became one more actor in the process. This meant significant downsizing of costs which were assumed by the company.

The release of resources intended for the electric systems installations (which were assumed by the company) enabled conditioning work at schools which had not been initially anticipated. This was an important contribution since released resources were used—prior pertinent approval—to support the installation of panels. This has, indeed, enhanced safety at the sites for both computers and panels, hence favoring care and appropriate maintenance.

The installation of panels implied a very positive joint work with the community. CODESOLAR was able to establish close linkages with the educational community actors, which further enhanced the ownership sense of the project among actors. Additionally, this was positive concerning an in situ training process that took place at the time the community actively participated in the installation process.

**A6.** To select a group in each community and carry out a training process in solar panels management and maintenance by the provider.

CODESOLAR promoted training from various fronts. A sort of hands-on training took place during the installation works per se. Given the fact that the installation of panels was fully participatory, the communities and educational institutions (20) became in the step-by-step process involved in assembling the system. A particular training of “learning by doing” took place.

On the other hand, specific training events were developed that very simply taught the various components involved in the process and in regard to care exerted with photovoltaic power generation through the panels.

A third training aspect involved the fact that after the panels were installed, technical assistance visits followed to the school. These visits by CODESOLAR members of staff further trained the persons to whom the correct use of the systems at schools was entrusted upon.

**A7.** To sign the delivery certificate that assures the legal transference of the solar panels property with the community representatives.

All pieces of equipment were delivered under the pertinent delivery/receiving act. The Intercultural Bilingual Directorates were the direct beneficiaries of donations and they, in turn, made the formal delivery of equipment and solar panels to each one of the schools. Therefore, the Directorates were able to anticipate greater levels of accountability at each one of the beneficiary educational institutions concerning safety and sound use of equipment.

**A8.** To carry out a workshop in each community to raise awareness about the solar panels benefits and create a communitarian sense of ownership of this technological tool.

The project developed a series of awareness activities vis-à-vis the benefits derived from solar energy, and promoted appropriate of the project by participants, ensuring good care of goods and services provided during the intervention.

In addition to the workshops envisaged at the communities within the process involving the installation of panels and general workshops per province, project socialization events were also organized to which members of the education community from 20 schools were invited to attend.

These events were massive and had the participation of local authorities and other important actors, thus ensuring project sustainability.

R2: The quality of rural education has been improved by the use of pedagogical applications of ICTs in the classrooms and a training process in the use and maintenance of technological devices.

Percentage of accomplishment tasks:

| **Activities** | **Percentage** |
|---|---|
| A1. To carry out a diagnosis report about the possible applications of ICTs in the educational field. | 100% |
| A2. Meetings with local actors such as: the community leaders, provincial board of the Intercultural bilingual education system, in order to define the practical applications of ICTs to be implemented in the educational field based on the diagnosis report. | 100% |
| A3. To provide rural schools of the selected communities with computers to improve their technological skills and introduce new teaching methodologies. | 100% |
| A4. To carry out a training process to the schools' teachers in the use and maintenance of computers, and in pedagogical methodologies based on ICTs applications. | 100% |
| A5. To systematize the experience and knowledge that the project has produced. | 100% |

| | |
|---|---|
| A6. To elaborate a communication plan in order to spread the experience and knowledge that the project has produced among local authorities. | 100% |
| A7. To implement the communication plan among local authorities. | 100% |

A1. To carry out a diagnosis report about the possible applications of ICTs in the educational field.

During visits to schools and meetings held with educational officials and supervisors within the project's area of influence, it was determined that the large majority of teachers weren't able to use the IT equipment and computers were not being used to improve work methodology with students, nor as a planning and evaluation tool for shared learning processes or administrative tasks.

With the purpose in mind of cooperating with the schools and improving the abilities of teachers prior to delivering the new computers and solar panels, an intensive training program was suggested for the IT area, which was planned to cover three stages, as follows:

| Stages | Issue | Dates |
|---|---|---|
| First Stage | Basic UBUNTU | First semester, 2011 |
| Second Stage | Intermediate UBUNTU applied to teaching | First semester, 2012 |
| Third Stage | EDUBUNTU tools applied to classroom teaching. | Second semester, 2012 |

A2. Meetings with local actors such as: the community leaders, provincial board of the Intercultural bilingual education system, in order to define the practical applications of ICTs to be implemented in the educational field based on the diagnosis report.

With the technical support provided by professional graduate actors, and based on the analysis of situation of laboratories located within the province of Bolívar and the information derived by the IT departments at DIPEIBs, a training plan was designed to include use of free software as a means to support the work of teachers at bilingual schools.

A3. To provide rural schools of the selected communities with computers to improve their technological skills and introduce new teaching methodologies.

**Distribution chart for computers at the selected centers:**

| BOLÍVAR | | | | | | |
|---|---|---|---|---|---|---|
| **School** | **Community** | **No. of CPUs** | **No. of Monitors** | **No. of chairs** | **No. of Tables** | **Average # of students per IT classroom (2 students per terminal)** |
| Valle de San Francisco | Natagua | 3 | 3 | 3 | 1 large table | 32 |
| Convenio 1884 | Pachancho | 6 | 6 | 6 | 2 large tables | 12 |
| Province of Galápagos | Cocha Colorada | 15 | 15 | 15 | 5 large tables | 20 |
| Humberto Vacas Gomez | Surupogios | 14 | 14 | 14 | 4 large tables and 2 small tables | 36 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Gallo Rumi | Laigua | 15 | 15 | 15 | 5 large tables | 40 |
| Túpac Yupanki | Pímbalo | 15 | 15 | 15 | 5 large tables | 30 |
| Túpac Amaru | El Corazón | 15 | 15 | 15 | 5 large tables | 52 |
| UEIB Inti Churri | Casaichi | 18 | 18 | 18 | 6 large tables | 52 |
| República del Ecuador | Las Queseras | 17 | 17 | 17 | 5 large tables and 1 intermediate table | 54 |
| Bartolomé de las Casas | Gradas | 8 | 8 | 8 | 2 large tables and 2 small tables | 44 |
| **TOTAL BOLÍVAR** | | **126** | **126** | **126** | | |
| **CHIMBORAZO** | | | | | | |
| Guarguallá Chico | Eduardo Mancheno | 3 | 3 | 3 | 1 large table | 12 |
| Guarguallá Grande | Río Santiago | 11 | 11 | 11 | 3 large tables and 2 small tables | 18 |
| Tranca Pucará | Tranca Pucará | 4 | 4 | 4 | 1 large table and 1 small table | 24 |
| Laime San Carlos | U.E.I.B: Rumiñahui | 12 | 12 | 12 | 4 large tables | 10 |
| Pull Grande | Silvia Guevara | 12 | 12 | 12 | 4 large tables | 28 |
| Lirio San José | Otto Arosemena | 9 | 9 | 9 | 3 large tables | 50 |
| Chismaute Larcapungo | Pompeyo Montalvo | 14 | 14 | 14 | 4 large tables and 1 intermediate table | 38 |
| Guazán Santa Clarita | Guazán Santa Clarita | 8 | 8 | 8 | 2 large tables and 1 intermediate | 40 |
| Guaconas La Merced | Luis Alberto Falconí | 10 | 10 | 10 | 3 large tables and 1 small | 32 |
| Galte Laime | Nación Puruhá | 6* | 6 | 6 | 2 large tables | 44 |
| **Total in Chimborazo** | | **89** | **89** | **89** | | |
| **TOTAL** | | **215** | **215** | **215** | | |

*This educational unit received 6 computers since the MINTEL (Ministry of Telecommunications) received 20 new computers.

- ✓ Large table = 3-seat table
- ✓ Intermediate table = 2-seat table
- ✓ Small table = individual or 1-seat table

Computers purchased and donated to schools comply with the following technical specifications:

| TECHNICAL SPECIFICATIONS |
|---|
| CASE: EXTRATECH |
| MAINBOARD: INTEL MODEL DH61HO |
| PROCESSOR: INTEL MODEL I3-3220 FOR 3.3GHZ |
| MEMORY: 2GB KINGSTON DDR3 |
| DISC: 500GB SAMSUNG HARD DISK |
| MEMORY READER |
| DVD |
| 19" MONITOR |
| TOSHIBA DVD REACHER/ WRITER |
| OPERATING SYSTEM: EDUBUNTU |

A4. To carry out a training process to the schools' teachers in the use and maintenance of computers, and in pedagogical methodologies based on ICTs applications.

**Teachers trained on UBUNTU and on Maintenance of Computers:**

| Courses / Training activities | No. of Beneficiaries |
|---|---|
| Basic Ubuntu (Chimborazo & Bolívar – first and second stage) | 240 |
| Intermediate Ubuntu (Chimborazo, second stage) | 180 |
| Edubuntu used as teaching tool applied to classroom training. | 180 |
| Basic Preventative Maintenance Course on Computers (Bolívar and Chimborazo) | 60 |
| **TOTAL** | **660** |

The topics broached are tied to guidelines issued by the Ministry of Ecuador, envisaging the use of free software platforms directed toward IT teaching applications for educational institutions.

**A5**. To systematize the experience and knowledge that the project has produced.

The project consistently managed the knowledge base in such a manner that communities were favored by applying what they have learned. Hence, documents were prepared under the project and presented to the communities for use as manuals. Such documents included issues such as the preparation of Bio-sand filters and various technical manuals concerning maintenance of computers and use of the UBUNTU system. A CD was prepared and hundreds of copies reproduced, containing the manuals. CDs were presented to all 20 schools.

On the other hand, the experience was incorporated into a video that gathers the entire process and testimonials rendered by actors involved in the various components of the Project. The development of a CD memoir met the purpose of developing an innovative systematization of the high potential which communications hold. In developing this project, specialized personnel was engaged within the areas of intervention.

**A6.** To elaborate a communication plan in order to spread the experience and knowledge that the project has produced among local authorities.

A communications strategy was developed under the project, which implied generating various types of information materials and detailed knowledge as has been detailed in the previous activity. A closure event was also arranged for, with attendance by guests representing the various national mass media thus allowing for significant dissemination of the Project in order to open opportunities and ensure sustainability of same.

The closure and accountability process before stakeholders took place at both provinces, with the participation of journalist detached by the Ecuavisa national TV channel, more specifically its news segments. A broad release was prepared, which may be seen at:

http://www.ecuavisa.com/noticias/noticias-regionales-sierra/70472-escuelas-rurales-en-la-sierra-cuentan-con-tecnologia-a-traves-de-energia-solar.html

The national "El Comercio" newspaper also published a half page news release under the title "Solar Panels Grant Renewed Life to the Cordillera" offering a summary of the project and its accomplishments.

Teleamazonas nationl TV channel also provided coverage for the news. The pertinent news release was sent to FCYF on a timely fashion.
Finally, magazine Vistazo (also having national circulation) shall print an article on the project as part of the February or March, 2013 issue.

**A7.** To implement the communication plan among local authorities.

As had been detailed, the core strategy of the communication plan was centered round inaugural events for panels and the Project's closure. These events were directed in such a manner that local actors may actually become abreast and see the outcomes attained under the project. Project coordination in Quito was responsible for convening local actors, jointly with local coordination at Riobamba & Bolívar, and also with the Interprovincial Directorates of Intercultural Bilingual Education.

Key actors were identified, who were advised on the project and were invited into participating in the closure activities. From the communications strategy adopted by the coordinating entities, communications and visits were arranged for in order to socialize the project and promote participation as another support actor enhancing sustainability of same. Actors convened under the communications strategy and Exit Plan included:

| SURNAMES | NAME | ORGANIZATION |
|---|---|---|
| Patiño Allauca | María Susana | CNT. Social Inclusion Analyst Bolívar |
| Oviedo | Verónica | CNT. Social Inclusion Analyst Chimborazo |
| Piedra Iglesias | Boris Giovani | CNT. National Director of Social Inclusion |
| May | Peter | Codesolar. Manager |
| Sinchigalo | July César () | Provincial Director of Bilingual Intercultural Education at Bolívar |
| Rea | Rosario | Technical teacher charged with providing support to the professional development of the Provincial Directorate of Bilingual, Intercultural Education. |
| Cordero | Gonzalo | Supervisor, Intercultural Bilingual Education system at Bolívar. |
| Mullo | Transito | Provincial Director of Intercultural Bilingual Education in Chimborazo. |
| Pilamunga | Carlos | Supervisor, Intercultural Bilingual Education System at Bolívar. |
| Pilamaunga Quinche | Virgilio | Teaching technician charged with Agreements and Project at the Provincial Directorate of Intercultural and Bilingual Education at |

| | | |
|---|---|---|
| | | Chimborazo. |
| Rodríguez C. | Romeo | Rector, Escuela Superior Politécnica del Chimborazo - ESPOCH |
| Álvarez | Silvio | Dean, School of Sciences at ESPOCH |
| Almeida | Wendy | Esquel. General Technical Coordinator |
| Salazar | Humberto | Esquel. Planning Coordinator |
| Albiño | Carlos | Esquel. Local technician |
| Pazmiño | Roberto | Ministry of Education. Undersecretary of Infrastructure |
| Toscano | Fabián | Ministry of Energy, Coordinator of the Eurosolar Program. |
| Manzano | Luis | Ministry of Energy, Director of Renewable Energy |
| La Hiedra | Álvaro | Ministry of Telecommunications. Director for *"Acceso Universal"* |
| Armijos | Natalia | OEI. Charged with the Eurosolar program |
| Jaramillo | Sara | OEI. Resident Representative |
| Herrera Cisneros | Patricia | Vice-prefect, Prefecture of Chimborazo. |
| Velez | Karen | Revista Vistazo |
| Martínez Alvear | Inés | SECAP. Coordinator for the Operating Center at Riobamba |
| Nuñez Minaya | Diómedes | Rector, *Universidad Estatal de Bolívar* |
| Vallejo | Henry | Director, Technological and IT Institute |
| Guevara | Edelmira | Dean, School of Administrative Sciences, *Universidad Estatal de Bolívar* |
| Mariño Tapia | Manuel Alejandro | SECAP. Coordinator, Operating Centro at Guaranda |

5.5 How did the separation of responsibilities in the implementation of the Project work?

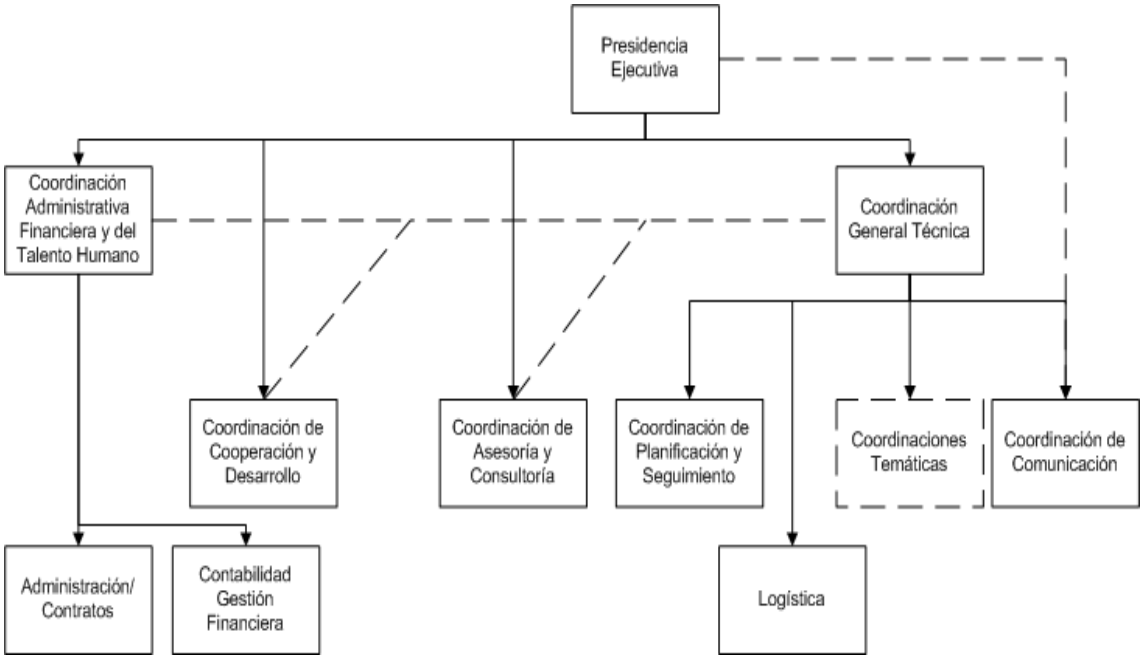
N/A

If the project support granted was 20.000 € or more, please answer the question:

5.6 Describe the implementation and monitoring procedure of the Project and the responsibility of each party therein.

Structure of the implementation and monitoring organization of the Project:

**Esquel's organizational chart**




The project coordinator was responsible for organizing the implementation of the project. The project coordinator usually worked under the Cooperation and Programs Director's authority because most of Esquel's projects are part of larger programs.

All the projects implemented by Esquel are monitored and analyzed through the Planning, Monitoring and Evaluation System (SPME) developed by the Foundation. Then, the feasibility of the project was evaluated by the Administrative and Financial Department. Finally, all the implementation and monitoring processes were controlled by the Technical Coordinator.

People with highest levels of responsibility:

| **Name** | **Areas of Responsibility** |
|---|---|
| Mr. Boris Cornejo | Executive President |
| Mrs. Evelyn Armas | Finance and Administrative Coordinator |

The post of Executive Vice President is currently vacant, since Boris Cornejo has taken over the Presidency of the Foundation. The new Executive Vice President will be appointed in the coming weeks.

Persons responsible for implementing and monitoring the activities of this project:

| **Name** | **Areas of Responsibility** |
|---|---|
| Mr. Carlos Albiño | Project Coordinator |
| Mrs. Wendy Almeida | SPME Coordinator |

**<u>Project coordinator:</u> Carlos Albiño, Esquel's Coordinator for the Rural Schools Program.**

Mr. Albiño has worked at Esquel for two years. Throughout his professional career, he has overseen work in over sixty rural communities. He was the on-site coordinator throughout the project's various stages. His responsibilities for the project consisted of the following:

During the construction phase, Mr. Albiño maintained direct contact with the architect contracted for the building process. The architect was the principal construction supervisor, and has worked with Esquel on numerous school-building works in the past. Both he and Mr. Albiño are knowledgeable about local conditions, material and labor costs.

He participated in the promotion of the Rural School Program among organizations and individuals interested in supporting the development of the projects.

Elaborated and updated the project's information database and its continuous systematization following the guidelines of the established monitoring and evaluation process created by Esquel titled the Planning, Monitoring and Evaluation System (SPME).

Provided orientation and assistance in elaborating the pertinent follow-up to work plans and activity time-lines for the execution of the project.

Resolved problems pertaining to fulfilling the objectives of the project.

Elaborated regular follow-up reports about the progress and fulfillment of the objectives of each of the projects and presented them to the Director of Programs.

**Coordinator of the Planning, Monitoring and Evaluation System: Wendy Almeida**

Mrs. Almeida is in charge of the Planning, Monitoring and Evaluation System designed by Esquel since 2011. This integrated system supports a working culture based on permanent learning, where constant feedback is implemented into the processes with the help of the project's beneficiaries.

**Financial Management:**

Esquel Foundation counts on its staff of experienced accountants and financial experts to guarantee the sound financial operation of each of the foundation's projects.

MONITORING

| |
|---|
| 5.7 How did the responsible persons in the Finnish organization follow the implementation of the Project and the use of financial resources? How did they participate in the implementation themselves? |

FCYF

| |
|---|
| 5.8 How did the local co-operation partners follow the implementation of the Project? |

During the implementation of the project, Esquel was the coordinator and executor of the planned activities. The coordinator of the project or his assistant visited the project at least three times a month; they monitored and evaluated the fulfillment of the activities related to the deadlines.

**Monitoring activities of the Project coordinator:**

Maintained direct relations with the Director of Programs as well as with the Administrative and Financial Director in defining the general guidelines of the project, alliances, strategies for monitoring and evaluating the course of the project, the completion of budgets and financial and administrative activities.

Elaborated and updated the project's information database and its continuous systematization following the guidelines of the established monitoring and evaluation process created by Esquel entitled the Planning, Monitoring and Evaluation System (SPME).

Maintained permanent communication with the project coordinating team as well as with the Director of Programs and the Financial and Administrative Direction. The on-site coordinator participated in all departmental and institutional coordination meetings to which she was invited.

Elaborated regular follow-up reports about the progress and fulfillment of the objectives of each of the projects and presented them to the Director of Programs.

**Monitoring activities of the Coordinator of the Planning, Monitoring and Evaluation System:**

He implemented the Planning, Monitoring and Evaluation System for this project, especially with regard to its Monitoring component. The Monitoring component is a permanent observation and documentation process of the project's information. The tool used for this purpose is the Annual Operative Plan, designed with the aforementioned methodology. This monitoring strategy delivers continuous and structured information that provides feedback on: the progress made in each project or program, the conditions of the expected results and the external changes that may

influence the project's execution or implementation. The monitoring component helps adjust institutional actions to a dynamic reality, while maintaining the project's progress.

**External audit**

Furthermore, as the Planning, Monitoring and Evaluation System only provides the monitoring of the activities of the project, Esquel also carried out an external audit with a recognized firm, on all the projects of the year coordinated by the Foundation.

5.9 What kind of qualitative or quantitative data was collected on the advancement of the Project?

In order to carry out the monitoring of the project's activities some quantitative and qualitative indicators were used:

For each of the indicators of the specific objectives and of the results, Esquel provides information about the sources which allow for the verification of the indicator's content;

## Specific objective:

To improve the quality of rural education through a constant energy supply, pedagogical ICT applications and a training process in the use and maintenance of technological devices, in the Ecuadorian provinces of Chimborazo and Bolívar.

**Indicator 1:**

All the selected communities have a constant energy supply at the end of the project.

**Indicator 2:** Selected schools' teachers were trained in the use of pedagogical ICT applications in the classrooms and in the use and maintenance of technological devices, at the end of the project.

**Indicator 3**: At the end of the project, a communication plan was implemented in order to spread the project's experience among local authorities.

**Result 1:**

Community centers (schools, community centers and others) have solar energy and safe electrical devices to guarantee a constant energy supply which allows for educative and social activities.

**Indicator 1:** A technical diagnosis that identifies the electrification needs of the selected rural communities was carried out in the first year of the project implementation.

**Indicator 2:** All the selected communities improved electrical devices at the end of the project.

**Indicator 3:** All the selected communities had photovoltaic cells at the end of the project.

**Result 2:**

The quality of rural education has been improved by the use of pedagogical ICT applications in the classrooms and a training process in the use and maintenance of technological devices.

**Indicator 1:** A diagnosis report about the possible applications of ICTs in the educational field was carried out at the end of the project.

**Indicator 2:** At the end of the project, the selected communities had at least 1 computer in the classroom. Teachers of the selected schools were trained on the use and maintenance of computers, and in pedagogical methodologies based on ICTs applications.

**Indicator 3:** At the end of the project, a communication plan was implemented in order to spread the project's experience among local authorities.

| 5.10 How has the Project budget been realized? If the realized costs in one or more of the budget sections differ by 15 % from the planned costs, please explain here. |
|---|

N/A

| 5.11 Where and how were the accounting and audit of the Project arranged? |
|---|

Esquel always carries out an external audit of all the projects that have been executed by the end of the year, this is a financial audit.

| 5.12 Has the organization carried out an evaluation of the Project during the reporting year? If so, please state here the findings in brief. Please also attach the evaluation report. |
|---|

The project implement the Planning, Monitoring and Evaluation System (PMES), which was designed by Esquel in the year 2001. This integrated system supports a culture based on permanent learning, where constant feedback is implemented into the processes with the help of the project’s beneficiaries.

The Planning component is based on our unified institutional methodology of planning by results. The methodology is our own adaptation of the ZOPP (an objectives-based planning system) of the GTZ; a revised Logical Framework Approach and other methodological contributions. The planning component is based on a system of indicators that facilitate effective monitoring and evaluation processes.

The Monitoring component is an ongoing process of observing and documenting project information. The tool used for this purpose is the Annual Operating Plan, designed with the aforementioned methodology. This monitoring strategy delivers continuous and structured information that provides feedback on: the progress made in each project or program, the conditions of the expected results and the external changes that may influence the project's execution or implementation. The monitoring component helps adjust institutional actions to a dynamic reality, while maintaining the project's progress.

The Evaluation component is also a continuous learning process used to strengthen and improve projects, incorporate multiple intervention approaches, focus on real and relevant issues, promote participation and flexibility and, perhaps most importantly, build internal capacities.

5.13. How has the organization informed of the Project? Give details on the target groups, information material and distribution channels.

There are several ways through which Esquel Foundation informed about its projects. These processes of communication are: meetings with all the actors involved in the projects as a process of exchange of information and opinions, field visits to evaluate the development of the implemented actions during which all the pertinent information is given to the target groups, and the use of alternative communication media like the web page, electronic bulletins and free media.

## 6. Lessons learned and the continuation of the Project

6.1 Describe the nature of problems encountered during the Project and the attempts to solve them. (E.g. in reaching the beneficiaries, working to keep to the timetable and other risks not included in 3.7)

- The linkage with higher education institutions had given an added value to the planned results. This has allowed for the universities to put into practice relationships with the community and they contributed with their academic excellence and quality to the project's planned training processes.

- One of the difficulties in working in Alliance with the universities is related to managing time frames, as in order to program and carry out the diverse trainings one was subject to the political will of the authorities, to their schedules and planning, which created difficulties in managing the chronograms established for the Project.

- New teaching processes – learning as a result of using the technologies and computer technologies, which motivated the use of new methodologies that improve the pedagogy of the teachers and is a positive contribution to the education system.

- The training and work with the parents and other members of the community was successful, as the working methodology was based on participation. The method "learning by doing", is vital in ensuring that community members remember the knowledge in the long term.

- The trainings in the communities provided a friendly intercultural environment, given that the different cosmic visions of the diverse stakeholders have been respected.

- The project constituted an integration mechanism for all stakeholders. The concept was broadened vis-à-vis friendly environmental options not only for the energy field but also concerning the supply of water suitable for human use, and the appropriate elimination of wastes. According to the Andean cosmic vision, these criteria are still held from a holistic approach.
- A technical team comprised by two officials was coordinated with DINEIB and the Intercultural Dialogue Undersecretary, aimed at supporting the creation of pools to provide support to decision-making in terms of the interest of indigenous people. Specifically, the production of Statistic Annual Memoirs, the Study on Inclusion; the access to and permanence of children and adolescents at IBES (Bilingual Educational Institutions by its Spanish acronym), and AgroFest celebrations shall enable the establishment of policies, budgets, projects and strategies aimed at strengthening inter-cultural aspects.
- The spirit of personal and professional advancement and the motivation to use training spaces made available exhibited by the teachers who attended courses and workshops has demonstrated their drive to make progress, for becoming more efficient and effective as part of the learning/teaching processes at their schools. They were keen on making an effort to participate, distances and schedules notwithstanding.
- Training and work launched by parents and all other community members was eloquent since work methodology was based on participation. The method applied of "learning by doing" is essential in order for community members to fully grasp and make knowledge their own.
- Training at communities was instilled a friendly context vis-à-vis multiple cultures, with cosmic visions of the various cultural actors being respected.
- Additionally, the project promoted, indeed, a "learning by doing" approach that was based on dialogue, sharing of in-sights and personal and institutional relationships developed.
- Beneficiaries became familiar with innovative technologies that profit on the renewable resources which our planet owns. A visible benefit is the economic aspect since energy generated by panels is free and therefore, downsizes local costs.

- Delays experienced with project implementation generated annoyance and disappointment, but once the panels were installed and operating jointly with the computer centers, the beneficiaries were quite satisfied in watching their dream come true and having top-notch technology placed at the community's service.

**6.2 Describe the project's sustainability actions.**

These actions have been gathered in the Exit Plan presented by Esquel to FCYF and which is part of the attachments to this report·

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# 7. Free-form description of the Project and its operation (optional: if the other questions in this form are not suitable or sufficient to describe the Project, please use this space to give additional information.)

This project has generated other lessons learned in addition to those expected based on the results. The unforeseen changes in the implementation of the solar panels made the project team take a look at other alternatives for acquiring the devices in Ecuador, and explore the different options with local suppliers.

# 8. Project costs and financing

| Project costs | Approved Project budget | Cost performance |
|---|---|---|
| **1. Personnel costs (Appendix 1)** | | |
| Salaries and related costs of the Finnish personnel | | |
| Travel and accommodation of the Finnish personnel | | |
| Salaries and related of the local personnel | | |
| Other personnel costs | | |

| | | |
|---|---|---|
| Value of Finnish voluntary work | | |
| **Personnel costs, subtotal** | | |
| **2. Activity costs (e.g. training) (Appendix 2)** | | |
| Fees of hired experts | | |
| Other costs | | |
| **Activity costs, subtotal** | | |
| **3. Materials, procurements and investments (Appendix 3)** | | |
| Procurement of materials and appliances | | |
| Construction | | |
| Other procurements | | |
| Value of donated goods | | |
| **Materials, procurements and investments, subtotal** | | |
| **4. Operation and maintenance (Appendix 4)** | | |
| Operation costs | | |
| Maintenance costs | | |
| **Operation and maintenance, subtotal** | | |
| **5. Monitoring, evaluation, and information (Appendix 5)** | | |
| External services (incl. experts) | | |
| Travel and accommodation | | |
| Other costs | | |
| Information costs (max. 5 % of total project costs) | | |
| **Monitoring, evaluation, and information, subtotal** | | |
| **TOTAL IMPLEMENTATION COSTS** | | |
| **6. Administrative costs (Appendix 6)** | | |

| | | |
|---|---|---|
| Salaries and related costs of administrative personnel | | |
| Office costs | | |
| Statutory audit costs of the Finnish organisation | | |
| Fund-raising | | |
| Value of Finnish voluntary work in administration | | |
| **Total administrative costs** | | |
| **TOTAL PROJECT COSTS** | | |
| Administrative costs as a % of total costs (max. 10 %) | | |

| **Project financing** | **Approved Project Budget** | **Cost performance** |
|---|---|---|
| **1. Self-financing (Appendix 7)** | | |
| Cash contributions | | |
| Voluntary work and material donations | | |
| **Total self-financing** | | |
| Self-financing as a % of the total costs | | |
| **2. Project support from the Ministry for Foreign Affairs** | | |
| Support transferred from prior years | | |
| Support available for and used during the reporting year | | |
| **TOTAL FINANCING** | | |

# 9. Signatures

Place and date: February 13th, 2013 Place and date _

Signature: Humberto Salazar Signature _____

Name in Capitals _____ Name in Capitals _____

Position _____ Position _____

- ❑ Copy of the co-operation agreement between organizations (if it was not attached to the Project plan)
- ❑ Report of the Board of Directors
- ❑ Financial Statement of the organization (income statement, balance sheet, notes to the financial statement)
- ❑ Audit report on the organization's annual financial statements
- ❑ Auditor's assurance on the legal use of the Project funds