

Community Needs Assessment Report



**Apatug Village, Santa Rosa Parish,
Ambato Canton, Tungurahua Province, Ecuador**

APRIL 2010

Medical Assistance Programming, Ecuador

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Under the concept of THV,

“The village owns the vision and action plan to solve their own problems”

Dr. Ravi Jayakaran

1.0 Introduction

This report summarizes the findings of an April 2010 exercise with the Apatug community in central Ecuador and recommendations proceeding from several follow up meetings with community leaders in later months. The study sought to identify areas of risk and allow the community to produce a plan for its own development, both for its own use and for collaboration with outside agencies.

MAP International, founded in 1954 as Medical Assistance Programs, promotes the total health - physical, economic, social, emotional and spiritual health – of impoverished people in over 115 countries. This is achieved through the provision of essential medicines, promotion of community health and prevention and eradication of disease.

MAP's ministry is grounded in a broad vision and understanding of health. MAP's guiding principles state that among the many human needs, it is called to focus on the ministry of Total Health. Total health doesn't describe the state of someone's health but rather the ways that individuals, families and communities can take responsible action to improve their well-being. Self empowerment and holism are therefore important dimensions of the THV.

One strategy through which MAP seeks to promote Total Health is the Total Health Village (THV). Working in defined target communities, with clear timelines and exit plans, MAP implements broad and community centered strategies. This aims to help communities access the expertise and resources of a variety of partners in order to positively affect their health. In doing this, MAP hopes to serve as a catalyst to help a community launch itself toward sustained development.

With a view to implementing this model (THV), MAP facilitated a community discussion in Apatug village, Santa Rosa Parish, which is located in the Tungurahua district of central

Ecuador. This initial community discussion took place over two days, April 21 and 22, 2010.

This study aims to explore the livelihood of Apatug village, identify problems within the community, and highlight possible areas of intervention.



Photo: Geovanny Santamaria

Apatug community members assemble April 21, 2010.

The primary objectives are:

1. Explore the livelihood of Apatug village in terms of socio-cultural, environmental, and economic aspects.
2. Highlight the problems faced by the community in all areas of life.
3. Identify areas of intervention and partnership with other organizations to promote holistic health and empowerment in Apatug, enabling the community to have a plan containing its own goals to direct its future actions and those of collaborating outside organizations.

2.0 Methodology

When selecting a community for the needs assessment activity, MAP Ecuador staff chose to collaborate with Apatug due to a connection one staff member had from working in the community previously under another organization whose work was with children. The local evangelical church has a history of

enacting community development projects and its leadership was interested in supporting MAP's involvement. Apatug's community president and members of its leadership council also voiced support for MAP's proposal. MAP staff began visiting various leaders and families in Apatug in February 2010 and continued to seek support from community members and leadership until the needs assessment workshop took place in April 2010.

This community needs assessment was carried out using the Ten Seed Technique (TST). This technique, developed by Dr. Ravi Jayakaran, is a tool which uses community participation to gather and rank information. A team of MAP Ecuador Staff met with a group of community members and asked various questions covering a variety of topics. Using ten seeds to represent the community as a whole, the group was able to respond to specific questions in terms of proportions and percentages.

When asked a question, for example, "How many people use pit latrines?", a community member would move the seeds to indicate their opinion. The group was then asked if they agree or disagree and the seeds were adjusted until a consensus was reached. All percentages stated in this report were obtained in this way.

MAP staff used TST and other modern participatory techniques such as the Rapid Household Food Security Status Assessment tool (RFSA) and the Holistic Worldview Analysis tool (HWVA), to closely involve the community in assessing the problems and opportunities in Apatug. The HWVA is an information gathering tool that portrays community survival strategies and mindset visually and in measurable terms, as shown in the following diagram:

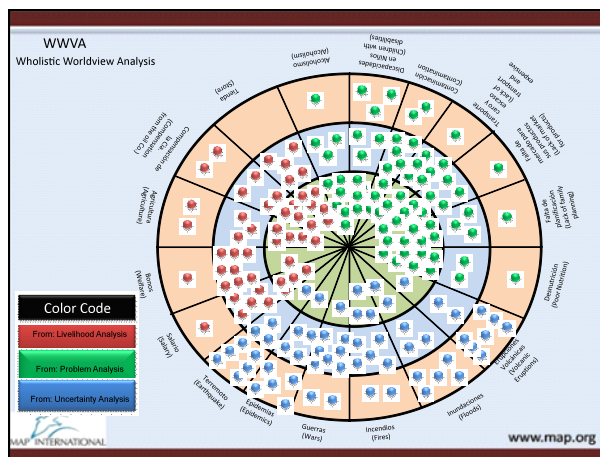


Figure 1: HWVA tool

The assessment took place April 21 and 22, 2010, in an assembly of community members and leaders. MAP staff conducted the meeting in Spanish and a bilingual community leader translated into the Quichua language when necessary for clarification.

2.1 Limitations

While the Ten Seed Technique is an effective tool there are a number of important limitations which must be considered when analyzing the data. The information gathered is dependent on the questions asked by the MAP staff. For this reason care was taken to begin with open questions before probing deeper into areas highlighted by the community. Also, all percentages recorded are a reflection of the community's perception. As such, while they are useful in appreciating the community's understanding of a problem, they are not necessarily statistically accurate. Any discussion between an organization and a community is limited by the possibility that a bias may be introduced by either party. As MAP's activities focus on health it is possible that the community may focus on areas of healthcare in the hope that MAP will intervene. Also, given MAP's background, the staff may concentrate on questions relating to health. If the community is aware of a particular need they may embellish or concentrate on this problem and thus overlooking others.

To provide additional perspective on the economic, social, and physical health of the region, graphs and facts from Ecuador's Ministry of Health and National Institute of Statistics and Census are included in an appendix at the end of this document. These facts are secondary sources to support and compare with those gathered in the community.

3.0 Background and History

Apatug is located in the Andes Mountains of Ecuador, in the province of Tungurahua about 10 kilometers southwest of its capital city, Ambato. The majority of the population of Apatug is Chibuleo, an indigenous Quichua group that exists in 7 communities in the Tungurahua province. This group speaks Quichua and Spanish. The Chibuleo have an autonomous administration and system of justice within their communities.

The origin of their name comes from a plant called *Chibu* which historically grew in the area and the word *leo*, which refers to descendents of the Panzaleo culture in the Tungurahua province from which the Chibuleo originate. They are one of the provincial ethnic groups that have survived the Spanish colonization. The traditional dress of the men is characterized by red ponchos, hats, and white shirts and pants. The red symbolizes blood spilled by their Incan ancestors in the heroic fight against the Spanish colonizers, and the white, the purity of the people. Women wear black clothing to represent the soil, white hats, and blouses

embroidered with flowers of all colors to symbolize *la Pacha Mama* (Mother Nature).

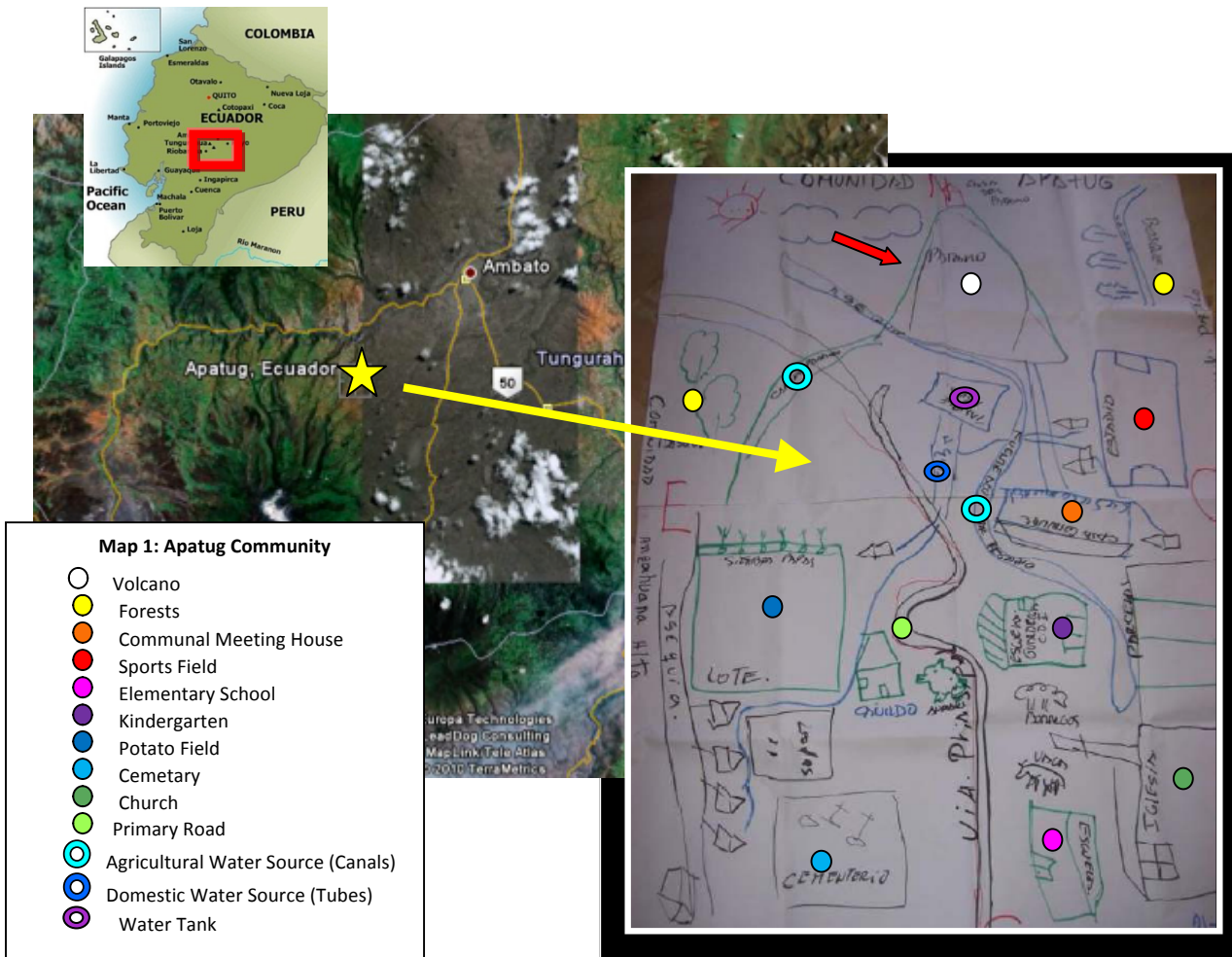


Apatug's traditional dress: rich in symbolism and history.

The Tungurahua province has a temperate, dry climate with a patchwork of varying microclimates due to its mountainous geography. Apatug is cool and windy with low annual rainfall that keeps it in a nearly continual state of drought, affecting agriculture and livestock as well as community health. These weather patterns and other natural forces, such as volcanoes, surrounding the Apatug community create significant health and livelihood risks.

3.1 Community Map

The community constructed a map representing the important buildings, landmarks, and assets of Apatug. This community map shows not only the layout of the community but also the significance of various items that community members chose to include in the diagram.



In addition to the major buildings, community members drew sheep, pigs, and cattle as part of the community map. These animals are important sources of income for the community as the majority of families raise them to sell in the city. Also, included in the depiction of an agricultural field are potatoes, a primary crop in the community. Agricultural lots are measured in units called *cuadra*¹ and in smaller units called *solar*². These units of land measurement are especially important due to land scarcity in Apatug, and were key to discussions about wealth and poverty levels in the community.

Also depicted are natural resources and landmarks. The red arrow in the map indicates

the mountain spring that supplies Apatug's water. Flowing from this spring are the community's systems of water for agriculture and for domestic use; their prominence in the map speaks of the community's focus on water issues and security. 95% of the community has access to water which channels from a collecting tank down into the community via a system of tubes. 60% of the community's water arrives in these tubes and is used domestically for cooking, bathing, washing, and animal use.

The other water system uses a series of open canals to carry water down the mountain into the community; these canals run alongside of the roads and are vulnerable to contamination from passing animals, trash, and other sources. Because this water is unsafe, it causes sicknesses among community members, especially children. The water in these canals provides for the community's agricultural needs. These two water systems do not provide enough for the needs of the

¹ One *cuadra* equals 7,050 m²

² One *solar* equals 700 m²

community and this shortage presents a serious health and livelihood risk for Apatug.

The forests depicted in the map are another vital resource as 30% of community members depend solely on wood as a cooking fuel source. Some find downed trees and brushwood in the forest to meet their needs, but others are unable to find enough wood and must buy their fuel.

Other families must buy wood for their cooking needs. Wood comes in *astillos*, 45 cm pieces that are sold in bundles of 50 that cost \$3. This amount will last an average family for 3 days, so families that buy wood for fuel spend about \$30 per month for their cooking needs. This fuel source is costly and potentially harmful to the environment around Apatug.



A typical house that cooks with wood, showing how the wood is stored.

3.2 Timeline

Community members constructed a time line to tell their own story and highlight important events in the history of Apatug. Below are a summary of these events and a visual of the timeline they created.

In 1956 the community of Apatug formed; prior to this time there were four separate

communities settled in the area Apatug currently exists in. The community's access to larger cities gradually improved due to the construction of an earthen highway in 1958 its repair in 1997.

The time line shows a history of religious conflict within Apatug. During the 1960's, Catholic missionaries and religious leaders gained more power in Apatug and in 1970 these religious leaders required the community to pay them financially burdensome dues for special holidays. Later in 1986 there was strong persecution against a newly emerging group of Evangelical Christians. This division in the community has since been resolved and currently there is reconciliation between Protestant and Catholic groups.

Año que ocurrió el evento aproximadamente	Evento Importante
1945 →	era una sola comunidad Eso ahora son 4
1956 →	Se forma Apatug
1958 →	Carretera de tierra (antes era choquinos)
1970 →	Obligaban a hacer por fiestas religiosas tengan o nocturno y esto afectó a la comunidad porq' han perdido sus tierras
1986 →	Comenzó a pasar una ospepa (fuente de Agua) antes saca- ban agua de quebrada
1986 →	Persecución de la gente de la comunidad a gente protestante
1980 →	Desolación (desaparecidos)
1991 →	Agua Potable Llegó
1994 →	Mejoran las carreteras (Empedradas)
1997 →	Creación de la Escuela por el Municipio
1998 →	Creación de Pozos ciegos (baños) + con ducha
2000 →	

Figure 2: Timeline

One of the most significant dates of the timeline exercise was June 3, 1991, when the community reported that it received potable water at 5 p.m (circled in red in the above photo). Apatug spent many hours of

communal labor, called *minga*³, to create the system of tubes that brought this water to the community. These *mingas* have been an important means for community members to contribute to their own development by providing the physical work necessary to implement various projects. Prior to this water system, the community accessed water from open canals constructed in 1975 or from streams.

The community has received development assistance from the government in several instances. In 1998 the municipal government created an elementary school in Apatug. In that year, the community also received aid from the national government to alleviate its electricity and food expenses. The government sent further aid in 2007 to fund the construction of 15 houses to shelter Apatug's most vulnerable families.

4.0 Findings

4.1 Population makeup

The demographic data from Apatug Village, as reported by its residents, is approximated in the following table:

	Number	%
Population	2000	100
Male	800	40
Female	1200	60
Children	600	30
Elderly	200	10
Disabled	50	2.5
Pregnant Women	30	1.5
Families	400	-

³ The word *minga* comes from the Quechua word *minka*, which is what certain Andean communities called collective agricultural work for communal benefit.

99% of the population of Apatug is indigenous Chibuleo; only one family in the community is *mestizo*, or of mixed race. Approximately 70% of community members are Catholic and 30% are Protestant.



Photo: Geovanny Santamaria

Catholic church of Apatug

4.2 Economic Activities

The primary income generating activities of the Apatug community are agriculture, cattle raising, sale of small animals, business in the city, and day wage labor in neighboring fields. The following table shows each activity and its prominence in the communal income. Though work in neighboring fields produces very low pay, around \$7 per day, and represents only a small percentage of the community's income, many community members engage in this kind of work.

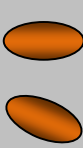



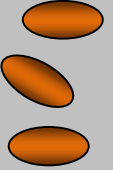




Cattle Raising	Field Labor	Agriculture	Sale of Animals	Business
				

Table 2: Prominence of Economic Activities

Activities	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
												

4.2.1 Seasonality and Crops

The following table shows the timing of activities and factors related to community income generation.

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During planting, farmers most frequently plant potatoes, carrots, and beans. Other common crops include radishes, *mellico*⁴, peas, beets, blackberries, broccoli, alfalfa, and cauliflower.

4.2.2 Business in the City

Farmers grow crops both for subsistence and to sell in markets in the nearest city, Ambato. Approximately 40% of the crops that the community grows are sold in the markets; the rest are for its own consumption. The markets are difficult for the Apatug community to access due to its lack of membership in the city's market association. This lack of membership relegates community stands to the margins of the market area and also makes Apatug businessmen vulnerable to product confiscation by the municipal authorities.

Within the communities, agricultural productivity is limited due to environmental factors such as frost and volcanic ash. Additionally, sickness of plants and animals

and small available land area for crops and grazing affect nearly every income source in Apatug.

4.2.3 Cattle and Small Animals

The raising and sale of cattle and small animals together composes 40% of the income of Apatug. The following table shows the common animals raised in Apatug, the number of each animal the average household owns, and the price that a live animal sells for in the city. The community does not have a slaughterhouse, which forces its members to sell live animals at a much lower value than a slaughtered animal would produce.

Animal	Number per Family	Price (\$)
Bull	2-3	700-900
Sheep	5	70-90
Pig	2	80-100
Guinea Pig	20	5-10
Hen	5	8-10
Rabbit	20	5-10

Table 4: Cattle and Small Animals

Because families own few animals, they are not able to sell them often. Additionally, some

⁴ A small, yellow tuber

of the breeds of smaller animals are weaker or tend to be small and of lower value.

4.2.4 *Transect*

Based on the analysis of the transect exercise in the Apatug community, the primary soil type is black and moist in the places where the community practices family based agriculture. There are very few trees, and many are eucalyptus, cyprus, yagual. The forest is scarce in the community and the majority has been cleared for purposes of agriculture, cattle raising, or for fuel. One environmental problem noted during the transect was the presence of trash in homes and in the streets due to a lack of a garbage treatment center at the family or community level.

4.3 Gender Issues

When discussing activities that men and women both participate in related to work and domestic life, the community generally attributed greater influence to either one gender or the other in a particular realm. Men were described as more influential in agricultural activities, spiritual leadership in the family, and decisions regarding family planning methods. Women carry more responsibility for the care of children and about 70% of the responsibility for children's education. The community agreed that men and women are equally influential in issues of healthcare.

The role of women in Apatug is very important; they continue to seek new and creative ways to bring income into the community. An association of women has formed in the community to make and sell handicrafts for this purpose; currently the group is seeking a market in which to sell its products.



Photo: Geovanny Santamaria

Women produce colorful artisans' works.

4.4 Health

4.4.1 *Access to health services*

Community members primarily use hospitals and government health sub-centers when in need of health services. Other resources include *cuy*, a traditional treatment utilizing a guinea pig, private practice doctors, and traditional healers. Some also choose to wait out their sickness instead of seeking costly treatment.

According to the community, only 50% of those who go to the hospital are cured of their health problem. The treatments and additional tests that the hospital requires are often too expensive for the patient to follow through with or may require repeat visits. In the government sub-centers, where the treatment success rate is 60%, community members may face ethnic discrimination or language barriers. It is the community's perception that the private practitioners mainly cure rich people and that they will receive little attention at these practices. Traditional healers have an even lower success rate and cure only around 30%; often the cure is the same regardless of the illness. The *cuy* has a high reported success rate of 80%, but this is partly due to the fact that mothers and small children use this treatment for a specific

condition called *mal aire*, which has symptoms such as low energy and loss of appetite.

The primary barriers to healthcare access for the Apatug community are high costs and extensive treatments of the hospital, distance, and a perception of ethnic discrimination on the part of healthcare providers.

4.4.2 Child and adolescent health

The most common sicknesses that affect children in Apatug are colds, fever, diarrhea, and malnutrition. Fever is the most frequent health problem, followed by diarrhea, colds, and malnutrition.

The community estimated that about 50% of its adolescents are male and 50% are female. The majority of adolescents work, and because of this some are unable to study, as shown in the following table.

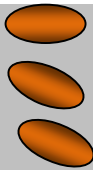
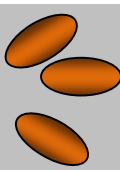
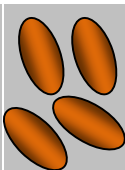

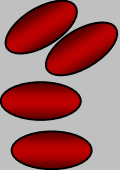
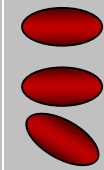
	Study	Study and Work	Only Work
Young Men			
Young Women			

Table 5: Adolescents in School and Work

The community listed and ranked six problems among its adolescents; the top three include alcoholism, pregnancy, and loss of values. Other areas of concern are premature sexual relations, lack of education, and loss of culture. When discussing abuse, the community listed adolescents as the most likely age category of children to receive maltreatment, and also raised concerns about abuse between adolescents.

4.4.3 Health risks

Abuse

Domestic abuse is a health risk between spouses, between parents and children, and among adolescents. Between spouses, the most common form of abuse is verbal, followed by physical violence and threats to desert the family. Women are slightly more likely to threaten to leave their spouse and children than are men.

Maltreatment of children most commonly takes the form of punishment with the hand but also includes beatings with a belt, very cold baths, and punishment with a stinging plant called *ortiga*. Among children, those who are between 6 and 12 years old are the most likely to be punished in these ways, and among adolescents males receive about 60% of the punishment and females 40%.

Adolescents also experience maltreatment from each other in violence that is closely connected with alcoholism. The majority of this violence is verbal and physical, but emotional and psychological violence also occurs when adolescents are made to feel worthless or humiliated. The community attributed the cause of this violence among adolescents to a lack of education, and also to a lack of communication within the community.

Environmental Hazards

Volcanic ash, severe frosts, and droughts are three environmental hazards that affect community health and livelihood. Severe frosts have the greatest impact on the community because they kill all of the crops and cause colds, flu, and coughs. These frosts occur on average two times per year, as do problems with volcanic ash. The ash also kills plants and makes animals sick, and causes coughing, flu, and skin problems in humans. Though volcanic ash has severe effects, the community rated drought as the second most significant environmental hazard because it

occurs throughout the entire year, hindering plant and animal cultivation and aggravating allergies due to dust.

Sanitation

In Apatug, 50% of available latrines are dry pit latrines and the other half are toilets that flush with water and have a water tank below. While the majority of community members have access to latrines, about 30% do not have them and instead use the forest or other convenient places. These conditions create sanitation problems, especially in relation to the community's partially open water source. Currently, the community does not have a sewage system.

4.5 Poverty

The community described poverty primarily in terms of amount of land and cattle owned. The group identified four categories of economic status in the community: the rich, the somewhat rich, the average, and the poor. The following table shows the income distribution in Apatug.


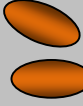

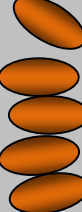
Rich	Somewhat Rich	Average	Poor
			

Table 6: Economic Categories

The rich were identified as those having good cement houses with one or two stories, a car, 5 bulls, and 2 to 3 *cuadras* of land. One *cuadra* is approximately equal to 7,050 square meters of land. The rich work as public officials and have small families of 2 to 3 people.

As the categories progress from richer to poorer, family sizes grow and resources shrink, notably land area. Those identified as

somewhat rich have smaller houses, 1 to 1.5 *cuadras* of land, and 5 to 7 family members. People of average income may work as masons or trades workers in sewing or shoe making. They have only one bull, houses with dirt floors, one *solar* or 700 square meters of land, and 6 to 7 family members.

The poorest are agriculturalists with only half a *solar* of land. They do not have cows but may sell sheep, pigs, and guinea pigs, and have 8 to 9 family members. The majority of their houses are constructed with cinder blocks, and a smaller percentage of older houses are built of mixed materials including straw, adobe, and blocks.



An example of a mixed materials, poor house.

4.6 Education

The Apatug community has a kindergarten and a primary school, as shown above in the community map.

Apatug has centers for the care of children under 5. Other schools include INNFA which has 30 children, Curisisa which has 30, the bilingual school that serves 200 children, and literacy centers which serve 15 adults.

The community and MAP staff used the following family diagram to map the arrival of different amenities and events in Apatug's history. Generation V was the first in which the majority of people received primary education as shown by the red circle below.

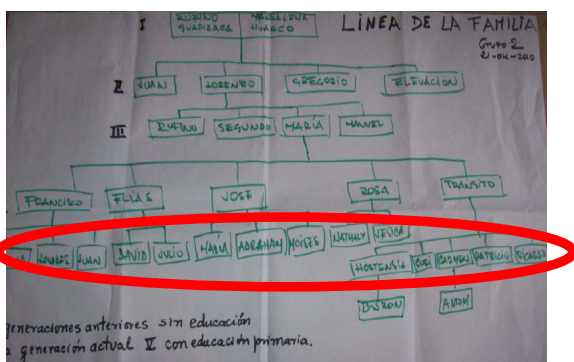


Figure 3: Family Tree

4.7 Holistic worldview analysis (HWVA)

The Holistic Worldview Analysis permits us to identify and study the livelihood analysis, problem analysis, and uncertainty issues and at the same time develop action strategies with the community.

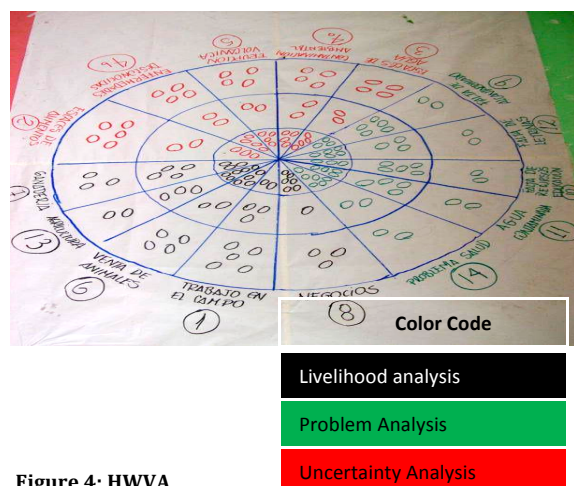


Figure 4: HWVA

The HWVA involves taking each area identified and, using the ten seeds, allowing the community to indicate from where change in these areas may come:

1. From within the community itself.
2. From others (e.g. neighbors, government, NGOs)
3. From God (Areas seen as beyond human control)

After compiling the above information, we prioritized every area based on its capacities

and vulnerabilities. For example, when the greatest number of seeds are in the external circle, the community expresses its low control (vulnerability). Equally, when the majority of seeds are in the internal circle, the community expresses more control (capacity).

In this manner, the HWVA graphic of Apatug identified work in the fields as its first priority and health problems as the 14th priority.

The complete results of Apatug's HWVA exercise are captured in the above picture and further explained in the following table and charts.

	Community	Others	God
Livelihood Systems			
1. Raising Livestock	30%	40%	30%
2. Agriculture	50%	30%	20%
3. Selling Animals	40%	20%	40%
4. Work in the Fields	20%	30%	50%
5. Business	60%	10%	30%
Problems			
6. Health Problems	60%	20%	20%
7. Contaminated	40%	40%	20%
8. Water			
9. Lack of Educational Resources	30%	50%	20%
10. Lack of Latrines	50%	30%	20%
11. Lack of a Sewage System	30%	50%	20%
Uncertainty Issues			
12. Scarcity of Water	40%	20%	40%
13. Environmental Contamination	40%	20%	40%
14. Volcanic Eruption	40%	20%	40%
15. Unfamiliar Diseases	40%	20%	40%
16. Food Scarcity	30%	20%	50%

Table 7: HWVA numbers

4.7.1 Livelihood Systems

The principle income source is business in the sale of crops, such as carrots, radishes, potatoes, and others. Many families sell these crops to an intermediary in their own community and others travel to the market in the city to sell them. The community does not have its own place to sell products and many suffer abuse and maltreatment by the authorities.

The sale of animals, especially of guinea pigs and sheep, is another important income source, along with cattle raising and agriculture. The largest concerns with respect to animals are the presence of sicknesses, shortage of land, and little technological assistance.

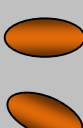

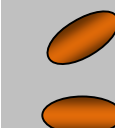
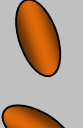

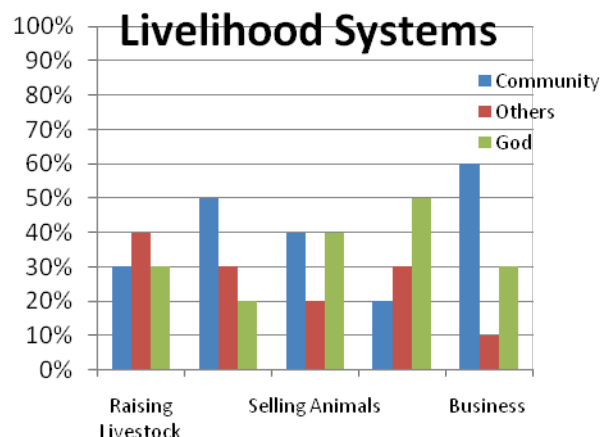
Cattle Raising	Field Labor	Agriculture	Sale of Animals	Business
				

Table 8: Livelihood Analysis

The graph shows how the families express the control that they have over their livelihood, appearing to be best in business because they plant and harvest their own crops and worst in work in the fields because families in need of money must work in the fields of others. This affects the workers' health because they must work all day in the sun and wind; the work causes pain in the arms, legs, and back and other problems.



Graph 1: Livelihood

4.7.2 Problems

Table 9 shows the problems identified by the community and portrays that health, water, education, and sanitation, and especially the lack of a sewage system worry families in the community.

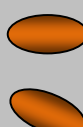
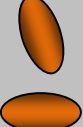



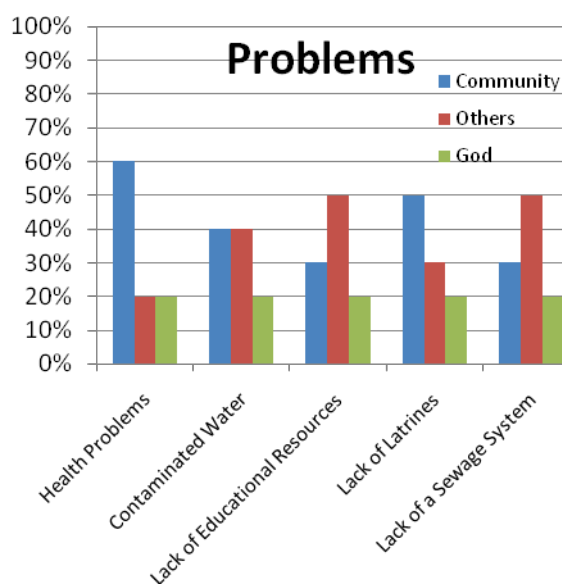
Health Problems	Contaminated Water	Lack of Educational Resources	Lack of Latrines	Lack of a Sewage System
				

Table 9: Problems Analysis

In the HWVA graph, the families assigned the greatest control to outside organizations and the government in areas of education, sewage treatment, and water. However, they reaffirmed the control that the community has over other areas, especially in the care of its own health



Graph 2: Problems

4.7.3 Uncertainty Issues

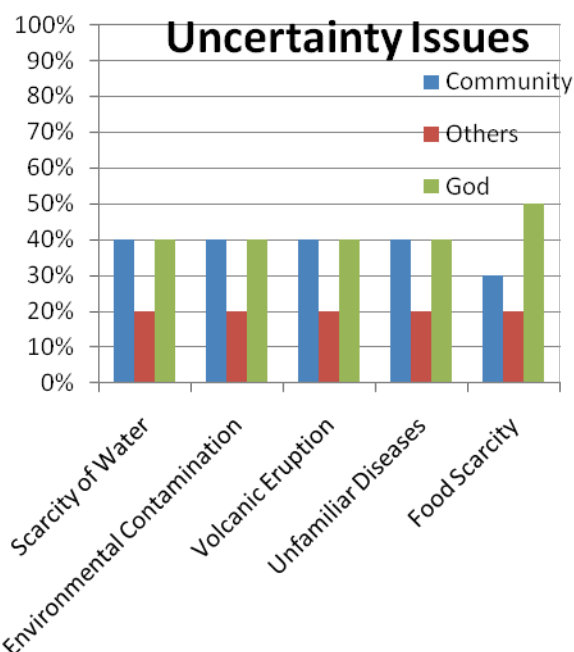
The uncertainties concerning potential effects and dangers that could occur is a concern for the families of Apatug.

The table presents the 5 uncertainties that the community of Apatug could encounter at any time. One of the principal concerns is the scarcity of food because families continually have less and less land available for production as families grow in numbers and subdivide their lots as inheritance for the children. Volcanic eruption is also a permanent threat in the community along with pollution.

Water Scarcity	Environmental Contamination	Volcanic Eruption	Unfamiliar Diseases	Food Scarcity

Table 10: Uncertainty Issues

The HWVA graphic shows that the uncertainties are those perceived as mostly controlled by God or the spirits (external circle). The community assigned scarcity of food the number 2 priority in the HWVA exercise.



Graph 3: Uncertainties

4.8 Conclusion of Findings

Resulting from the HWVA, the community of Apatug constructed its plan and action strategies related to livelihood, problems, and uncertainties.

Below is presented a condensed list of activities proposed to achieve the results and impacts that would permit an increase of the community's capacities and a reduction of its vulnerabilities.

5.0 Recommendations

5.1 Food Security and Livelihood

Goal: People in Apatug will increase their income, improve their quality of life, and be able to preserve their resources.		
Impact	Outputs	Activities
Food security + livelihoods improved	Improved agricultural commercialization	8) Analyze the situation of commercialization and identify the products that have difficulty finding a market.
		1) Identify and develop an action plan with organizations that commercialize products in the area..
		8) Create a training program concerning harvest, post harvest, and commercialization of products.
		13) Identify needed investment to manage products in harvest and post harvest times.
	Increased agricultural production	1) Study the productive situation and identify the products and methods that will increase production.
		13) Create a capacity building program about organic production.
		7) Identify equipment and supply needs and connect with public and private organizations.
	Improved production of livestock	2) Study the livestock situation and identify the methods that will increase their production and performance.
		7) Create a program of cattle insemination and improve the breeds of smaller species of animals.
		6) Identify investment priorities and connect with public and private organizations.

Table 11: Recommendations 1

5.2 Environment, Education, and Sanitation

Impact	Outputs	Activities
Improve family health and access to secure water	Strengthened knowledge, practices, and attitudes related to health.	5) Train health promoters in prevention of illnesses and first aid.
		5) Implement a community pharmacy.
		14) Implement a program for nutrition and family hygiene.
		14) Form and implement recreational spaces for families.
		14) Co-ordinate actions with health units for campaigns to prevent and treat illnesses.
	An improved and well administered	11) Improve the tubes from the streams to the houses.
		11) Build/improve the reservoir tank with chlorifying equipment.

	water system.	11) Form a water committee for the training of community members in the care and consumption of water.
Improve the environment	Reduction of factors that cause contamination and environmental deterioration.	4b) Implement a plan to reduce and manage trash.
		4a) Identify forms and methods to deal with pesticides on the crops.
		12) Study the situation with the latrines and design a plan to implement with families that do not have them.
		3) Create a reforestation plan using native plants.
		9) Study and create a proposal for the construction of a sewage system.
Improve educational facilities.	Access to technology and improved educational quality.	10) Install a computer center with access to the internet.
		10) Improve the educational infrastructure and monitor educational quality.
Plan for disaster mitigation.	Plan is elaborated before the disaster	5) Design a plan of response and mitigation before a volcanic eruption occurs.

Table 12: Recommendations 2

and sanitation also perpetuate serious health problems in the community.

6.0 Conclusion

MAP International conducted a study to assess needs and opportunities in the village of Apatug in Tungurahua province, central Ecuador. This report highlights the findings from this study and some recommendations that will enable the Apatug community to pursue holistic health and development.

The information in this report was gathered from multiple discussions with community members and meetings with community leaders over several months in 2010.

Apatug relies primarily on agriculture, livestock, and produce sales for its sources of income. Environmental and economic factors continue to impoverish the community; natural disasters, lack of educational resources, and difficulty accessing markets in the cities threaten its livelihood. Water shortage and contamination, domestic abuse,

Apatug presents the typical characteristics of an indigenous community, with many needs in education, agriculture, and environmental concerns. Through this Community Needs Assessment Report, it is possible to see the needs of the Apatug community and also to understand its hopes and possibilities.

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8.0 Appendix

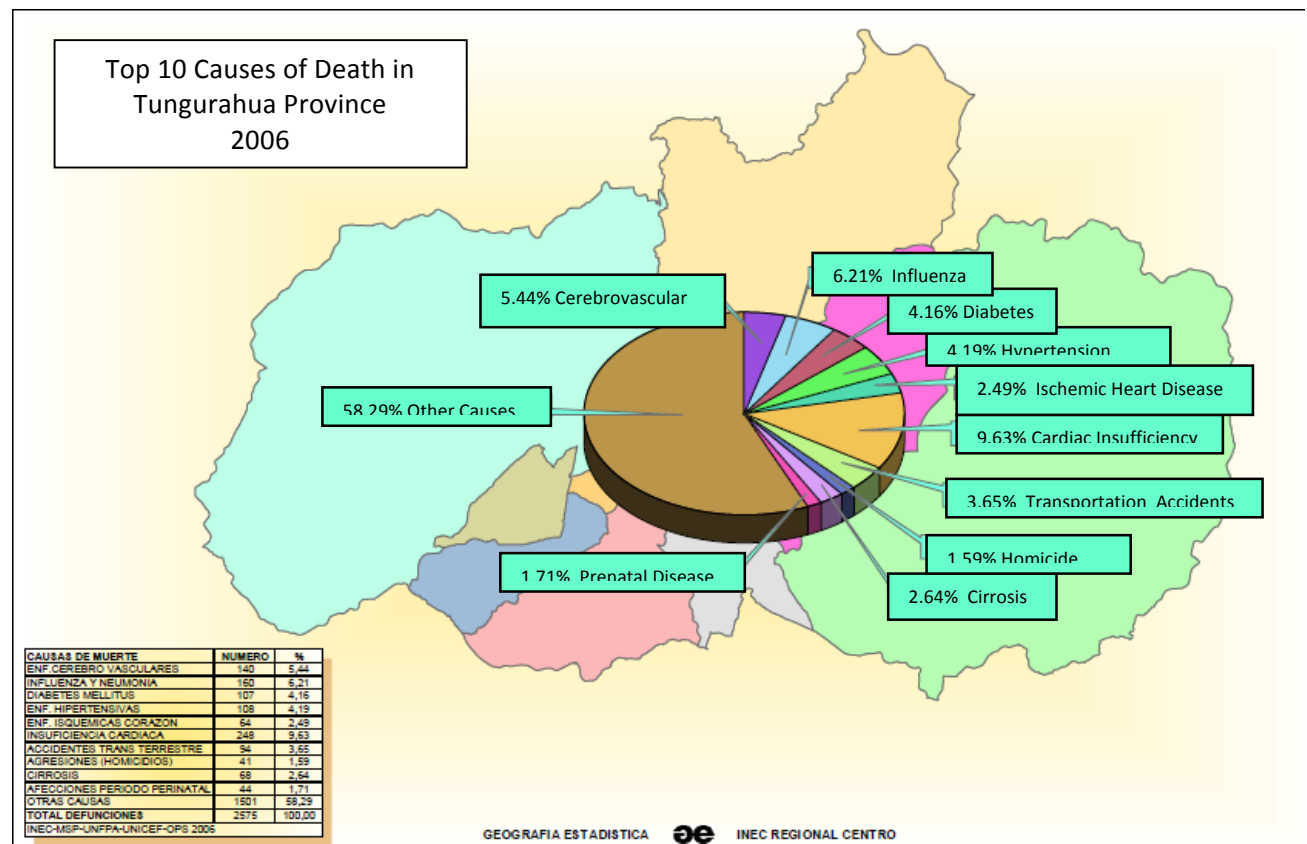
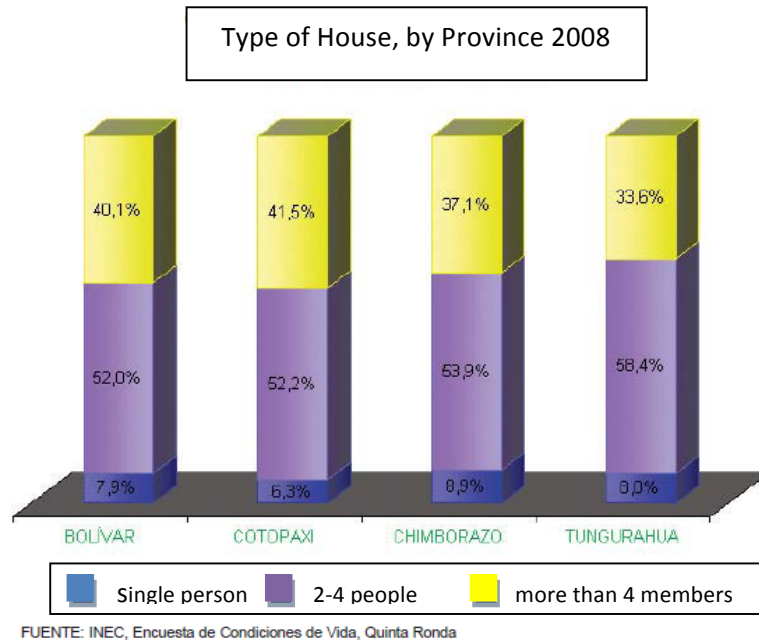
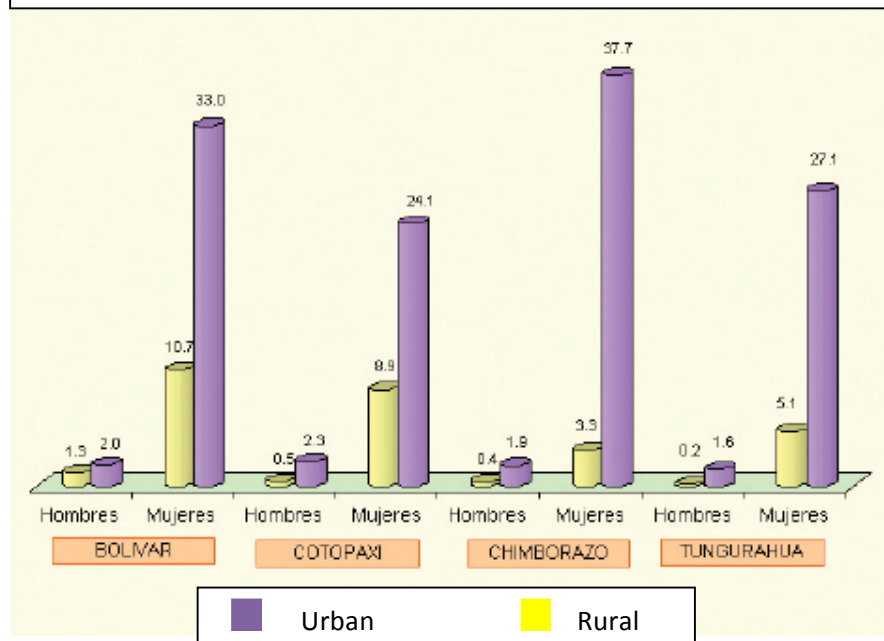
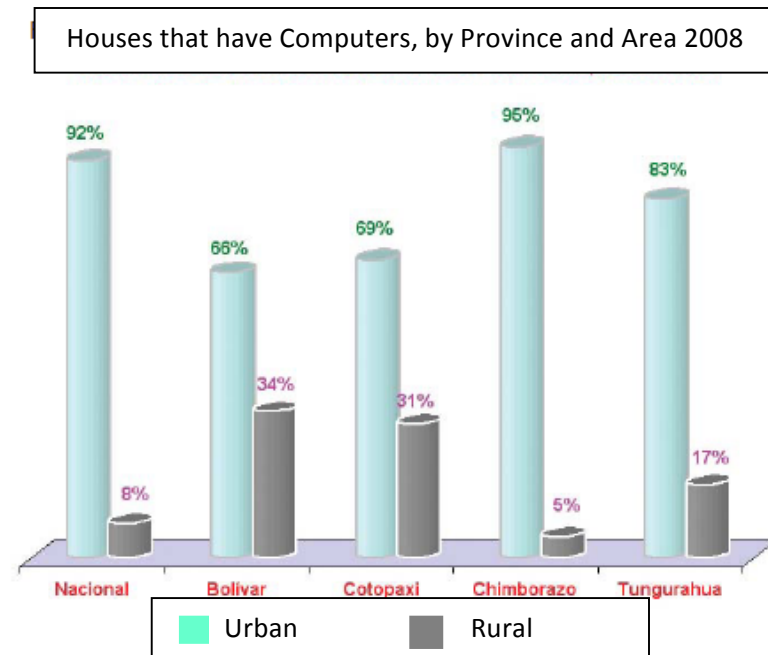


Figure 5: Causes of Death 2006

**Figure 6: Type of House**

**Number of People Who Received Development Government Funding
by Province, Sex, and Area 2008**

**Figure 7: Government Funding**



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Figure 8: Houses with Computers