Integrated Quantitative-Qualitative Analysis for

BOLIVIA

Ensuring food and nutrition security in a time of volatility

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CONTENTS

List of figures

List of tables

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1 INTRODUCTION

In 2012, Oxfam and IDS initiated “Life in a time of food price volatility”, a four-year joint research project which aims to document poor people´s experience in a time of food price volatility and to generate policy-relevant insights for protecting the vulnerable, the poor, and the food insecure.

In each of the 10 participating countries[1], qualitative research is carried out in 2 communities, one rural and one urban. In addition, the project incorporates quantitative analyses that feed from and feed into the qualitative research component. The mixed method approach is used in order to contest and triangulate qualitative findings with nationally representative data and to complement the information that only each of the approaches can provide towards a more complete and deeper wider picture.

The purpose of this work is to offer a quantitative complement to the qualitative research work being carried out in Bolivia. More specifically, the quantitative research will:

- Track poverty and food security related data
- Analyze household expenditures and food consumption patterns
- Identify aspects that deserve further research through the qualitative research component

Overall, the analyses aim to explore the impacts of food price volatility on poverty, well being, and food security. The global food crisis from 2007-08 serves as cut off point for exploring the households’ situation before and after well known food price changes.

The present document has the following structure: Chapter 1 includes the research question, methodology, and results from the qualitative analyses which serve as thematic guide for the quantitative analyses. Chapter 2 provides a brief overview of the Latin American context during the past years. Chapters 3, 4, 5, and 6 cover the key major topics emerging from the qualitative analyses. Finally, Chapter 7 presents the conclusions of this work.

Qualitative research results

The qualitative component of the research project involved focus group discussions, key informant interviews, and household level interviews. Data from research rounds 2012 and 2013 are used as reference for this work. The communities selected for the work in Bolivia were Pirhuas (rural, Sipe Sipe municipality, Cochabamba province) and Kami (urban, Quillacollo municipality, Cochabamba province). These communities were selected based on their socio-economic profile and accessibility.

Pirhuas is a rural community traditionally engaged in agriculture. Some of the qualitative research participants are related to the dairy industry (milk production) or to the extraction of aggregates (stone collection). It is an “average” community in the Cochabamba valley. In the past, many of the local inhabitants migrated abroad or to other regions in the country. During the past 15 years, some of these migrants have returned and/or are currently investing in their community and others sold their land to private enterprises. These new investments triggered infrastructure development (road, public lightning, and transportation) and community growth. The adult population is the majority in the community.

The Kami neighborhood in Quillacollo is close to a major highway connecting Cochabamba with La Paz and an industrial area. It owns its name to the Kami mine, located nearby and which in former times

[1] Bolivia, Guatemala, Bangladesh, Indonesia, Kenya, Zambia, Burkina Faso, Vietnam, Pakistan, and Ethiopia.

employed a significant proportion of the population. It is an old neighborhood which once attracted rural migrants and it is representative of poor urban neighborhoods in the Cochabamba area. Kami is densely populated and is home to a large proportion of retired miners and their families. In former times, emigration from Kami to other cities or countries was frequent.

While mining is less relevant for the area at present times, the mining past of the region can be seen by the presence of mining associations and mining groups. These associations still play an important role in the community. Many of the persons participating in the qualitative research have a mining background (direct or as family member). The infrastructure in the community has improved in the past years. Public and private schools are available for the younger generations.

As a form of recapitulation, the qualitative research rounds 1 and 2 (2012, 2013) delivered the following results:

- Food prices vary differently for different products. While locally grown agricultural products display consumer price variations that are consistent with seasonality, prices for products brought from elsewhere or for processed products do not vary, but rather increase their level when price changes occur. That is the case of sugar, rice, and cooking oil.
- Retail price changes do not benefit poor farmers. Increases in production input prices and low revenue margins out of agriculture have discouraged small scale production. Agriculture is not considered as an option for building a future.
- Decent employment opportunities are lacking locally for both, young and adults, skilled (professionals) and unskilled persons.
- Economic hardship has pushed poor people to look for multiple income generating activities (2-3 jobs at a time), or to emigrate, in order to earn a basic salary/wage. In addition, school dropout for children and teenagers is becoming more frequent, as minors need to enter the labor force for contributing to the household income. As a result, family interaction is diminishing and the caring for others within the households is being compromised since women/mothers (as traditional gender roles mandate) have multiple occupations too.
- The community social network is diminishing. The traditional custom of helping each other is no longer practiced and community representation posts are left vacant over time.
- Volatile and rising prices, coupled with low household income and “modern” food preferences, are generating a change in the households´ food consumption patterns. Poor families are purchasing more of lower quality products (i.e. old potatoes, broken rice), substituting certain products by other cheaper ones, increasing the consumption of processed foods, or eventually, foregoing consumption of food items that have become too expensive (i.e. meat, quinoa).
- Increases in prices for other non-food items (especially fuel and transport) stretch even more the household budget. Price increases and volatility hit the poorest harder.
- Access to formal social protection systems is low and there is a feeling of being left alone. High bureaucratic burden, local political dynamics, and lack of information on support options and the procedures to access them, limit the population´s chances to benefit from government support. Churches and NGOs are considered as the main support providers at the local level.

In summary, we observe that poor households, both urban and rural, are facing difficulties for achieving and maintaining a condition of food security. While some food products exhibit price changes due to seasonality, products relevant for the everyday use have only shown price increases in the past years. Engagement in multiple income generating activities is the most common strategy for achieving a minimum level of income needed for covering household basic needs. Reducing consumption, in quality as in quantity, is the most common strategy for using the available resources given the food market conditions.

Research questions

Based on these general findings, the research questions addressed in this work are the following:

- How have households perceived their economic situation in the past years?
- How did households perceive and experienced the 2007-08 food price crisis? How did they cope with it?
- What did households do for a living before and after the crisis?
- How did household income and/or expenditures look like before and after the crisis?
- How is food consumption changing? How did it change after the crisis?
- How affordable is food?
- How are households accessing social protection?

Through these questions, the analyses will identify whether the above mentioned qualitative research results can be generalized to the whole population or whether a different situation is observed at the national scale.

Methodology

The analyses use nationally representative household data and general economic and social information available from the literature and official data sources in Bolivia. Two different periods, one previous and one posterior to the food crisis in 2007-08 are compared.

The following data sources are used:

- Latinobarómetro surveys 2006 – 2010, with a sample size of 1,200 persons per year.
- Living conditions household surveys 2006 and 2011, with a sample size of 4,098 households for 2006 and 8,851 households for 2011.

The existence of statistical significant differences between the 2006 and 2011 survey results is assessed via independent samples t-test or the Mann-Whitney U test for independent samples, depending on the distribution of the variable.

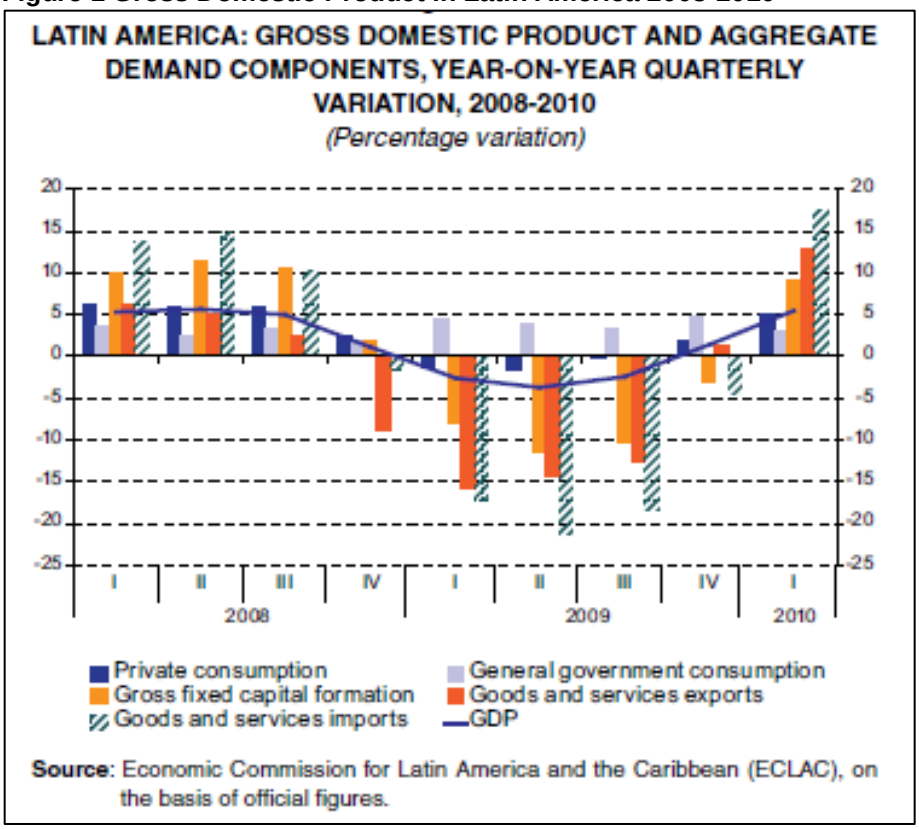
With the purpose of simplifying the results displayed within the document, detailed statistical information is presented in the Annex. In addition, all tables and figures shown in this document are based on the number of valid cases present in the variables under analyses. That is, for each variable, the cases with missing responses were excluded from analyses[2].

[2] For the variables under analysis, the proportion of missing cases was smaller than 1% of the total sample for information derived from the household surveys and about 5% for information derived from the Latinobarómetro surveys.

2 THE LATIN AMERICAN CONTEXT AT THE TIME OF THE 2007-08 CRISIS

The global crisis of 2007-08 hit Latin American and Caribbean countries at hardest in 2009. The regional Gross Domestic Product (GDP) shrank by 1.9% and unemployment rose 0.5 percentage points with respect to 2008. Further, declines in private consumption and investment, as well as in industrial production and commerce were observed (ECLAC, 2010).

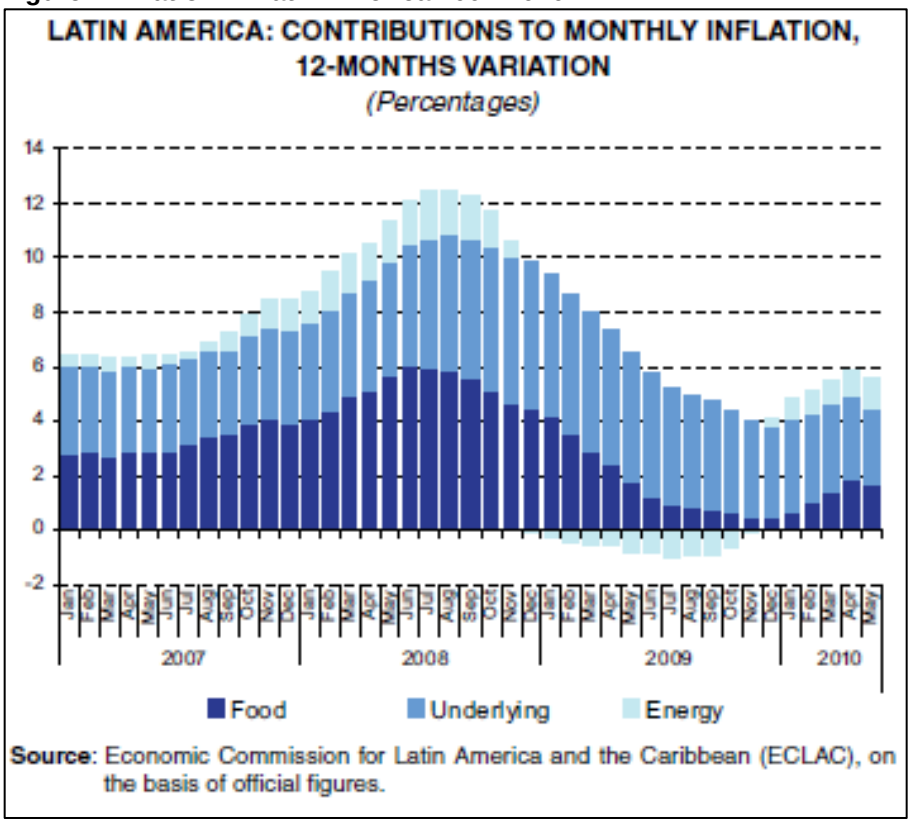
Figure 1 Gross Domestic Product in Latin America 2008-2010



Source: ECLAC, 2010 (extracted from page 18, figure I.3)

Inflation rose significantly during the late 2007 – mid 2008 period. Countries which were net food, fuel, metal, and mineral importers had the greatest difficulties in coping with the high commodity prices, which signified a further stretching in their fiscal situation. The reduction in inflation registered by late 2008 was mainly due to decreasing food and fuel prices. However, during early 2010 a new upward trend in inflation was registered, particularly in Central America, which was driven (again) by rising food and fuel prices (ECLAC, 2010).

Figure 2 Inflation in Latin America 2007-2010



Source: ECLAC, 2010 (extracted from page 22, figure I.11)

Overall, the region rapidly overcame the crisis. By 2010 many national economies had growth rates similar to those observed before the crisis and certain stabilization was achieved. Nonetheless, in 2011 and 2012 the economic growth rate of the region slowed down due to uncertainty in the international economic environment, which affected external trade, and the variability in domestic investment. Continuous increases and volatility in the prices of certain food products have, since 2010, impacted inflation (CEPAL, 2012). Price volatility affects consumption, which for Latin America and the Caribbean, also contributes to poverty. High volatility in consumption increases poverty, since the reduction in consumption leaves those households with income originally close to the poverty line, below it (ECLAC, 2010).

In order to face the effects of the crisis, the social policies implemented by the Latin American governments focused on lessening the impact of the increased food prices on income, and on protecting employment. Among the instruments used to implement such policies were: cash transfers, subsidies, price control, and food distribution programs. Some countries implemented wage increases, trainings, unemployment insurances, youth employment programs, and reductions in working hours and on contributions to social security (CEPAL, 2012).

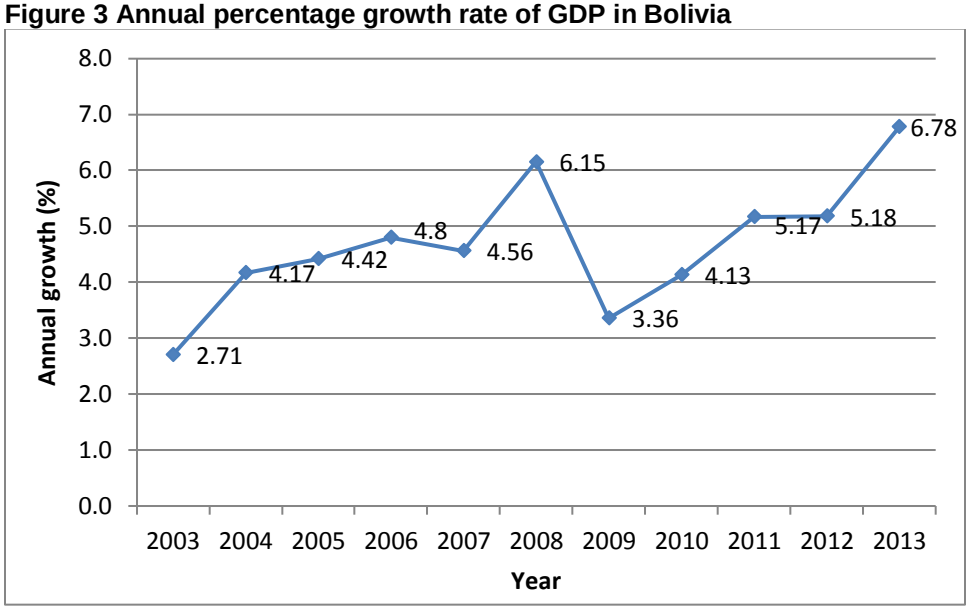
3 ECONOMIC SITUATION IN THE PLURINATIONAL STATE OF BOLIVIA

By 2006, economic growth was occurring steadily in Bolivia (Plurinational State of)[3]. In 2007 and 2008, in spite of the world crisis, the economy continued growing and it was only until 2009 when a contraction in the economy was observed; however, growth remained positive.

In 2010 Bolivia rapidly regained, and even overpassed, the growth pace which had in years previous to the crisis. The main drivers for this performance were a positive performance in the extractive industries (oil, natural gas, mining), and dynamism in investment, consumption, and production (ECLAC, 2012; Fundación Milenio, 2014).

In addition, prudent macroeconomic policies (monetary, fiscal), which have been implemented since the early 2000s increased Bolivia's resilience to shocks. Bolivia was among the few countries in Latin America and the Caribbean having positive growth during the 2007-08 crisis (IMF, 2014).

Figure 3 Annual percentage growth rate of GDP in Bolivia

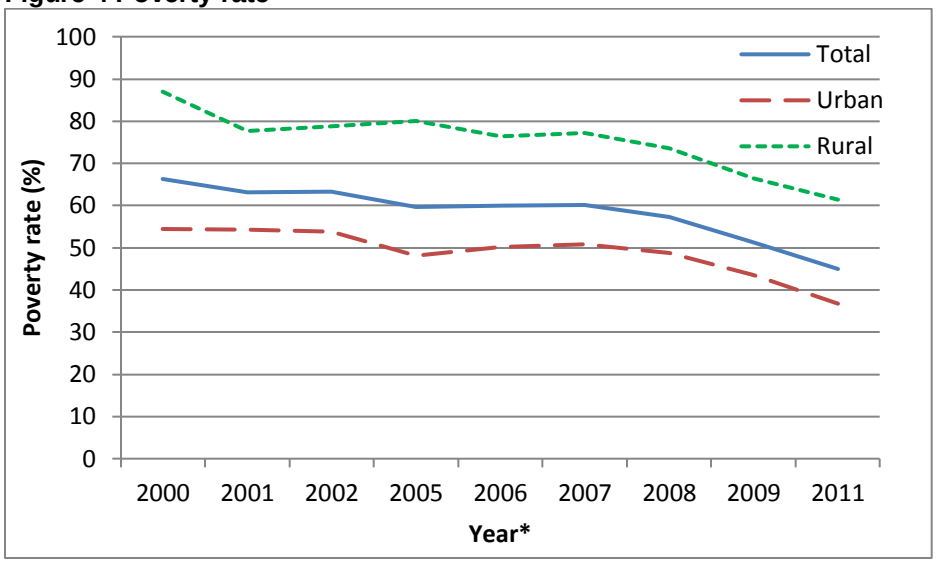


Source: Own elaboration based on INE (2014) data. Economic indicators. http://www.ine.gob.bo/default.aspx

Inclusive social policies have also contributed to improve the economic situation in the country. The focus on the reduction on poverty, inequality, and the improvement in child and maternal health and the access to public services in marginal areas has brought up positive outcomes (IMF, 2014). Since the 2000s, the poverty rate in Bolivia has decreased considerably (see Figure 4).

[3] From here onwards and for the purpose of simplification, only "Bolivia" will be used when referring to the Plurinational State of Bolivia.

Figure 4 Poverty rate



*No data was available for 2003, 2004, and 2010

Source: Own elaboration based on INE (2014) data. Social indicators. http://www.ine.gob.bo/default.aspx

However, in spite of this positive performance, Bolivia still stands among the countries with highest poverty and food insecurity in the Latin America region. Together with Guatemala, Haiti, Honduras, Nicaragua, and Paraguay, Bolivia had a poverty rate around 50% in the 2000's making these countries the poorest in the region.

By 2006, total poverty reached 59.9%. It has been estimated that during the 2007-08 period, poverty rose slightly with respect to this level, but sharper reductions have been achieved since then. In 2011, the proportion of poor persons in the population was of 44.9%. This reduction was observed mainly in the urban context and for extreme poverty[4], however poverty remains high in the rural context and for the indigenous population (UDAPE, 2013).

Table 1 Poverty headcount

Poverty status	2006 Poverty headcount (%)			2011 Poverty headcount (%)		
	Total	**Urban**	**Rural**	**Total**	**Urban**	**Rural**
Non poor	40.1	49.7	23.5	55.1	63.3	38.7
Poor	**59.9**	50.3	76.5	**44.9**	36.7	61.3
Extreme poor	37.7	23.4	62.2	20.8	10.7	41.3
Moderate poor	22.2	26.9	14.2	24.0	26.0	20.0

Source: Own calculations using survey data (Household surveys 2006 and 2011)

[4] In the household surveys 2006 and 2011, the poverty status of the households (and individuals) was obtained by comparing the per capita income against 2 poverty lines. These urban and rural poverty lines capture different degrees of poverty:

- Extreme poverty: results when the available income is lower than the cost of a basic food basket
- Moderate poverty: results when the available income is higher than the cost of a basic food basket, but lower than the cost of a broader bundle of food and non-food goods and services needed for satisfying the basic needs.

According to UDAPE (2013), the reduction in poverty registered after 2007 has been due to 3 main factors, namely: economic growth, the implementation of price stabilization policies, and the implementation of transfer programs to the vulnerable population.

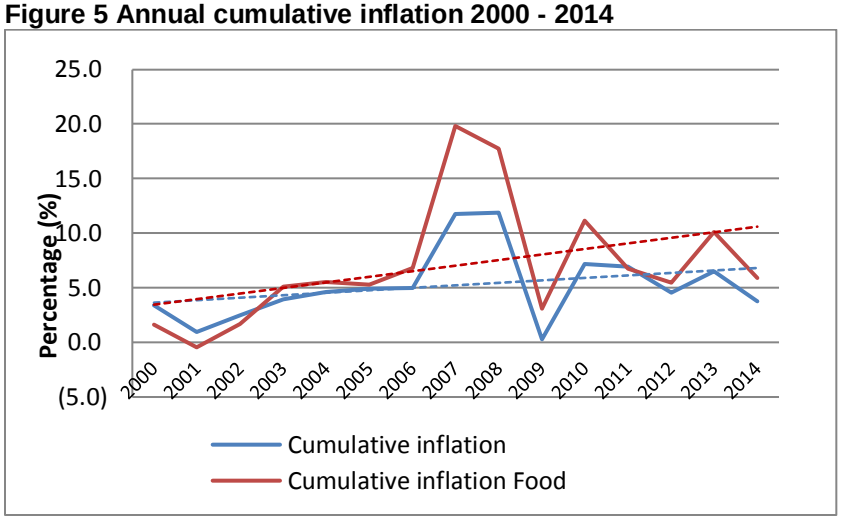
With respect to food price levels, Riveros (in Zeballos et al, 2011) suggests that between 2000 and 2011, two different "price" periods could be observed: i) between 2000 and 2006 food prices increased slowly, following the general inflation rate, and ii) between 2007 and 2011, food prices registered major increases and more volatile behavior. Thus, the reduction in overall poverty levels, in spite of sustained food price increases and volatility, appears as a remarkable achievement in macroeconomic terms. A later section in this document will explore the changes in poverty during the 2006-2011 period in more detail.

The following figure presents the cumulative annual inflation for the period 2000 – 2014. It is important to mention that in 2007, the Central Bank changed the base year for the inflation calculations from 1991, to 2007. The change was justified in the fact that consumption patterns of goods and services in the Bolivian population have changed and therefore, inflation estimates should reflect these changes. In practical terms, this change represented a change in the weights assigned to the different components included in the inflation calculation. The weight assigned to the foods and beverages component dropped from 49.10% to 39.33% (BCB, 2012). Given the high contribution of foods and beverages to the changes registered in the consumer price index and inflation, the result of this adjustment was a decrease in the inflation estimates. Nonetheless, after 2008 inflation kept rising reaching values of up to 5% annual change. As it can be seen from the figure, inflation in the food and beverages component is higher than the overall inflation.

As the figure shows, inflation in Bolivia presented a clear increasing trend (dotted line) until 2006, coincident with the food price periods identified by Riveros (in Zeballos et al, 2011). After this time, in fact, more fluctuation is observed in overall inflation (highly influenced by fluctuating food prices) and the increasing trend remained.

According to the Bolivian Central Bank, inflation increases in 2007 and 2008 were related to a variety of factors such as: natural disasters (El Niño and La Niña) which affected a significant proportion of food production, increased food prices in the international market, unfavorable international economic context, increased reception of remittances from abroad, external inflation which affected domestic prices, speculation, and increase in salaries and wages.

Figure 5 Annual cumulative inflation 2000 - 2014



Up to 2008 the base year was 1991. From 2008 onwards the base year is 2007.
Source: Own elaboration using INE data

In face of the increasing food prices, by 2007 the Bolivian government started implementing several strategies aimed at controlling price levels. These strategies had 4 main foci (Schüttel et al, 2011; UDAPE, 2013):

- Regulating the international trade, where different measures were implemented to a) limit or suspend food exports and b) to support food imports.
- Strengthening of domestic food production, via subsidies to production inputs.
- Mitigating the impacts of climatic events affecting production (La Niña in 2007-08)
- Mitigating the effects of high food prices in consumers, through legal measures against speculation and price increases above certain limits; establishment of fixed price for certain key products; and direct commercialization of subsidized foods through state owned institutions (i.e. EMAPA).

After the most critical period in 2007-08, food prices remained volatile and increasing (for some products). Thus, several of the measures continue to be implemented until these days. For instance, in early-mid 2010 agricultural production suffered once more from adverse climatic events. Sugar, maize, and chicken prices rose significantly[5]. As a result, the government implemented again measures to regulate trade, strengthen and recover agricultural production, and control consumer prices.

According to some experts (Rubio, 2010; Bazoberry Chali, 2011), the strategies implemented, while offering relief in the short term, do not represent a long term strategy nor will foster the intended development, nor the improvement in social and economic outcomes. For instance, according to these authors, the policies implemented to strengthen domestic agricultural/food production do not take into account the reality in Bolivian the agrarian structure. While these policies are positive since they promote and support smallholder production, the reality is that this sector is diminishing in numbers, have small landholding sizes (too much fragmentation) which compromise productivity, and is not well equipped to succeed in this "provisioning" role due to the type of foods produced, their location and productive assets, their low volume of production, and their technical lag.

As well, strategies related to international trade proved to be a disincentive to producers due to the low prices paid, which did not suffice to cover increasing (particularly inputs and fuel) costs.

Further, the experts suggest that issues related to environmental sustainability remain unaddressed and a prevalent extractivist culture is on place (massive deforestation, excessive use of water for mining and other industries), compromising the success of longer term development. Nowadays, resource accumulation, inequality, and exclusion remain at high levels.

While actions have been implemented in the right direction, challenges remain with regards to developing a longer term perspective, and achieving an adequate implementation of the current measures, particularly at the local level[6].

[5] http://www.la-razon.com/economia/Avicolas-emergencia-precio-comienza-elevarse_0_1244875556.html ; http://www.la-razon.com/economia/Activan-plan-revertir-escasez-azucar_0_1255674456.html ; http://www.la-razon.com/economia/BCB-nivel-inflacion-efecto-sequia_0_1219678061.html

[6] Irregularities in the functioning of some of the measures adopted (i.e. functioning of EMAPA, or Insumos Bolivia), or the limited implementing capacity within the municipalities have been reported.

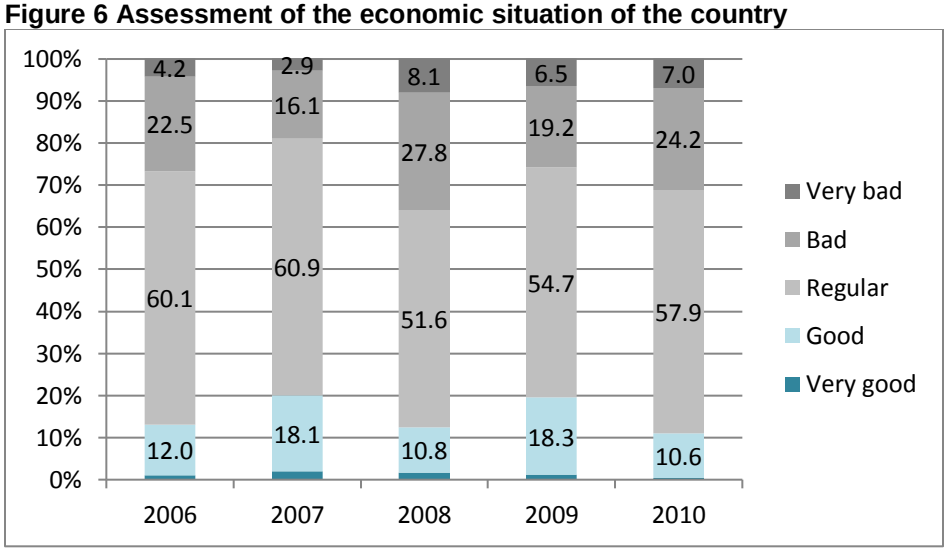
How do households perceive the economic situation in their country and in their family during times of crisis?

The following analyses offer a comparison on the population´s status before and after the food crisis, as well as insights on the population´s experiences and perceptions about well being and the overall personal and economic situation in the years around the crisis. Household survey data and Latinobarómetro data are used for the analyses. The Latinobarómetro initiative collects opinion and subjective, experiential data on a variety of topics and is representative at the national level. The incorporation of subjective reporting in the analyses was considered as important as the incorporation of social and economic survey data. This information furthers our understanding on what the population experienced at and around the food price crisis and how, in a national scale, the crisis impacted different aspects of life. The results will show that a large share of the population was concerned about the crisis and considered to be affected by it.

Along the 2006-2010 period, a pair of questions in the Latinobarómetro survey collected information on the assessment of the economic situation in the country and of the families. Between 2006 and 2010, more than 80% of the persons interviewed didn't consider the economic situation of the country as positive. While for all the years in this period, the largest proportion of persons considered it "regular" (between 50 and 60%), a larger proportion of persons considered it as bad or very bad, in comparison to those who considered it good or very good.

Compared to the rest of the years, in 2008 the negative perception of the economic situation was more widespread.

Figure 6 Assessment of the economic situation of the country



Source: Own calculations using survey data (Latinobarómetro 2006-10)

During the 2006 – 10 period, Bolivians identified unemployment, the political and economic situation of the country, and poverty as the most important problems in the country. These reflections are well captured in a statement done by one qualitative research participant: *"What concerns me the most is the situation of the country; money is never enough, there are strikes, roadblocks, food is scarce… there is homelessness. I rent and moving from one house to another is hard. I am also concerned because there is a gas shortage. How can I cook? How can I feed my children and grandchildren?"* (66-year-old urban woman, 2012). Particularly for those living on low incomes or with insecure income sources, the 2006-2010 period brought up concerns in different dimensions of personal and national level well being.

The following table presents the most important problems in the country as identified in the Latinobarómetro data. It is interesting to note that these problems were repeatedly identified as key aspects to be solved. From the information previously presented, it is clear that poverty is still widespread in Bolivia and represents a major issue to be tackled. The mention of unemployment (except in 2008) supports the results from the qualitative research where participants identify "having a job", as one of their main concerns and part of their notion of well being.

The mention of the political and the economic situation of the country as 2 of the main problems reflects the dynamism observed in the Bolivian political and economic context, which in a way or other, impacts the life of the general population. For instance, during the last years, several demonstrations and protests (involving roadblocks and temporary suspension of activities/strike, ie. closure of mines, banks, schools, shops, etc.) have been taking place all over the country, and on which several thousand persons have participated. The reasons behind these protests (and related tensions) are varied, for example: support or rejection to president Morales administration, claims for an increase in the old age pensions for the working class[7], rejection on the law forbidding child labor[8], claims for the release of imprisoned Bolivian soldiers in Chile[9], rejection to the construction of a major road (TIPNIS) through indigenous territories in the Amazons[10], the end of the fuel subsidy[11], claim for a pension for the handicapped[12], rejection to the intention to increase the working time of medical doctors (from 6 to 8 hours)[13], etc. As well, during 2008 the country faced a political crisis which revealed the high degree of opposition faced by the Morales administration[14].

Table 2 Most important problem in the country

2006*	2007	2008	2009	2010
Unemployment (25.7%) Poverty (25.7%) Political situation[15] (18.8%)	Unemployment (16.5%) Economic situation[16] (17.3%) Political situation (16.3%)	Political situation (55.5%) Economic situation (13.2%)	Unemployment (20.9%) Poverty (12.4%) Political situation (15.2%) Economic situation (18.4%)	Unemployment (20.9%) Poverty (11%) Political situation (12.9%) Economic situation (22.6%)

Source: Own calculations using survey data (Latinobarómetro 2006-10)

*Problems shown are those with the highest frequency of response (higher than 10%).

It has been documented that similar to the observed in other Latin American countries (Argentina, Ecuador, Chile, Brasil, Mexico, Colombia), demonstrations and protests in Bolivia have become tools for political pressure and for advocating interests and specific claims held by organized groups or by a

[7] http://www.infolatam.com/2013/05/14/bolivia-la-paz-paralizada-por-manifestaciones-con-dinamita-por-mejores-pensiones/

[8] http://www.elmundo.es/internacional/2013/12/19/52b2d48a22601dc5028b459d.html

[9] http://www.latercera.com/multimedia/galeria/2013/02/683-34068-7-protestas-en-bolivia-contra-detencion-de-soldados.shtml

[10] http://www.jornadanet.com/n.php?a=64900-1

[11] After some days of the announcement of the end of the fuel subsidy, the Bolivian government was forced to reinstall it in face of the broad public rejection to this measure. http://www.eluniverso.com/2010/12/29/1/1361/crisis-bolivia-gasolinazo.html

[12] http://elmundo.com.sv/discapacitados-exigen-aumento

[13] http://www.elmundo.es/america/2012/05/16/noticias/1337205360.html

[14] During 2008, representatives from different northeastern provinces collided president Morales with respect to the use of hydrocarbons' revenues. Among the issues associated with this crisis are the threat and occupation of state facilities, robbery of government goods, the murder of about 30 persons supporting president Morales in conflict areas, http://www.elmundo.es/elmundo/2008/09/10/internacional/1221078766.html , http://www.elmundo.es/elmundo/2008/09/15/internacional/1221505897.html

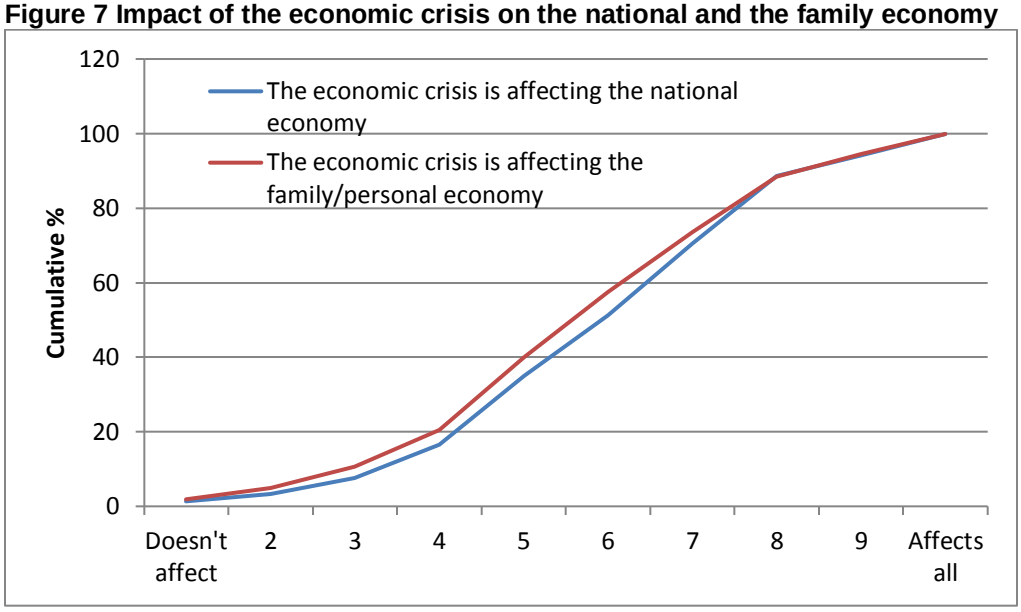
[15] Political situation and political problems

[16] Economic situation and economic problems

collectivity (Algranati et al, 2005). For non-participants, the frequency, massiveness and resonance of the different movements in local and international media might be factors which contribute to the recognition and awareness of the existence of political and economic issues taking place in the country.

In 2009, the Latinobarómetro survey explored the impacts of the crisis in the national and personal economy. For this purpose, people were asked to value in a scale from 1 to 10, where 1 means “is not being affected” and 10 means “it’s affecting everything”, their perception of the impacts of the crisis. For both aspects (national and personal economy), a very small proportion of respondents reported no effects or minor effects. About 70% of the surveyed persons rated the crisis impacts above the mid-scale level of 5, suggesting that the crisis was having moderate to severe impacts in the national and the personal economy.

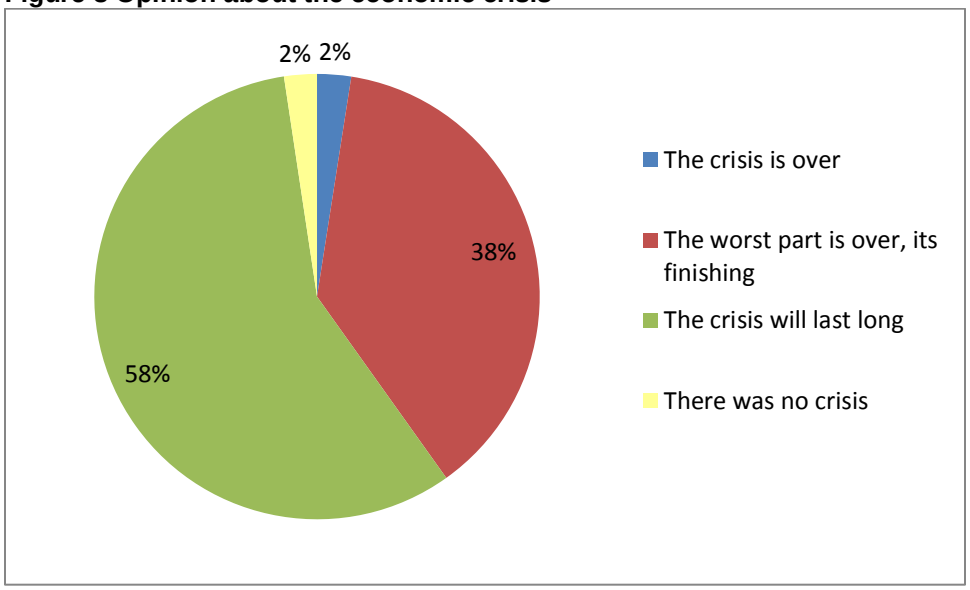
Figure 7 Impact of the economic crisis on the national and the family economy



Source: Own calculations using survey data (Latinobarómetro 2009).

By 2009, 58% of the persons surveyed had the impression that the crisis would last long and 38% opined that the crisis was ending. Only 2% thought that the crisis was over. The perception of a long term crisis might have predisposed people to implement coping and/or adapting strategies, including food consumption patterns, that could have a negative impact on their (and their families’) well being and future prospects (for children and the youth).

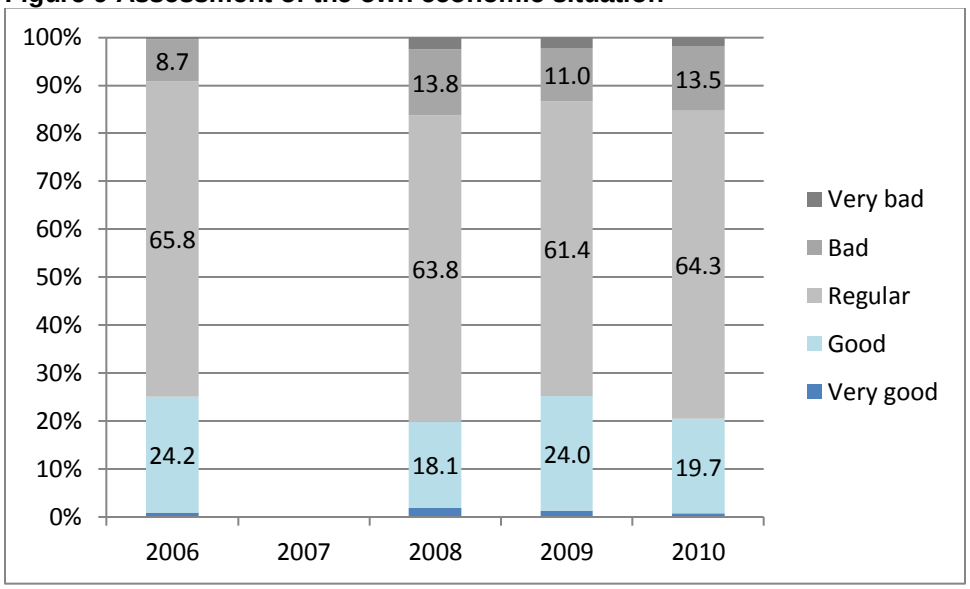
Figure 8 Opinion about the economic crisis



Source: Own calculations using survey data (Latinobarómetro 2009)

The occurrence of the international food crisis, together with the many internal issues occurring in Bolivia during the 2006-10 period reveal a challenging context for the Bolivian population. Up to 80% of Bolivians considered their own economic situation as negative/unfavorable (assessments from "very bad" to "regular") during this period. By years, 2008 was the year with the highest proportion of negative assessments of the own economic situation.

Figure 9 Assessment of the own economic situation



Source: Own calculations using survey data (Latinobarómetro 2006-10. No data available for 2007)

What did people do for a living before and after the 2007-08 food price crisis?

According to the 2006 Household Survey report, by 2006 there were 9,627,078 persons in Bolivia. In 2011 the population had reached 10,712,073 Bolivians.

The Bolivian household surveys of 2006 and 2011 explored the engagement in economic activities for all household members who are older than 7 years of age at the time of the survey. This population segment represented 82% and 84% of the total population in 2006 and 2011, respectively. For both survey years, about 60% of this population group worked.

Table 3 Persons over 7 years of age who work

Population older than 7 years of age	2006	2011
Total population	**9,627,078**	10,712,073
Proportion of persons older than 7 in the population	82.7 %	84.5 %
Number of persons older than 7, who work	4,679,429	5,491,934
Proportion from those who are older than 7	58.8 %	60.6 %

Source: Own calculations using survey data (Household surveys 2006 and 2011)

According to Escóbar de Pabón (2009) unemployment, low salaries, and worsening in the employment quality are still among the main problems related to employment in Bolivia and occur in spite of the economic growth registered in the 2000s. While salaries (and income) have increased, there is still a large inequality in the distribution of income. Between 2005 and 2007, the Gini coefficient for inequality dropped from 0.6 to 0.56 mainly due to redistribution in the urban areas. However, in the rural areas the Gini coefficient increased from 0.62 to 0.64.

The 2007-08 crisis led to the reduction in the demand for Bolivian goods in the national and international markets. Thus, the productive sector faced a contraction, which translated in job losses and the reduction in the quality of employment. In addition, changes in the characteristics of the labor force (higher educational achievements, more working experience) haven't been sufficient for reverting unemployment or for ensuring the rapid incorporation of labor force into the labor market. One of the most visible consequences of this situation has been the increase in emigration (Escóbar de Pabón, 2009).

Table 4 Employment indicators

Indicator	2000	2002	2004	2006	2008	2011
Occupied as share of persons in working age* (%)	59.43	61.07	62.23	62.91	63.07	64.08
Occupied as share of the economic active population (EAP)* (%)	95.21	94.52	95.83	94.92	97.16	97.34
Occupied in the informal sector as share of all occupied** (%)	60.8	64.1		64.4		
Unemployment (%)	4.79	5.48	4.17	5.08	2.84	3.2***

*Source: *INE, 2014. Social indicators. http://www.ine.gob.bo/indice/EstadisticaSocial.aspx?codigo=30401,*
**UDAPE, 2007 and ***World Bank, 2014. Unemployment indicators
http://data.worldbank.org/indicator/SL.UEM.TOTL.ZS

Turning to the occupation profile of the working population, it can be seen that, in general terms, this profile is very similar in both survey years (see Table 5). However, 2 major changes can be observed. First, while agriculture was still employing 40% of the working population in 2006, by 2011 it only

employed 24% (reduction of 16 percentage points). Second, the occupation category of non skilled labor almost doubled, reaching 17.8% in 2011.

The reduction in the proportion of persons engaged in agriculture is critical. Results from the qualitative research also point to the fact that people are opting to work in other sectors since agriculture is not an option that provides enough revenues as for covering the households' basic needs. As one qualitative research participant exemplified: *"The farmer does not have security on the price for his vegetables. Who wants to produce [farm] like this?"* (Rural milk producer, 2012). The recognition on the uncertainties associated with agricultural production, the low income prospects of this activity, and the increasing educational achievement of the younger population certainly decreases the attractiveness of agricultural production as livelihood option.

Table 5 Type / field of main occupation

Occupation category	2006 (%)	2011 (%)
Army	<0.01	0.1
Public and private directors/managers	1.6	2.0
Professionist	6.1	8.0
Technician and support professionist	5.2	4.7
Office employee	3.1	3.0
Services and commerce	15.0	18.0
Agriculture, animal husbandry, fishing	40.0	24.0
Extractive industries, construction, manufacture	15.1	15.0
Machinery operator	5.0	7.2
Non skilled worker	8.9	17.8

Source: Own calculations using survey data (Household surveys 2006 and 2011)

Further, the lower proportion of people working in the agricultural sector reminds the criticism mentioned earlier to policies implemented in the context of the crisis, for strengthening the agricultural sector. The data shows that in fact, fewer people are engaged in this sector and therefore, the production base (smallholders) available for the success of such policies might be less able to generate the expected results (food sufficiency in key products).

The increase in the proportion of people engaged in low skilled jobs can also reflect an increase in informality. While there is no official data available for recent years in this indicator, informality was increasing by 2006 and it would be expected that the trend remained due to the effects of the crisis on employment.

The young: 18-30 years of age

According to the International Labor Organization (2013), between 2003 and 2008, employment rates for the youth registered an upward trend in Latin America which was associated with the ongoing economic growth. By the end of 2008 and during 2009, this trend was reversed and unemployment rose partially due to the effects of the global crisis[17]. In this time, not only a high proportion (about 40%) of the unemployed belonged to the 15-24 years of age group, but also, this group faced higher challenges to join the labor market.

[17] The Economic Commission for Latin America and the Caribbean (ECLAC) and the ILO have concluded that the impacts of the 2007-09 crises were not harder in the youth than in the adults. Youth unemployment has also decreased due to permanency in the education system.

Family background is an important determinant of the employment perspectives and potential careers of the youth. The high inequality observed in Latin America and the Caribbean is reflected (and reproduced) in the fact that young people belonging to the poorest population segments are more likely to join the informal sector and enter lower quality jobs than the youth in the better off segments. As well, unemployment is higher among the poorer youth who faces lack of opportunities and exclusion (OIT, 2013).

According to Rojas (2014), about 60% of the youth (15-24 years of age) were engaged in an economic activity in 2012. However, almost half of them did not receive a payment for their work. The largest proportion of the working Bolivian youth (61%) works in the areas of commerce and services and in low skilled jobs (67%), in spite of their higher educational level. The youth faces low salaries, lack of social protection, wage discrimination, lack of labor rights, and employment instability. In 2011, 73% of the working youth earned less than the cost of the basic food basket.

In this context, the results from the qualitative research documenting that the youth is facing difficulties for entering in the labor market, in spite of higher educational achievements, are no surprise. One elderly, parent of young persons, participating in the qualitative research pointed out that the "…*children do not find employment anymore. Being professionists they have gone back to the mines, because there are no jobs. Others have gone to the Chapare, to the Yungas. They have dispersed like that. In vain we have made them professionals, but what will we do?"* (Pensioned miner, 2012). This personal experience clearly exemplifies the statements mentioned above. The local lower-income youth, has fewer chances to access quality jobs and thus engages in low quality employment or remains unemployed. The parental efforts of furthering the children education have not brought up the expected social and economic returns.

For the purpose of this analysis, the youth is composed by those persons in the age group 18-30[18]. In 2006 there were 2,002,067 persons between 18-30 years of age. They comprised 20.8% of the population. In 2011, the total number was 2,351,464, representing the 22% of the population. For both years, the survey results show that approximately 64% of the youth was economically active, with the rural youth being considerably more engaged in economic activities than their urban counterparts.

Table 6 Involvement in economic activities for persons aged 18-30

Involvement in economic activities	2006 (%)	2011 (%)
Total		
Not working	36.4	35.4
Working	63.6	64.6
Rural		
Working	80.1	79.9
Urban		
Working	57.5	59.5

Source: Own calculations using survey data (Household surveys 2006 and 2011)

In 2006, the main economic activity for the youth in the rural areas was related to agriculture (73.5%), followed by work in the in the extractive, construction and manufacture industries (9.3%), and non-skilled employment (5.6%). In the urban areas, their main economic activities related to services and commerce (24.8%), the extractive, construction and manufacture industries (24.8), non-skilled employment (12.8%), and professionals support and technical work (9.8%).

[18] A later section examines child work, which refers to work by persons in the age range 7 to 17.

While a considerable proportion of the youth was working in both urban and rural areas, still about 23% of them were available and eager for working. The main reasons for not working were: being student (53%) and the involvement with household duties/pregnancy/care for children (37.5%).

By 2011, the main economic activity for the rural youth was still agriculture, but at a lower extent than in 2006 (58.6%). Important too were work in the extractive, construction and manufacture industries (9.7%), and non-skilled employment (12.5%). In the urban setting, the main economic activities of the youth related to services and commerce (24.5%), the extractive, construction and manufacture industries (21.9%), and as non-skilled labor (13.9%). In this survey year, only 14.8% of the youth who were not working wanted to and was available for it. The main reasons for not doing so were the same as in 2006, with 52.7% of them being students and 35.5% engaged in household duties/pregnancy/child care.

Achievement of higher educational status in a population is related to increases in productivity, income, employment, development and well being. Further, education supports the construction of citizenship, social identity, and social cohesion (OIT, 2013).

For the youth participating in the qualitative research, a much modern lifestyle, that is urban, independent, and as salaried employees/professionists, offers the quality of life and personal development they strive to. As a young man pointed out: *„I think that we [the youth] have changed. We have seen the hard life of our parents and we don't want to produce [farm] like them. We want to be professionists, work in the city. Some friends worked hard for saving money and being able to study without asking [money] their parents"* (Young man, 2012).

As shown earlier, the qualitative research showed that both the youth and their parents see education as a key for personal and family progress. However, results suggest that having a higher educational status is not a guarantee (anymore) for finding a good and well paid job and many of the young people, who achieve a higher educational status than their parents, have to engage in agriculture or low-skilled jobs due to the lack of employment opportunities that fit better with their educational profile.

Table 7 Employment category and educational achievement for persons aged 18-30, 2006

Employment category	2006 Educational achievement Persons aged 18-30			
	None	Primary	Secondary	Superior
Public and private directors/managers	0.0%	0.0%	9.7%	90.3%
Professionist	0.0%	0.0%	0.0%	100.0%
Technician and support professionist	0.0%	2.0%	29.7%	68.2%
Office employee	0.0%	2.6%	40.1%	57.2%
Services and commerce	1.2%	22.6%	55.8%	20.4%
Agriculture, animal husbandry, fishing	8.9%	58.3%	31.5%	1.3%
Extractive industries, construction, manufacture	1.9%	32.4%	55.1%	10.6%
Machinery operator	0.5%	35.8%	53.8%	9.9%
Non skilled worker	1.4%	37.3%	50.2%	11.2%
Agriculture in rural areas	9.2%	60.8%	29.4%	0.6%

Source: Own calculations using survey data (Household surveys 2006 and 2011)

From the table above, it is possible to see that, in fact, at the national level persons with educational achievement in the "Superior" level (university, post graduate studies, teaching) do engage in activities

where a higher educational achievement is sub utilized. For instance, in 2006, 11.2% of the non skilled workers, 9.9% of the machinery operators, or 20.4% of those dedicated to services and commerce had superior education. The agricultural sector was the one with the lowest proportion of university-level working force.

Supporting the qualitative findings, by 2011 it is possible to observe that a higher proportion of young persons with higher education engage in occupations with a lower skills demand. For instance, while the proportion of highly educated people remained the same in non skilled occupations, it increased in services and commerce, machinery operator, and agriculture.

These results coincide to what has been documented for the Latin American region (and Bolivia) during the past years. It should be kept in mind that the participants in the qualitative research belong to the poorer population segments in their contexts and thus, also face the difficulties and challenges indicated earlier in this section.

Agricultural work is the category employing the largest proportions of lower-skilled persons. However, marked differences can be seen between the years, where in 2011 the proportion of more educated workers (secondary and above) increased with respect to 2006.

Table 8 Employment category and educational achievement for persons aged 18-30, 2011

Employment category	2011 Educational achievement Persons aged 18-30				
	None	Primary	Secondary	Superior	Other
Army	0.0%	0.0%	0.0%	100.0%	0.0%
Public and private directors/managers	0.0%	5.8%	22.3%	68.4%	3.5%
Professionist	0.0%	0.3%	1.2%	98.5%	0.0%
Technician and support professionist	0.3%	3.7%	26.2%	69.3%	0.5%
Office employee	0.0%	1.5%	33.1%	63.7%	1.7%
Services and commerce	0.2%	13.7%	53.9%	31.8%	0.4%
Agriculture, animal husbandry, fishing	3.9%	49.7%	41.4%	4.6%	0.4%
Extractive industries, construction, manufacture	0.2%	23.7%	57.7%	17.7%	0.7%
Machinery operator	0.1%	21.5%	62.9%	15.2%	0.2%
Non skilled worker	0.9%	33.6%	53.5%	11.3%	0.7%
Agriculture in rural areas	4.1%	52.3%	40.6%	2.6%	0.4%

Source: Own calculations using survey data (Household surveys 2006 and 2011)

While the national trends showed that engagement in agriculture dropped significantly between 2006 and 2011, the fact that a higher proportion of young people with higher educational achievement engages on it in 2011 with respect to 2006, may reflect the lack of adequate employment options, particularly for the rural educated youth. Engagement in agriculture and other non skilled employment might be the last option (other than unemployment) for those youngsters who can't access better jobs.

The middle aged adults: 31-60 years of age

Turning to an older population group, the one comprised by persons aged 31-60, similar trends are observed. In 2006, this group represented the 27.8% of the population, which became 29.9% in 2011.

In 2006, 83.3% of this age group was working at the time of the survey. For the rural areas, this proportion was 91.7% (predominantly related to the agricultural sector – 78.6%) in contrast with 78.9% in the urban areas (mainly services and commerce, and extractive industries – 22% each of them). For both urban and rural areas, and referring to those who were not working, but were willing to, the main reasons for not working were household duties (71.1%), sickness/accident (10.9%), and old age (8.9%).

Table 9 Employment category and educational achievement for persons aged 31-60, 2006

Employment category	2006 Educational achievement Persons aged 31-60			
	None	Primary	Secondary	Superior
Army	0.0%	0.0%	0.0%	100.0%
Public and private directors/managers	0.0%	9.0%	13.0%	78.0%
Professionist	0.0%	0.0%	0.2%	99.8%
Technician and support professionist	0.0%	5.4%	25.9%	68.7%
Office employee	0.0%	4.0%	43.6%	52.4%
Services and commerce	7.0%	50.9%	31.6%	10.5%
Agriculture, animal husbandry, fishing	20.1%	70.9%	8.3%	0.6%
Extractive industries, construction, manufacture	8.5%	52.3%	32.3%	6.9%
Machinery operator	0.0%	40.3%	52.3%	7.4%
Non skilled worker	12.7%	60.2%	23.6%	3.4%
Agriculture in rural areas	21.0%	71.1%	7.4%	0.6%

Source: Own calculations using survey data (Household surveys 2006 and 2011)

In 2011. 85% of this age group was working at the time of the survey. For the rural areas, this proportion was 91.5% (predominantly related to the agricultural sector – 66.5%) in contrast with 82% in the urban areas (mainly services and commerce, extractive industries, and professionists).

Table 10 Employment category and educational achievement for persons aged 31-60, 2011

Employment category	2011 Educational achievement Persons aged 31-60				
	None	Primary	Secondary	Superior	Other
Army	0.0%	0.0%	14.3%	85.7%	0.0%
Public and private directors/managers	0.7%	5.7%	22.5%	70.3%	0.9%
Professionist	0.0%	0.1%	1.3%	98.7%	0.0%
Technician and support professionist	0.6%	8.4%	23.7%	64.9%	2.4%
Office employee	0.3%	4.5%	32.7%	61.2%	1.3%
Services and commerce	6.5%	39.0%	36.8%	17.1%	0.6%
Agriculture, animal husbandry, fishing	18.3%	64.4%	14.5%	2.7%	0.0%
Extractive industries, construction, manufacture	3.5%	41.3%	42.7%	12.1%	0.4%
Machinery operator	0.9%	34.7%	55.3%	9.1%	0.0%
Non skilled worker	8.9%	50.9%	35.7%	4.4%	0.1%
Agriculture in rural areas	19.6%	65.7%	13.1%	1.6%	0.0%

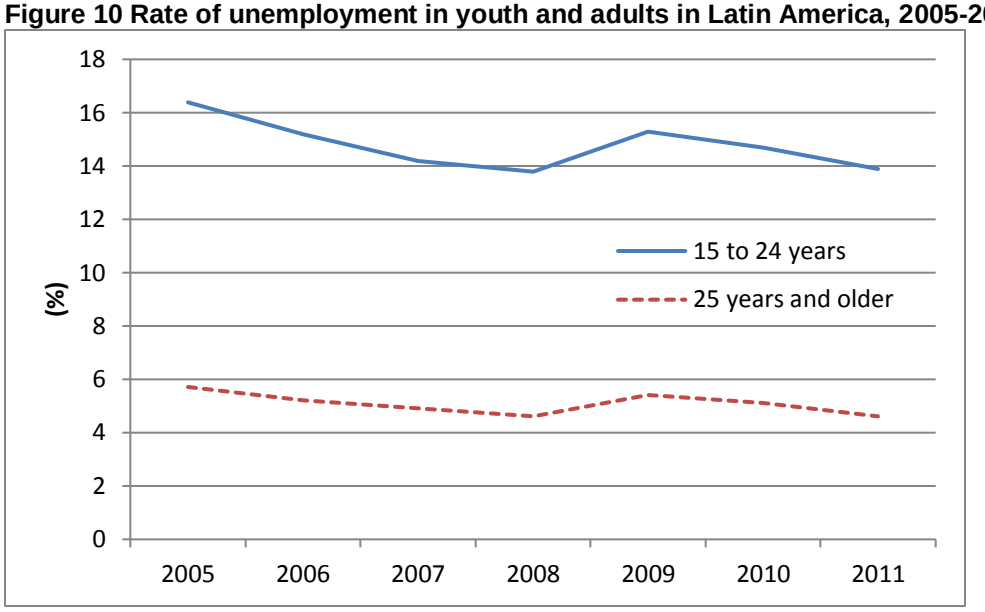
Source: Own calculations using survey data (Household surveys 2006 and 2011)

For both urban and rural areas, and referring to those persons who were not working, but were willing to (16%), the main reasons for not working were, as in 2006, household duties, sickness/accident, and old age.

Unemployment

According to the ILO (2013), unemployment in Latin America and the Caribbean along the 2005-2011 period followed the variations observed in the regional economic growth. A decreasing trend up to 2008 was reversed in 2009, and regained its path by 2010. The following figure presents the unemployment rate estimates for the youth and the adult population in Latin America. As indicated earlier, due to a variety of reasons the youth face higher challenges to access employment than the adult population.

Figure 10 Rate of unemployment in youth and adults in Latin America, 2005-2011



Source: Own elaboration based on OIT (2013, Table 3, page 27)

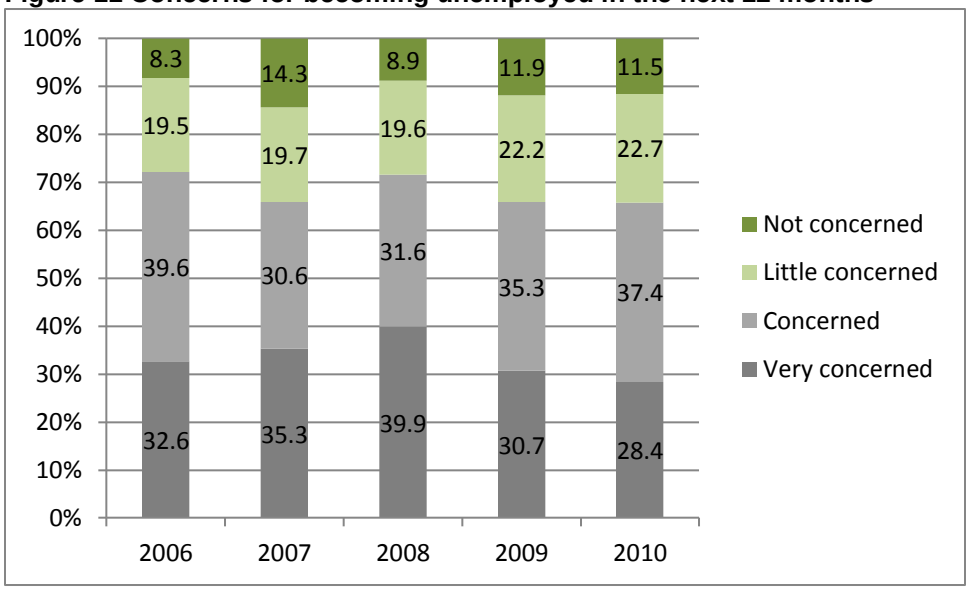
The rates of unemployment for Bolivia were shown in Table 4. As from the table, between 2000 and 2008, the unemployment rate was rather fluctuating in the range of 4.17 - 5.48%. In 2008 unemployment dropped to 2.84%, but increased again reaching around 3.3% in the period 2009-2011, for which data is available.

While the national level data shows that a considerable proportion of persons over 18 years of age are engaged in an economic activity, the qualitative research results reveals that there is a sense of uncertainty on whether employment is secure. As an urban woman clearly expressed during the qualitative research in 2012: *"Me, any job that is there I hold on it with nails and teeth... I hold on it. Earlier, I changed from one job to another... not anymore. That is why I say: If I complain, they can fire me just like that and I wouldn't have a way to feed my children".* This statement shows that for some persons, the need for employment security overpasses the need for quality employment. In this sense, people in poorer communities are willing to work on unfavorable conditions (in general terms) in order to secure a basic income.

At the population level, the situation might be the same. The Latinobarómetro survey explores people´s concerns on becoming unemployed in the near future. From the figure it is possible to see that 2006 and 2008 were the years where a larger proportion of currently employed respondents reported being concerned or very concerned of becoming unemployed (72.2% and 71.5%, respectively). For all years

analyzed, this proportion exceeds the 65% meaning that overall, Bolivians are concerned about their employment stability.

Figure 11 Concerns for becoming unemployed in the next 12 months



Source: Own calculations using survey data (Latinobarómetro 2006-10)

Multiple occupations

According to the testimonies gathered in the qualitative research, some people need to engage in multiple occupations in order to complement the income earned in their primary occupation and be better able to cover the basic needs.

The survey data reveals that in 2006, 8.5% of the total population older than 7 and working had secondary occupations. The most prevalent second occupations in the urban areas were: services and commerce, technician and professionist support, agriculture, and economic activities in the extractive, construction and manufacturing industries. In the rural areas, the secondary occupations related to the agricultural sector, non-skilled labor, extractive, construction and manufacturing industries, and services and commerce.

In 2011 a similar proportion of persons older than 7 years of age had a secondary occupation (8.3%). The most prevalent secondary occupations in the urban area were involvement in services and commerce, extractive, construction and manufacturing industries, work as professionists, and in non-skilled jobs. In the rural areas, the most prevalent secondary occupations related to agriculture, construction and manufacturing industries, non-skilled work, and services and commerce.

In general terms, at the aggregate national level, the proportion of persons with multiple occupations did not change much (and rather decreased marginally) between 2006 and 2011. Further qualitative research could investigate the nature of multiple occupations and their main bearers.

Child work

In July 2014 the Bolivian government passed a law allowing children to work after reaching 10 years of age and established the same social and labor benefits as for working adults. The passing of the law was a highly debated issue in the country and abroad, given the commitment of Bolivia (via a number of international agreements) to eradicate child labor. Nonetheless, in recognition of the reality faced by a large proportion of Bolivian children and the country's social and economic context, the law was established as a mechanism to regulate the engagement of children in economic activities, to recognize their labor rights, and to protect them from exploitation and from the engagement in activities regarded as dangerous[19].

The 2008 Child Work Survey revealed that from the children aged 5 to 17, 27.94% engaged in economic activities (paid and unpaid), 85.28% did household chores, and 93.09% attended school. Considering the engagement in multiple activities, 23.59% of all children studied, worked, and did household chores. Marked differences were seen between rural and urban areas with respect to engagement in economic activities: while only 16.96% of the urban children worked, 64.85% of the rural children did so. Overall, 24.55% of the children worked in jobs classified as "dangerous" by the national legislation (OIT and INE, 2010).

The qualitative research results reflect this reality. A rural woman´s experience in 2012 shows the compromise done between household needs and personal development: *"Now my oldest son helps me. He also works in the stone collection and gives me what he earns, for the household. He stopped studying. He stopped at secondary…".* As indicated at the beginning of this document, a common occupation in the rural setting of the qualitative research involves stone collection for the aggregate industry. Young, adults, and elderly men and women engage in this activity very often, with no other tools other than their own hands.

According to the ILO (2013), immediate economic household needs determine whether the youth enters the labor market or, ideally, remains in the education system. The results from the qualitative research clearly exemplify this issue by pointing out that due to the increasingly difficult economic situation of some households, children in the researched communities were being forced to enter the labor market and so, foregoing their education.

Survey data from 2006 and 2011 mirror the findings of the Child Work Survey. In 2006, 27.1% of the population was in the age range 7 -17. From them, 60% were living in the urban areas and 40% in the rural areas. The proportion of children who work reached 29.7%, with the majority of them (75.3%) living in the rural areas.

In the urban areas, 53.5 % of those who work, also attend school. They are engaged in services and commerce, extractive and manufacture industries, and non-skilled labor. On average, these children work 4.3 days a week, for up to 6.2 hours a day. In the rural areas, 86.4% of the children who work attend school and are engaged predominantly in the agricultural sector. On average, they work 4.1 days a week, for up to 4.3 hours a day.

In 2011, 24.6% of the population was in the age range of 7-17. The majority of them, 63%, lived in the urban areas (vs. 37% in the rural areas). About 29% of children in this age group engaged in an economic activity, being most of them located in the rural areas (70.7%).

[19] http://www.nacion.com/mundo/latinoamerica/Bolivia-autoriza-trabajo-infantil-partir_0_1427457249.html http://www.eldiario.net/noticias/2014/2014_07/nt140713/nacional.php?n=40&-oit-investiga-ley-boliviana-que-autoriza-trabajo-infantil-desde-los-d

Differently than from what it was observed in 2006, only 34% of those children who work in urban areas also attend school. These children were engaged in services and commerce, non-skilled labor, and extractive industries. On average, they work 4.9 days a week, for 5.2 hours a day. In the same line, in 2011 the proportion of rural children who work and attend school only reached 46%. These children work mainly as non-skilled workers and in agriculture and, on average, work 4.2 days a week, for 4.5 hours a day.

While the proportion of children who work didn´t change much between 2006 and 2011 (both years around 29%), the proportion of children who work and attend school reduced significantly in 2011, when compared to the 2006 level, especially in the rural areas. Thus, the survey data does not reflect an increase in child labor as reported in the qualitative results, however it does confirm that more working children are foregoing education, when compared with previous (2006) times.

From the data it is not possible to assess whether school drop out is the result of the children's engagement in economic activities, the result from limited possibilities within the households for affording children education, or a combination of both. Whatever the case and in light of the potential impacts of the new law regarding children's work, Bolivia has a major challenge for building the human capital required for the country to develop socially and economically.

Migration

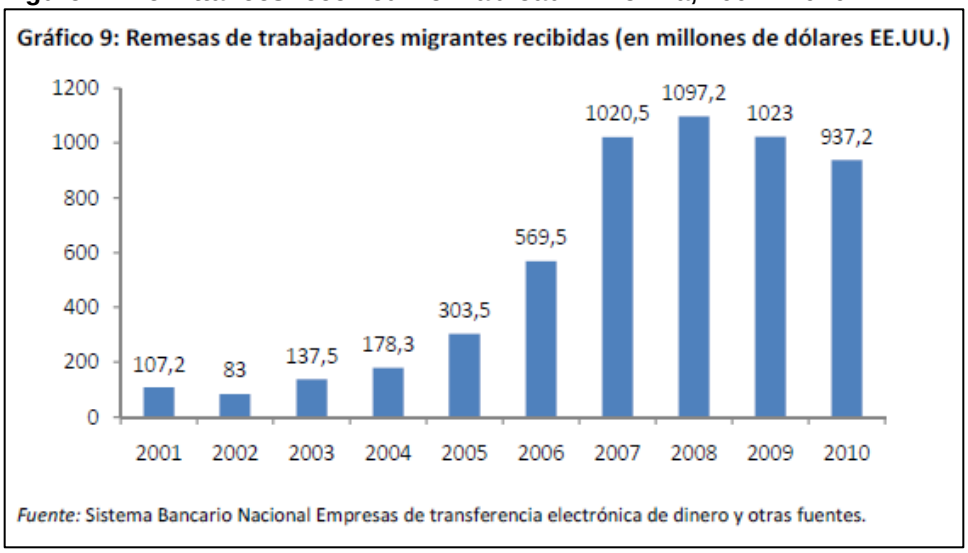
Bolivia is a country where migration is common. Over the years, internal migrants have moved to less populated areas in the eastern part of the country and more recently, from the rural areas to the cities. With respect to international emigration, the International Migration Organization (2011) estimates that by 2011 approximately 700,000 Bolivians (representing 7% of the population) were abroad. The main destinations for international migrants are Argentina, Spain, the United States, and more recently, Brazil. The availability of employment opportunities in the places of destination represent the main motivation for migrants to move on.

According to Escóbar de Pabón (2009), the high levels of migration registered during the 2000s have helped to reduce the pressure from the increasing size of the labor force and to maintain the unemployment statistics at lower levels. It is estimated that the labor force loss due to migration since 2002 amounted up to 6.2% of the economic active population in 2007.

The qualitative research results indicate that migration, especially rural emigration, is frequent in the studied communities as a way to pursue a better standard of living.

While information is scarce about the impacts of the 2007-08 crisis on migration in Bolivia, it is interesting to point out that 2008 was the year with the highest proportion of returnees, from all international returnees in the 2007-2009 period. During 2007 and 2008 the level of remittances received in Bolivia increased significantly with respect to the 2006 (and previous) levels. However, in 2009 remittances dropped as a result of the negative impacts of the crisis on the employment and income of migrants, particularly from those in the USA and Europe (OIM, 2011).

Figure 12 Remittances received from abroad in Bolivia, 2001 - 2010



Source: OIM, 2011 (Extracted from page 49, figure 9)

Balderrama Mariscal et al (2011) explored the impacts of climate change, economic crisis, and public policy on rural migration in 2 regions in Bolivia (one of them known for being migration source and the other known to be migration destination). They document that in recent past (the 1980s), a severe drought experienced in the Andean region (1983 -1985) and a generalized economic crisis (1985 – 1990) had devastating effects for a massive number of persons and triggered major migration flows towards the main cities in the country, other rural destinations in the lowlands, and abroad. The authors point out that from that moment onwards, migration became an adaptation strategy from Andean communities in face of these types of shocks and has become part of their livelihood strategies.

Calculations based on the 2006 and the 2011 survey data yield that about 8% of the population older than 5 had migrated to their place of residence at the time of the survey, during the 5 years previous to the survey.

In fact, a slightly higher proportion of migrants are registered in 2011 with respect to 2006. The largest increase (2.8 percentage points) is observed in rural migration, supporting the findings of the qualitative results. The following table presents the main motivations behind the migration process.

Table 11 Migration in the past 5 years

	2006 (Referring to 2001) (%)			2011 (Referring to 2006) (%)		
	Total	**Urban**	**Rural**	**Total**	**Urban**	**Rural**
Persons older than 5 who lived somewhere else 5 years ago						
Proportion	7.7	8.7	6	8.5	8.2	8.8
Reasons for migrating from that place to the current place of residence						
Looking for a job	21.9	21.0	24.2	26.8	24.8	30.5
Change of location in the job	13.4	12.5	15.6	9.5	8.4	11.8
Education	14.3	18.2	4.3	12.1	15.7	5.0
Health	2.1	2.7	0.8	3.9	4.4	2.9
Family	44.2	41.7	50.5	40.0	38.4	43.2
Other	4.1	3.9	4.6	7.7	8.3	6.7

Source: Own calculations using survey data (Household surveys 2006 and 2011)

As the table shows, the main reasons for migrating are predominantly family related and the search for employment opportunities. Both of these reasons are more predominant among rural inhabitants.

How did household income and expenditures look like before and after the crisis?

Income

Every year, the Bolivian government establishes the level of the official minimum monthly wage taking into account the level of inflation observed during the year previous to the year on which the new wage is to be implemented. With this adjustment, it is intended to protect the purchasing power of the population given the changes in the cost of goods and services[20]. The policies related to the wages' adjustment focus both in public and private sector wages (Fundación Milenio, 2013).

The following table presents the level of the official minimum wage in the period 2000 – 2014, in nominal terms. The cumulative inflation is presented for comparison purposes. It is important to note that in 2007, 2008, and 2010, the increases in the minimum wage were below the increase in inflation.

Table 12 Evolution of the official minimum wage, 2000 - 2014

Year	Decree / Law	Monthly minimum wage (Bs.)	Wage increase (%)	Annual cumulative inflation
2000	D.S. 25679	355	8	3.41
2001	Ley 2158 PGN, DS 26047	400	13	0.92
2002	D.S. 26547	430	8	2.45
2003	D.S. 27049	440	2	3.94
2004 (*)	D.S. 27049	440	0	4.62
2005 (*)	D.S. 27049	440	0	4.91
2006	D.S. 28700	500	14	4.95
2007	D.S. 29116	525	5	11.73
2008	D.S. 29473	577.5	10	11.85
2009	D.S. 0016	647	12	0.26
2010	D.S. 0497	679.5	5	7.18
2011	D.S. 0809	815.4	20	6.90
2012	D.S. 1213	1,000	23	4.54
2013	D.S. 1549	1,200	20	6.48
2014	D.S. 1988	1,440	20	5.5**

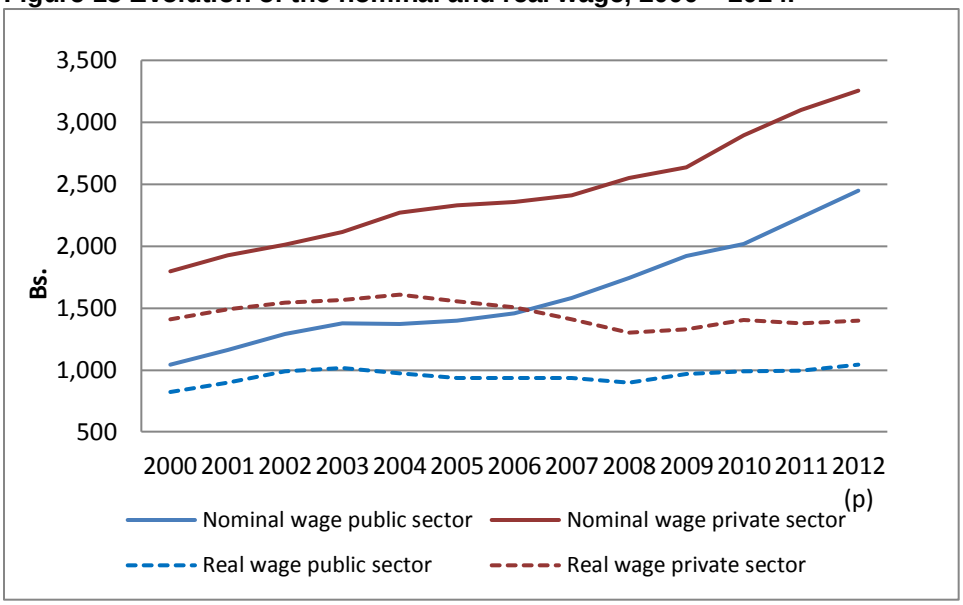
*In these years the minimum wage wasn't modified, so the 2003 levels were maintained
**Projected estimate.
Source: INE, 2014 *http://www.ine.gob.bo/indice/general.aspx?codigo=41201*

While in nominal terms it appears that minimum wages have been increasing significantly, in real terms the increments are less conclusive. The following figure presents the average wage in nominal and real terms for the 2000 – 2014 period and for the public and private sectors. It can be observed that while in

[20] http://www.economiayfinanzas.gob.bo/index.php?opcion=com_contenido&ver=contenido&id=1215&seccion=306&categoria=446

nominal terms, wages display an increasing trend, in real terms they changed rather few or even decreased, particularly after 2007.

Figure 13 Evolution of the nominal and real wage, 2000 – 2014.



Source: Own elaboration based on INE data (preliminary figures for 2012)

A criticism to the establishment of the minimum wage is that this wage does not apply to the broad majority of workers, who are engaged in the informal sector (Fundación Milenio, 2013). In addition, according to Escóbar de Pabón (2009b), between 2000 and 2008 the real wages could only afford about 50% of the cost of the basic food basket, with a diminishing power after 2006[21]. Taking this into consideration, it becomes clear that in order to ensure the access to a minimum level of goods and services, several household members need to contribute to the household income.

Focusing more broadly on income, rather than on salaries, the following table presents the level of household income and expenditures as calculated from the survey data from 2006 and 2011. In order to provide some degree of comparability, household expenditures and income from 2006 were brought to 2011 terms using the annual consumer price index, as provided by the National Institutes of Statistics in Bolivia[22]. Both, average household income and expenditures were higher in 2011, compared to 2006.

Table 13 Average monthly household income and expenditures

Household finances	2006 (in 2011 terms) (Bs / month)			2011 (Bs / month)		
	Total	Urban	Rural	Total	Urban	Rural
Household income	3,147.15	4,087.55	1,550.34	3,737.84*	4,431.75	2,335.41
Household expenditures	2,567.16	3,273.61	1,367.61	2,843.62*	3,321.93	1,876.93

*Statistically significant differences are observed on household income and expenditures between 2006 and 2011. See Annex for test results[23].

[21] Canasta Normativa Alimentaria (Normative food basket)

[22] INE 2014. Consumer Price Index by year and month (Base 2007). Serie 1967-2013. http://www.ine.gob.bo/indice/visualizador.aspx?ah=PC02020104.HTM}

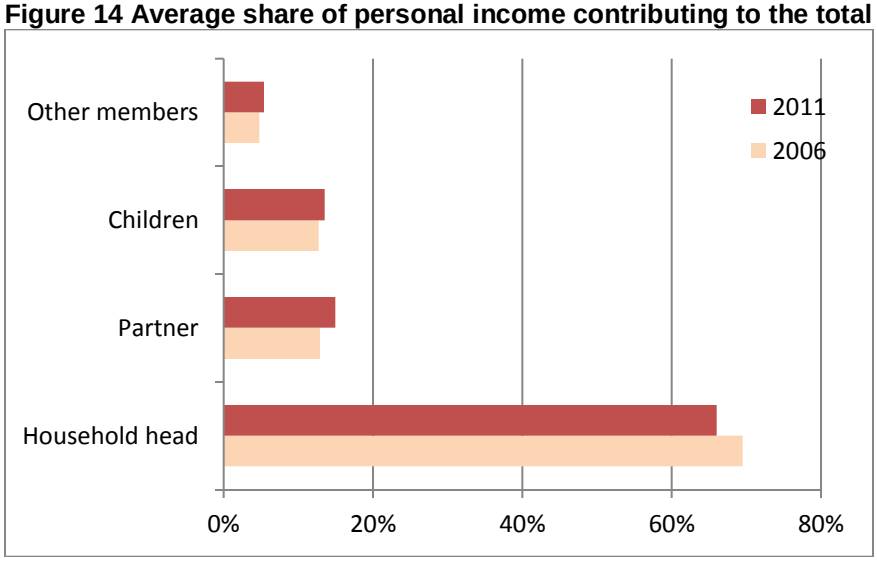
[23] Test results for assessing statistical significant differences between 2006 and 2011 data, for the different variables presented in this and in the following sections are included in the Annex.

Source: Own calculations using survey data (Household surveys 2006 and 2011)

In terms of the contribution of different household members to the household income, slight changes are observed between survey years. In 2006 the share of income earned by the household head was larger than in 2011. In the other side, the share of income earned by other household members was higher in 2011 than in 2006. This supports the qualitative research findings indicating that other household members are increasingly contributing to the household income as a strategy to cope with the economic hardships experienced during the past years.

For example, a participant in the qualitative research (urban woman, 2012) explained about the need of contributing to the household income through multiple occupations: *"My husband´s salary is not enough. That is why I also work, first doing embroidery and after, I tend a shop with video games for children, selling coin chips for playing".* The main income generating options available to lower income groups remain to be in the informal low-skilled sector. Given the low incomes received by the poorer population segment, the achievement of a sufficient family income appears even more challenging.

Figure 14 Average share of personal income contributing to the total household income



Source: Own calculations using survey data (Household surveys 2006 and 2011)

The following table presents the average monthly personal income of those who are engaged in different economic activities. The income registered in the agricultural sector stands out as the lowest among all occupation categories. For both survey years, the personal income earned in the areas of agriculture and unskilled employment is below the minimum wage level (in real terms) prevalent in the 2006-2011 period.

Table 14 Average personal income by occupation category

Occupation category	2006 (in 2011 terms) (Bs / person / month)	2011 (Bs / person / month)
Army	8,120.84	4,444.93
Public and private directors/managers	9,083.07	4,897.86
Professionist	4,542.25	3,371.75
Technician and support professionist	3,341.03	2,504.40
Office employee	2,175.16	2,208.04
Services and commerce	1,471.59	1,805.27
Agriculture, animal husbandry, fishing	399.65	789.45
Extractive industries, construction, manufacture	1,306.52	2,101.64
Machinery operator	2,497.77	2,974.56

Non skilled worker	1,180.93	884.46

Source: Own calculations using survey data (Household surveys 2006 and 2011)

Exploring household income by poverty status offers a more precise perspective on the living conditions – and challenges - of the neediest. It can be observed that, for both years, the per capita income of the extreme poor is around 10 percent (7.3 in 2006 and 10.7 in 2011) of the per capita income of the non poor. For all poverty status, the average per capita rural income is lower than the urban average income and overall, the per capita income of the poor is well below the minimum wage level.

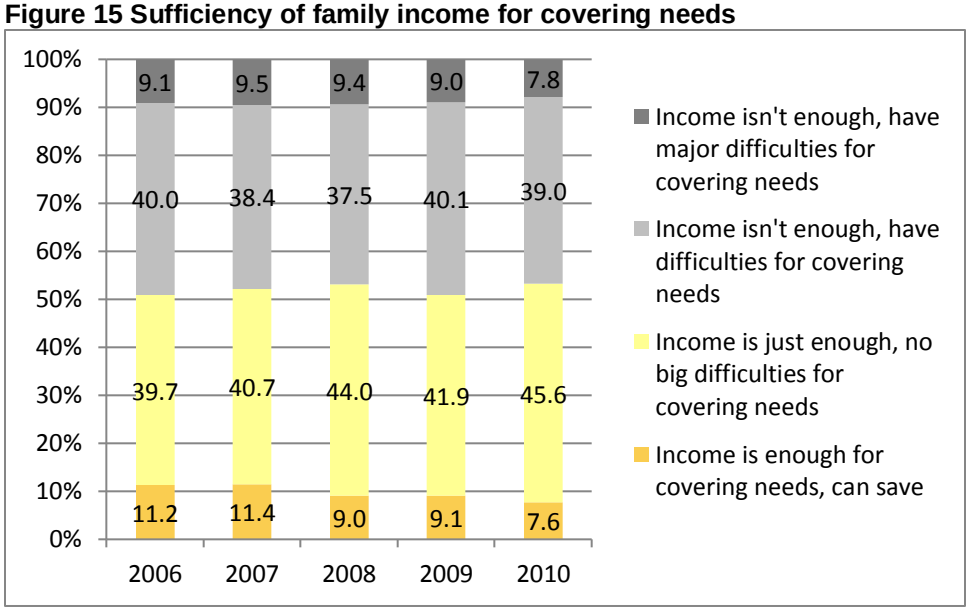
Table 15 Monthly per capita income

Poverty status	2006 (in 2011 terms) Income per capita (Bs / month)			2011 Income per capita (Bs / month)		
	Total	Urban	Rural	Total	Urban	Rural
Non poor	1,872.59	1,994.18	1,491.63	1,687.17	1,772.57	1,428.41
Moderate poor	408.84	437.46	322.12	493.82	538.49	390.77
Extreme poor	137.95	200.59	102.08	181.67	234.24	153.53
Total	1,013.52	1,279.98	561.06	1,165.88	1,355.69	782.25

Source: Own calculations using survey data (Household surveys 2006 and 2011)

The Latinobarómetro survey collects information on the persons' perceptions on the sufficiency of their personal and household income for covering basic needs. In consistency with the poverty headcount estimates, about 50% of the surveyed persons between 2006 and 2010, indicated that their income wasn't enough for covering their needs.

Figure 15 Sufficiency of family income for covering needs



Source: Own calculations using survey data (Latinobarómetro 2006-10)

Costs of living in Bolivia are considered to be higher than what real wages can purchase. For instance, in 2011, the Bolivian Workers Central[24] (COB) estimated that the monthly cost of living for an average family in Bolivia amounted to Bs. 8,309[25], far up from the monthly minimum wage of that year. During the past years, the COB has urged the government (through dialogue, mobilizations, and strikes) to increase

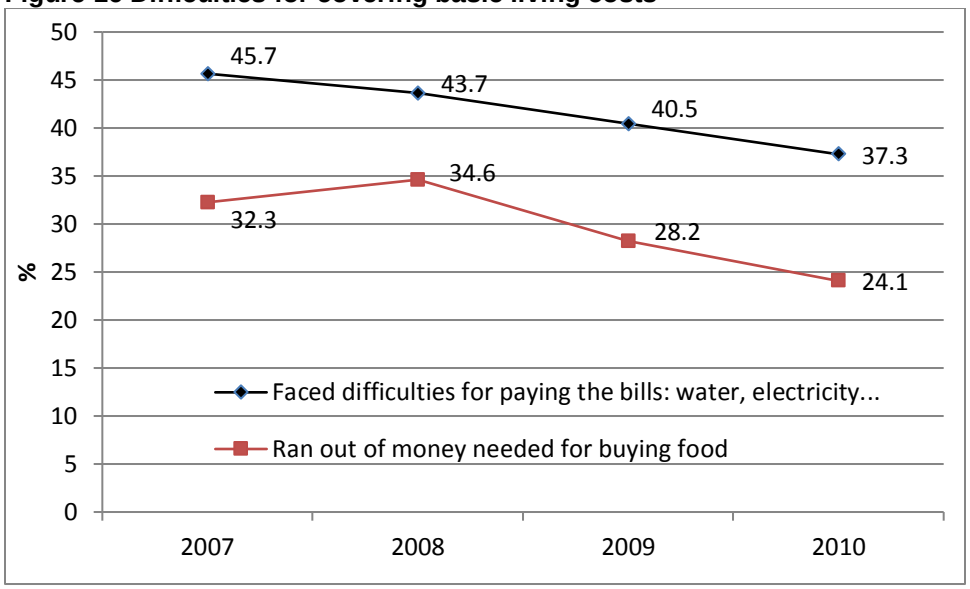
[24] Central Obrera Boliviana

[25] http://somossur.net/bolivia/economia/agro-y-seguridad-alimentaria/612-canasta-familiar-estudios-de-la-cob.html

salaries in order to achieve real improvements in the living conditions of the Bolivian population. As indicated in an earlier section, salary increases have been occurring practically every year, however for a large share of the working population, they are not sufficient to cover all family needs.

The following figure shows the proportion of persons reporting having difficulties to cover basic living costs (utilities and food) in the period 2007 – 2010. Over time, a lower proportion of persons faced these difficulties. For both cases, a reduction in 8 percentage points was observed between 2007 and 2010. Only in the case of food, a slight increase in the proportion of persons reporting difficulties to purchase it was observed in 2008.

Figure 16 Difficulties for covering basic living costs



Source: Own calculations using survey data (Latinobarómetro 2007-10)

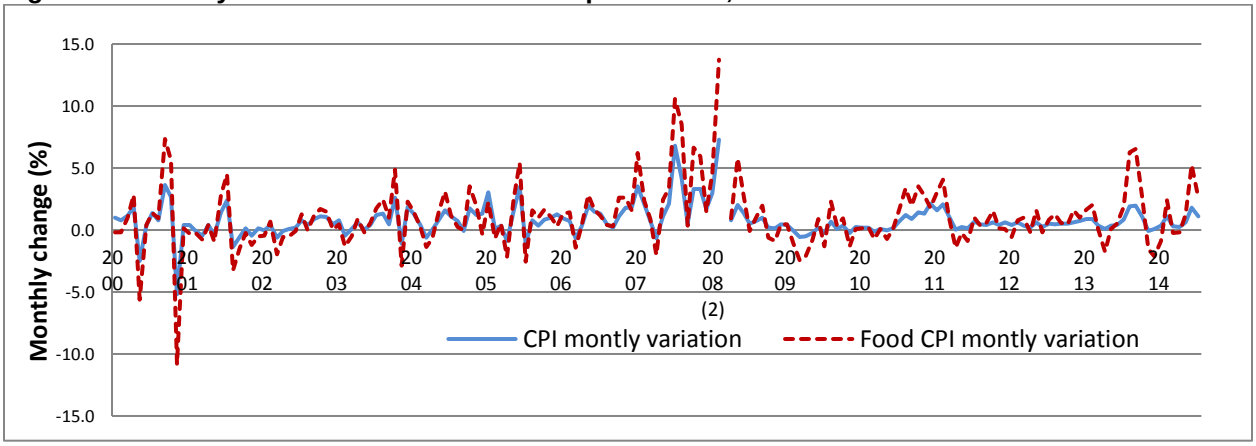
The trend observed in this figure reflects the decline in the poverty rate observed over the period 2007-2010 (refer back to Figure 4). Nonetheless, it is interesting to note that in spite of the aggregate level improvements, still a large proportion of the population considered their economic situation to be regular or bad (Figure 9) and faced difficulties for paying basic expenses, as shown in the previous graph. As reported by the qualitative research participants, households are facing difficulties for securing a basic income for satisfying their needs. For many of those who appear to be succeeding, this income has come at the expense of children education, free time and time for the family (reduced through the engagement on multiple occupations), care work, quality employment, and eventually emigration.

Expenditures

Results from the qualitative research indicate that the increases in food and fuel prices registered during the past years have impacted the household economy. While household income hasn´t increased as much (or might have even decreased), participants in the qualitative research report having higher household expenditures.

The following figure presents the monthly changes in the overall consumer price index (CPI) and in the food CPI for the period 2000 – 2014. It can be seen that the CPI for food is higher than the overall CPI, which suggests that the average changes in food prices are higher than the changes in the prices of other goods and services purchased by the Bolivian households. For late 2007, 2008, 2010, and 2011, it is possible to see that the changes in food prices were considerably larger than the changes in the broader bundle of goods and services.

Figure 17 Monthly variations in the consumer price index, 2000 - 2014



Source: Own elaboration based on INE data

In December 2010, the Bolivian government announced the end of the fuel subsidy. This measure, referred as the "gasolinazo", had the purpose of harmonizing the national fuel price with that of neighboring countries. The reaction of the broad population was of inconformity and protest, since it strongly impacted the population´s economy. In spite that the measure was taken back shortly after being implemented, its effects remained. The impacts of the gasolinazo were felt also in the prices of food, since the increases in transport costs fell on consumers[26].

As a rural elderly woman (2012) perceived, life has become less affordable in Bolivia. She states: *"Now is worse because everything has become more expensive. It is not even enough as for saving. It's only enough for eating."* As reported by some other qualitative research participants, the general price increase after the gasolinazo didn't return to pre-gasolinazo levels even after the revocation of this measure: *"Two times, the so called "gasolinazo" [sharp increases in fuel] has made everything go up. From there nothing has come down in their price. Barely managing it, we became used to spend more"* (Rural male, 2012).

When comparing 2006 to 2011 survey data, it is possible to see that on average household expenditures were in fact higher in 2011. By categories of expenditure, only non-food expenditures registered a lower level in 2011. In proportional terms, food expenditures rose 18.24% and education 14.76%.

Table 16 Monthly household expenditures, by category of spending

Expenditure category	2006 (in 2011 terms) (Bs / month / household)			2011 (Bs / month / household)		
	Total	Urban	Rural	Total	Urban	Rural
Total	2,567.16	3,273.61	1,367.61	2,843.62	3,321.93	1,876.93
Food and beverages	1,492.50	1,806.08	960.02	1,764.87	1,963.89	1,362.63
Inside the household	1,223.47	1,423.25	884.24	1,396.78	1,488.68	1,211.04
Outside the household	269.02	382.83	75.78	368.08	475.20	151.59
Education	209.26	298.42	57.87	240.16	311.97	95.03
Non food expenditures	564.15	729.59	283.22	462.44	549.74	286.01
Housing and basic services	301.24	439.50	66.48	376.14	496.32	133.23

Source: Own calculations using survey data (Household surveys 2006 and 2011)

Focusing on expenditures in the different categories, as proportion of total expenditures, it can be identified that in 2006 food expenditures represented 64.81% of total expenditures. By 2011, this

[26] http://www.clarin.com/mundo/Bolivia-gasolinazo-dispara-precio-alimentos_0_398960109.html
http://www.fmbolivia.com.bo/noticia43503-gasolinazo-devela-crisis-economica-del-gobierno-boliviano.html

proportion rose to 67.15%. In relative terms, the rural population spent more on food and beverages than the urban population.

Table 17 Share of expenditure in different categories, from total expenditures

Expenditure category	2006 (%)			2011 (%)		
	Total	Urban	Rural	Total	Urban	Rural
Food and beverages[27]	64.81	59.85	73.24	67.15	62.73	76.07
Education	6.05	7.24	4.03	6.38	7.48	4.17
Non food expenditures	19.02	19.50	18.21	15.02	15.63	13.80
Housing and basic services	10.09	13.38	4.51	11.43	14.15	5.94

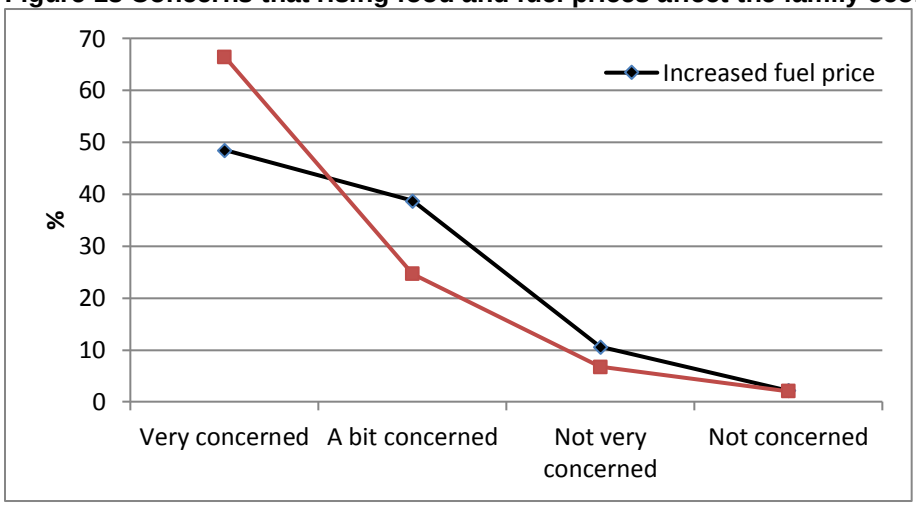
Source: Own calculations using survey data (Household surveys 2006 and 2011)

The predominance of food expenditures on total household expenditures shows that food is still a major component in households' expenditures and that the changes implemented in the calculation of inflation (as mentioned earlier in this document) might not truly reflect the consumption patterns of the Bolivian population.

Considering the expenditure patterns in light of the reductions on poverty between both survey years, makes one question how can these results be interpreted. While expenditures on education and housing and basic services remain very similar between the years, food expenditures increased. This increase might have been at the cost of non food expenditures. Thus, if households need to divert resources from other spending categories in order to ensure basic food consumption and therefore are not covering other household needs, how can the increased spending on food and these tradeoffs be assessed in light of overall poverty reduction? The analyses carried out in this work cannot help answering this question. Further research should explore this aspect in more detail.

In 2008, a question in the Latinobarómetro survey explored people's concerns with rising food and fuel prices. The majority of respondents (up to 90%) were very or a bit concerned that rising prices would affect the family economy. Given the weight that food expenditures have on total household expenditures, this result is not surprising.

Figure 18 Concerns that rising food and fuel prices affect the family economy (2008)



[27] Includes foods eaten inside and outside the household/home.

Source: Own calculations using survey data (Latinobarómetro 2008)

Marked differences in household spending can be seen by poverty status. For all poverty conditions, per capita spending almost doubled in 2011, when compared to 2006 levels (expressed in 2011 terms). In both survey years, per capita expenditures of the extreme poor were less than half of the per capita expenditures of the non poor.

Table 18 Expenditures by poverty condition

Poverty status	Average household expenditures (Bs / month)	Household expenditures per capita (Bs / month)
2006		
Non poor	3,440.05	599.46
Moderately poor	2,254.37	361.96
Extreme poor	1,487.85	246.91
Total	2,567.16	437.07
2011		
Non poor	3,289.95	1,097.85
Moderately poor	2,488.63	610.30
Extreme poor	1,734.22	421.60
Total	2,843.62	874.06

Source: Own calculations using survey data (Household surveys 2006 and 2011)

4 ACCESS TO FOOD

Food prices

Different aspects, or a combination of them, have led to increases in food prices in Bolivia during the last years. For instance, road blockades done for any given issue tend to increase food prices in communities which become isolated and whose food supply is threatened[28]. The negative impacts of climatic events which affect food supply[29], the increases in the price of fuel and of agricultural inputs[30], and wage increases[31] have also contributed to an increase in food prices.

The following table presents the average cost of the basic food basket in Bolivia, between 2000 and 2010. It is possible to observe that for 2007 and 2008, the cost of the basic food basket increased considerably, with respect to its previous levels.

Table 19 Average cost of the basic food basket, 2000 - 2010

Year	Average cost per person per day (Bs.)	Average cost per household per day (Bs.)	Monthly cost per household (Bs.)	Increase (%)
2000	3.77	15.42	464.70	
2001	3.78	15.47	464.11	0.30
2002	3.70	15.13	453.85	-2.21
2003	4.06	16.62	498.56	9.85
2004	4.08	16.68	500.51	0.39
2005	4.28	17.51	525.34	4.96
2006	4.52	18.48	554.53	5.56
2007	5.07	20.73	621.85	12.14
2008	6.62	27.08	812.40	30.64
2009	6.46	26.41	792.20	-2.49
2010	6.55	26,80	804.09	1.50

Source: Montes Montes, 2012, after INE data. (Reproduced from page 41, table 9)

The price increases have certainly been felt by the population. A participant in the qualitative research (urban woman, 2012) indicated: *"Food [prices] has raised. Now the money is not enough for buying them. Before, I use to spend 30 Bs per week…. now I have to spend 50 Bs".* According to several sources, the food products which have registered frequent price increase are: sugar, beef and chicken meat, oil, potato, noodles, vegetables (onions, carrots, faba bean, peas, tomatoes), wheat (flour) and maize[32]. Being these

[28] Blockades: http://www.la-razon.com/nacional/gente-acudio-masa-mercados-bancos_0_1228677134.html

[29] Weather: http://www.eldiario.net/noticias/2014/2014_05/nt140516/economia.php?n=10&-buscan-garantizar-provision-de-productos-de-canasta-familiar http://www.la-razon.com/economia/BCB-nivel-inflacion-efecto-sequia_0_1219678061.html http://www.la-razon.com/sociedad/reses-mueren-frio-Cotoca_0_1216678341.html

[30] Agricultural inputs: http://www.la-razon.com/economia/Avicolas-emergencia-precio-comienza-elevarse_0_1244875556.html

[31] Wage increases and remittances: http://www.eldiario.net/noticias/2014/2014_06/nt140608/economia.php?n=26&-sube-precio-de-alimentos-en-canasta-familiar

[32] The following press articles document increases in food prices in different locations within the country, at different points in time: http://www.eldiario.net/noticias/2014/2014_08/nt140807/economia.php?n=22&-pronostican-baja-de-precios-de-alimentos ; http://www.eldiario.net/noticias/2014/2014_06/nt140630/nacional.php?n=41&-se-espera-que-precio-de-carne-baje-a-partir-de-hoy ; http://www.eldiario.net/noticias/2014/2014_06/nt140608/economia.php?n=26&-sube-precio-de-alimentos-en-canasta-familiar ; http://www.eldiario.net/noticias/2014/2014_05/nt140505/economia.php?n=59&-precios-de-

basic food products, it is clear that their price increase had direct impact on household finances. Participants in the qualitative research also pointed to these products as the ones registering prices increases.

Expenditures on food

The qualitative research documents that in face of high/increasing food prices, households change the way they eat. In one side, more household resources are spent for buying food (as shown in Table 17), foregoing expenditure in other household needs. In the other side, the foods purchased are either of lower quality than desired, or the quantities purchased are lower than in "normal" situations. While some food products are substituted by other cheaper products or by lower quality products, other products are not consumed anymore.

The following table presents the average household food expenditures in 2006 and 2011, by poverty groups. It can be seen that for all poverty groups, household food expenditures were higher in 2011 when compared to 2006. As well, food expenditures represented a larger share from total household expenditures in all groups. This result suggests that even the non poor had to compromise in other type of expenditures in order to afford food.

Table 20 Average household monthly food expenditures

Poverty status	Average household food expenditures* (Bs / month)	Share of food expenditures from total expenditures (%)
2006		
Non poor	1,805.89	58.32
Moderately poor	1,478.08	67.52
Extreme poor	1,043.43	72.59
Total	1,492.50	64.81
2011		
Non poor	1,942.41	63.51
Moderately poor	1,673.46	69.80
Extreme poor	1,263.33	76.46
Total	1,764.87	67.15

*2006 values are expressed in 2011 terms.

Source: Own calculations using survey data (Household surveys 2006 and 2011)

The following table presents food expenditures in per capita basis, by area of residence and poverty status. Compared to 2006, the average food expenditures for rural households increased much more than for the urban households. Within the rural group, the larger increases are seen in the moderate poor and in the non poor. For the case of the urban households, the largest increase was observed in the extreme poor group.

Table 21 Food expenditure per capita, by poverty condition

Poverty status	2006 Food expenditures (Bs / capita / month)			2011 Food expenditures (Bs / capita / month)		
	Total	Urban	Rural	Total	Urban	Rural
Non poor	599.46	648.17	446.85	630.99	651.93	567.52

alimentos-se-mantienen-estables-en-centros-de-abasto ; http://www.la-razon.com/economia/productos-subieron-precio-mercados_0_1260473969.html ; http://www.la-razon.com/economia/Avicolas-emergencia-precio-comienza-elevarse_0_1244875556.html

Moderate poor	361.96	397.82	253.29	414.42	433.25	370.99
Extreme poor	246.91	299.27	216.92	303.63	386.71	259.17
Total	437.07	522.00	292.86	526.82	578.74	421.87

Source: Own calculations using survey data (Household surveys 2006 and 2011)

Decomposing food expenditures by the types of foods purchased helps to identify the food groups on which households are spending more or less between both survey years. Consistent to what was presented above, in 2011 the expenditures in all food groups were higher than in 2006. Particularly for the case of cereals, meats, and fish and sea foods households paid more in 2011, in a per capita basis.

Table 22 Expenditures in different food groups

Food group	2006		2011	
	Household (Bs / month)	Per capita (Bs / month / capita)	Household (Bs / month)	Per capita (Bs / month / capita)
Cereals	245.82	67.26	298.84	84.88
Roots, tubers and plantains	79.12	21.74	93.27	26.52
Pulses, legumes, nuts and seeds	31.97	8.68	38.36	11.08
Vegetables	85.41	24.12	108.73	31.46
Fruits	75.26	22.56	93.73	27.64
Meats	261.61	69.27	345.59	92.98
Fish and sea food	140.17	43.15	181.89	56.37
Milk and dairy products	89.37	25.93	114.82	32.37
Eggs	27.17	7.61	34.57	9.80
Oils and fats	40.56	11.22	39.22	11.02

Source: Own calculations using survey data (Household surveys 2006 and 2011)

The expenditure in other food groups, albeit larger, remained rather close to the 2006 expenditure level.

Food availability at the household level

This section presents food availability to the households, expressed in calorie (or calorie per capita) terms. In order to obtain calorie estimates, the amounts of foods purchased or produced by the households were brought to a common unit (grams) and adjusted by the size of their edible portion. INCAP[33]'s food composition table provided the energy (calorie) content of all foods included in the survey. Lastly, household calorie estimates were obtained by adding up the amount of calories available on all food products consumed by the household. The information is presented in per capita per day basis.

Due to data availability, it was only possible to calculate calorie availability from the items consumed within the household, which were purchased or acquired from the own production. Thus, food eaten outside the household and food received as exchange, donation, or gift could not be included in the calculations. Due to this fact, the estimate of the average daily calorie availability per household might be lower than the actual calorie availability.

[33] Central America and Panama Nutrition Institute

In addition, the calorie estimates do not consider foods fed to pets, wasted, or given to others (guests, etc.). In this line, the results presented here are only indicative of general trends and should not be considered as exact estimates.

The following table shows the total calorie availability per capita per day, from the items consumed within the household. A minor difference is observed between survey years, on which 2011 displays a marginally lower calorie availability per capita than 2006. In addition, the share of calories obtained from the own production decreased by 2011, which reflects the lower involvement of the population in agricultural activities and thus, of the production of food for the own consumption.

Table 23 Calorie availability

Calorie availability	2006	2011
Total calories per capita per day (kcal /capita / day)	2,070.64	2,025.53
Share of calories purchased (%)	86.65	88.36
Share of calories obtained from own production (%)	13.34	11.63

Source: Own calculations using survey data (Household surveys 2006 and 2011)

By area of residence, in both survey years the urban households obtained the vast majority of their food through purchase (96% of total calories). In 2006, 30% of the calories available for rural households originated from the own production. This proportion dropped to 27% in 2011.

In spite of higher expenditures in food, the actual amount of food available for consumption is less in 2011 for some food groups, such as cereals, roots, pulses, fruits, and oils and fats, than in 2006. Nonetheless, the differences between the years are minimal. In 2011, meat, dairy, and eggs displayed slightly larger per capita availability than in 2006.

Table 24 Calorie availability by food group

Food group	2006 Calorie availability Kcal / capita / day	2011 Calorie availability Kcal / capita / day
Cereals	1,131.09	1,086.68
Roots, tubers and plantains	199.56	186.45
Pulses, legumes, nuts and seeds	7.17	6.27
Vegetables	49.24	50.53
Fruits	109.80	103.78
Meats	200.31	241.58
Fish and sea food	16.13	16.80
Milk and dairy products	59.37	62.01
Eggs	37.21	42.83
Oils and fats	23.88	14.72

*Beverages and Miscellaneous are not presented, but were included in the calculations
Source: Own calculations using survey data (Household surveys 2006 and 2011)

In general terms, these results partially confirm the findings of the qualitative research. Despite households are spending more on food, the amount of food available to them (in terms or calories) did not increase proportionally and rather, decreased for some types of foods. This may suggest that more than a reduction on consumption (quantity), Bolivian households tended to modify their food consumption patterns (type and quality) between 2006 and 2011.

The calorie availability by poverty status reveals marked differences between the poor (extreme and moderate poor) and the non poor. As shown in Table 25, in 2006 the poor accessed roughly half of the calories available per capita for the non poor with regards fruits, meats, fish and seafood, and dairy products. For the rest of the food groups, the poor had about 75% of the calories available to the non poor.

By 2011, the differences between the poor and the non poor were less marked. In one side, the poor increased their calorie availability with respect to vegetables, fruits, meats, fish, dairy, and eggs. In the other side, the non poor saw a decrease in their calorie availability from cereals, roots and tubers, pulses, vegetables, fruits, dairy products, and oils and fats. The dynamics behind the changes in consumption (what changed, how, and why) in both groups are an aspect for further research.

Table 25 Calorie availability by poverty status

Food group	2006		2011	
	Poor	Not poor	Poor	Not poor
	Kcal / capita /day		Kcal / capita /day	
Cereals	1,023.96	1,251.06	1,046.22	1,112.61
Roots, tubers and plantains	187.74	212.79	184.03	188.01
Pulses, legumes, nuts and seeds	6.05	8.42	5.56	6.72
Vegetables	40.15	59.41	44.13	54.64
Fruits	85.64	136.85	87.32	114.33
Meats	137.19	271.00	179.79	281.19
Fish and sea food	12.42	20.27	13.98	18.60
Milk and dairy products	40.09	80.95	46.65	71.84
Eggs	29.96	45.33	35.64	47.44
Oils and fats	20.10	28.12	15.29	14.36
Share of calories purchased (%)	80.86	93.10	80.93	93.18
Share of calories from own production (%)	19.35	6.89	19.06	6.81

Source: Own calculations using survey data (Household surveys 2006 and 2011)

The fact that only minor differences are observed between 2006 and 2011 consumption levels, particularly among the poor, might relate to the overall level of calories available to them. That is, if calorie availability was already at a very low level in 2006, it might be very difficult to modify consumption to an even lower level.

Consumption of key products

The following table presents a list with the mostly eaten food items in Bolivia. In order to be included in the list, an item had to be consumed by a large proportion of households in the country, irrespective on the amount consumed.

The table identifies those food items whose consumption (in grams per capita) changed between the survey years. The type of changes observed are varied: some products were consumed less (bread, bananas, sugar), others were consumed more (meats, eggs, tomatoes, potatoes, milk), and others didn't present major changes (rice, noodles, onions, carrots, peas, faba beans, apples, oil). Overall, differences were very modest, except for the case of milk (~1 liter) and sugar (~1 kg).

Table 26 Quantity of food available for key food products

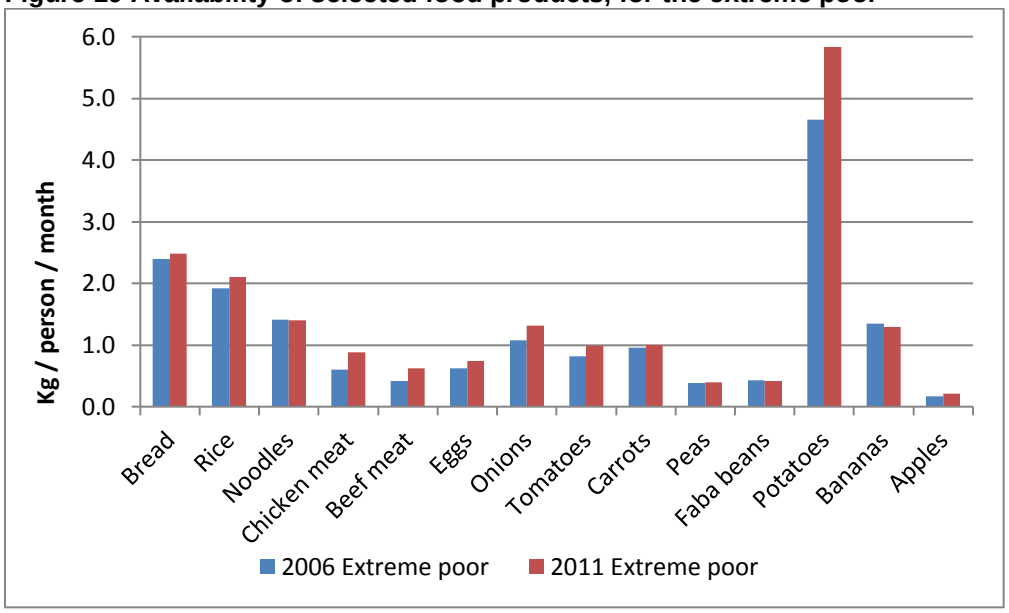
Product	2006 Food availability (Grams / person / month)	2011 Food availability (Grams / person / month)	Increase or decrease between 2006 and 2011
Bread	4,036.55	3,761.2126	↓*
Rice	2,345.51	2,333.2177	=
Noodles	1,619.63	1,605.0664	=
Chicken meat	1,273.98	1,859.2185	↑
Beef meat	1,070.45	1,252.9438	↑
Eggs	862.98	993.3752	↑
Onions	1,509.74	1,593.2838	=
Tomatoes	1,262.26	1,368.4246	↑
Carrots	1,222.07	1,210.3877	=
Peas	581.56	588.7053	=
Faba beans	596.61	521.4133	=
Potatoes	4,575.53	4,639.5797	↑
Bananas	2,087.69	1,837.2785	↓
Apples	470.82	466.7620	=
Kg / household / month			
Oil	3.54	3.34	=
Milk	7.88	8.97	↑
Sugar	6.78	5.83	↓

*Differences more than 100 gr are indicated with the up and down arrows. When this difference wasn't achieved, an " = " sign is shown.
Source: Own calculations using survey data (Household surveys 2006 and 2011)

While at the aggregate national level the results indicate that the amount of food (from key products) available to the households is very similar in both survey years, major changes in consumption were reported by some participants in the qualitative research. For instance, an urban pensioner (2012) told: "*In my case, we stopped buying fruit…. Also, we stopped eating fish… and condensed milk. We used to buy this frequently for desserts, but now not anymore."* The products that stopped being consumed by this household were certainly not among the most important (frequently consumed) ones. Nonetheless, they were part of the household´s diet and due to the price increases their consumption had to be suspended.

The following figures present the availability of food across poverty groups. The extreme poor in 2011 had a similar food availability of selected food products, when compared with those who were extreme poor in 2006. For most of the products shown, availability in 2011 is slightly higher (100-300 grams) than in 2006. The only product where a larger difference is observed is potatoes, for which availability per month per capita increased in about 1 kg.

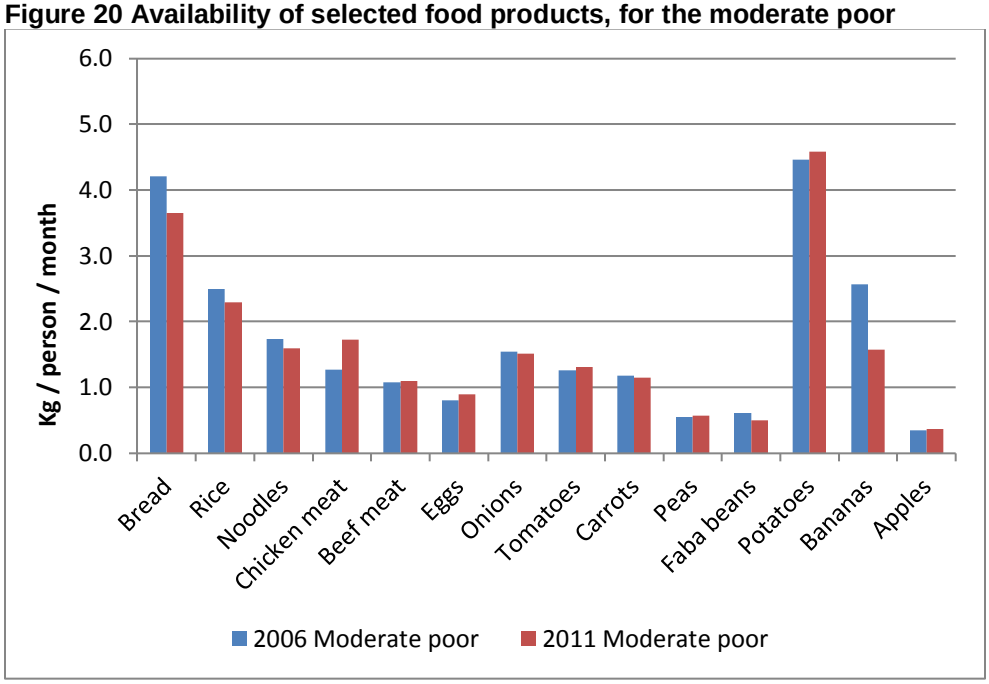
Figure 19 Availability of selected food products, for the extreme poor



Source: Own calculations using survey data (Household surveys 2006 and 2011)

For the moderate poor, more visible differences in food availability are observed. Six products (bread, rice, noodles, onions, faba beans, and bananas) register a slight decrease in availability to the household members between 2006 and 2011. For the remaining products shown, availability remained at similar levels than in 2006 or increased slightly (chicken meat, tomatoes, potatoes).

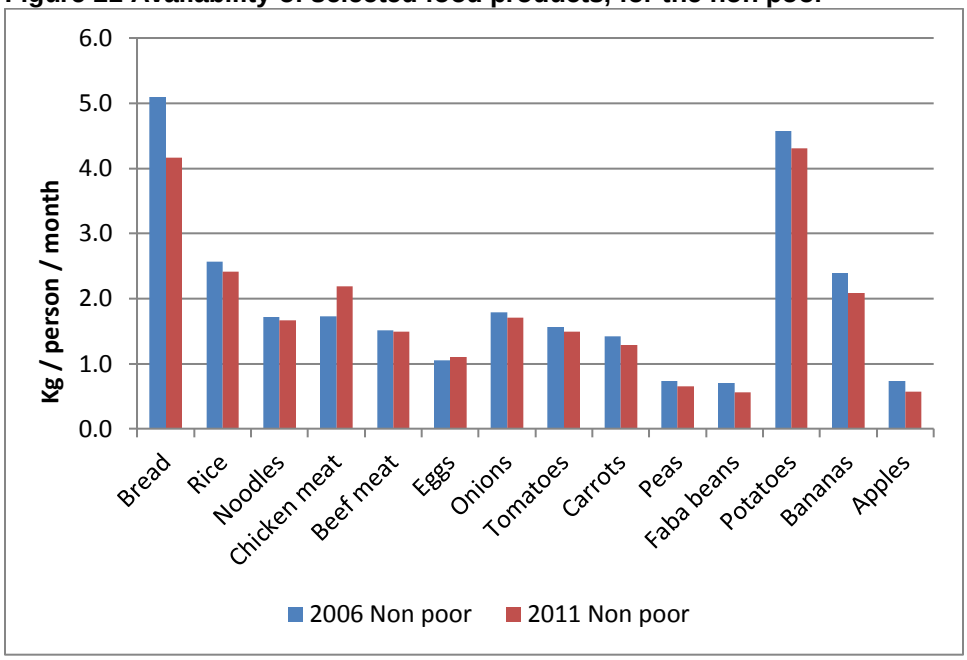
Figure 20 Availability of selected food products, for the moderate poor



Source: Own calculations using survey data (Household surveys 2006 and 2011)

Similar to the moderate poor, the non poor register similar availability levels (slightly lower) in 2011 when compared to 2006. The most considerable decrease is observed in bread availability. The only product which shows a slight increase in 2011 was chicken meat.

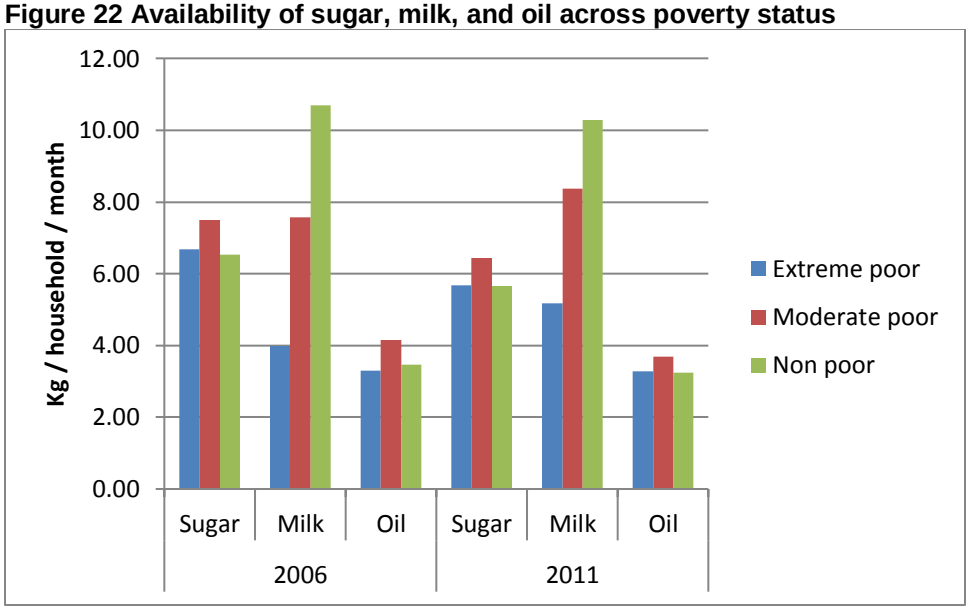
Figure 21 Availability of selected food products, for the non poor



Source: Own calculations using survey data (Household surveys 2006 and 2011)

Sugar and oil have been pointed out (in the press and by qualitative research participants) as products which have increased their price significantly. The following figure shows the changes in availability of these products across poverty groups. Sugar consumption reduced visibly in all 3 poverty groups. Oil consumption did not change much among the extreme poor and the non poor, however, a slight reduction is observed for the moderate poor. Lastly, milk consumption increased for the poor and reduced slightly for the non poor.

Figure 22 Availability of sugar, milk, and oil across poverty status



Source: Own calculations using survey data (Household surveys 2006 and 2011)

As indicated above, the qualitative research participants reported changes in their food consumption as a result of food price increases. As shown in the analyses, the estimates of food quantity (calories) available

to households in 2006 and 2011 do not evidence these changes. Further research is needed in order to identify how food consumption is being modified (what changes, how, and why) in face of higher food prices, in order to better understand households' decisions for ensuring food security.

The qualitative research results provide different insights. While some persons seem to be eliminating or cutting back the consumption of certain products (as shown in the example above) or eliminating full meal times, thus, affecting the quantity of food available to them; many others choose to tradeoff product quality for a given price. For instance: "…*We have the advantage that there are old potatoes, which are cheaper in winter time. We buy those and make up for the differences in prices. Beef, chicken and those go up and prices don't come down. Very rarely do chicken prices drop, because there is a lot of demand."* (Urban woman, 2012). Other persons reported buying cheaper meat cuts or less preferred chicken parts (giblets, head, feet). As well, some persons reported buying in bulk or in groups in order to get cheaper prices. These insights are supported by 2013 qualitative research round.

In addition, the increased time households report spending on income generating activities is reducing the time available for family care and food preparation activities. Thus, an indirect effect of food prices – even at similar or higher levels of incomes – relates to changes in diet due to time constraints or absence of women, who remain the traditional caregivers for their families. For instance, both in 2012 and 2013, some qualitative research participants indicated having less time available for the care of younger children and for cooking. In this line, meals are tradedoff by sandwiches, fast food, instant noodles, rice, and cold meals.

The understanding of how household food consumption decisions are made, can provide valuable insights for the design of measures that protect households´ consumption and adequate nutrition in the face of budgetary and time constraints in times of crises.

Food sufficiency

Food sufficiency was assessed by comparing the average amount of calories available per day within a household, against the sum of the daily calorie needs of all household members (based on age and sex composition). Food insufficiency rose from 52.2% in 2006 to 53.7% in 2011. For the food insufficient households, the daily calorie deficit per capita was about 670 calories in both years.

Table 27 Food sufficiency

	2006	2011
Households with insufficient calorie availability per day (%)	52.25	53.7
Average per capita calorie deficit per day	675.27	661.62

Source: Own calculations using survey data (Household surveys 2006 and 2011)

With about half of the households having insufficient food available with respect to their needs, it is not surprising then to find minimum changes in the availability of food between both survey years at the national level. If a large proportion of households are consuming less food (calories) than the amount needed given the age and sex of its members, there is little (or no) room for reducing this amount to even lower levels in spite increasing food prices. Thus, as noted above, further research is needed for assessing the nature of the quality changes in the diet.

In an attempt to differentiate the eating patterns of the food sufficient and the food insufficient households, the following table presents the average calorie availability per capita per day for each food group for these 2 types of households. For both, calorie sufficient and insufficient households, calorie availability in both survey years was fairly similar in all food groups. For the food insufficient households, the increased

availability of meat in 2011 stands out as the major difference in their overall calorie structure. As well, in general terms, the calorie availability per capita for the calorie insufficient households was about half of the availability for the calories sufficient households. This situation is of concern given its implications for the achievement of a sound nutritional status and physical well being.

Table 28 Calorie availability by food sufficiency status

Food group	2006		2011	
	Calorie sufficient households Kcal / capita /day	Calorie insufficient households Kcal / capita /day	Calorie sufficient households Kcal / capita /day	Calorie insufficient households Kcal / capita /day
Cereals	1,556.20	742.64	1,503.86	726.64
Roots, tubers and plantains	279.26	126.73	263.15	120.26
Pulses, legumes, nuts and seeds	9.56	4.99	7.72	5.01
Vegetables	67.03	32.97	65.79	37.37
Fruits	148.39	74.53	132.15	79.30
Meats	304.01	105.56	333.41	162.34
Fish and sea food	23.60	9.30	23.50	11.01
Milk and dairy products	91.28	30.21	89.66	38.13
Eggs	49.71	25.78	55.37	32.01
Oils and fats	35.86	12.94	23.79	6.90
Share of calories purchased (%)	90.15	83.41	88.37	88.35
Share of calories from own production (%)	9.84	16.58	11.62	11.65

Source: Own calculations using survey data (Household surveys 2006 and 2011)

5 NUTRITIONAL STATUS

Bolivia is one of the countries with the highest rates of malnutrition in the Latin American region. According to the Ministry of Health and Sports et al (2009), about 8% of children under 5 are underweight (have low weight for their age), and about a third of them are stunted (have low height for their age) . Indigenous and rural children are more vulnerable to malnutrition than non indigenous and urban children.

The impacts of malnutrition are well known. It increases the risks for mortality and morbidity and affects school performance (learning) and productivity through impairment in physical and mental development. The result of this are elevated private and public costs all along the life cycle (Blössner and de Onis, 2005; MSD et al, 2009).

The Global Hunger Index (GHI) aims to track the international progress in the reduction of hunger. The composite index is built by combining information on the proportion of undernourished people, proportion of children under 5 years of age that are underweight, and the rate of mortality for children under 5. Theoretically speaking, the index aims to capture different dimensions of hunger.

The following table presents the GHI estimates for Bolivia in the 1990 – 2013 period, as well as the corresponding levels for each of its components. Clear improvements are seen in all indicators and thus, the level of the index has improved over the period. However, its level still falls within the category of "serious" hunger situation (index level between 10 and 10).

Table 29 Global hunger index for Bolivia and its components, 1990 - 2013

Component	1990	1995	2000	2005	2013
Global Hunger Index	18.8	16.9	14.2	13.8	11.2
Undernourishment (%)[34]	34.6	30.7	28.7	29.1	24.1
Underweight children under 5 years of age (%)	9.7	10.0	5.9	5.9	4.5
Under five mortality rate (%)	12	10	8.1	6.5	5.1

Source: IFPRI et al, 2013. (Information extracted from Appendix B, page 51)

Anemia is another indicator of nutrient deficiency and/inadequacy. Contrary to the decreasing trend observed in the previous indicators, both female and child anemia increased between 2003 and 2008 in urban as in rural areas. The fact that improvements are observed in the undernourishment (based on calorie availability) and the underweight indicators (based on anthropometric measures and linked to calorie availability), and deterioration is registered in the micronutrient based indicator (anemia), suggests that lower quality diets (energy and fat rich, but nutrient poor) might be gaining relevance in the Bolivian eating habits. This situation would reflect the occurrence of the "nutrition transition", which has been documented in Latin America (Rivera et al, 2004).

[34] For most countries, no statistics are available for exactly the years indicated in the GHI table. Instead, available data sources from years close to them have been used in all cases. For the case of undernourishment the data sources representing the 1990 figure are from 1990-92, for 1995 (1994-96), for 2000 (1999-01), for 2005 (2004-06), and for 2013 (2010-2012).
For the case of children underweight the data sources were from 1988-92 (1990 estimate), 1993-97 (1995 estimate), 1998-02 (2000 estimate), 2003-07 (2005 estimate), and 2008-12 (2013 estimate),
For the case of under five mortality, all statistics are for the corresponding years, with the exception of 2013, from which 2011 data was used.

Table 30 Prevalence of anemia in children under 5 and women in reproductive age

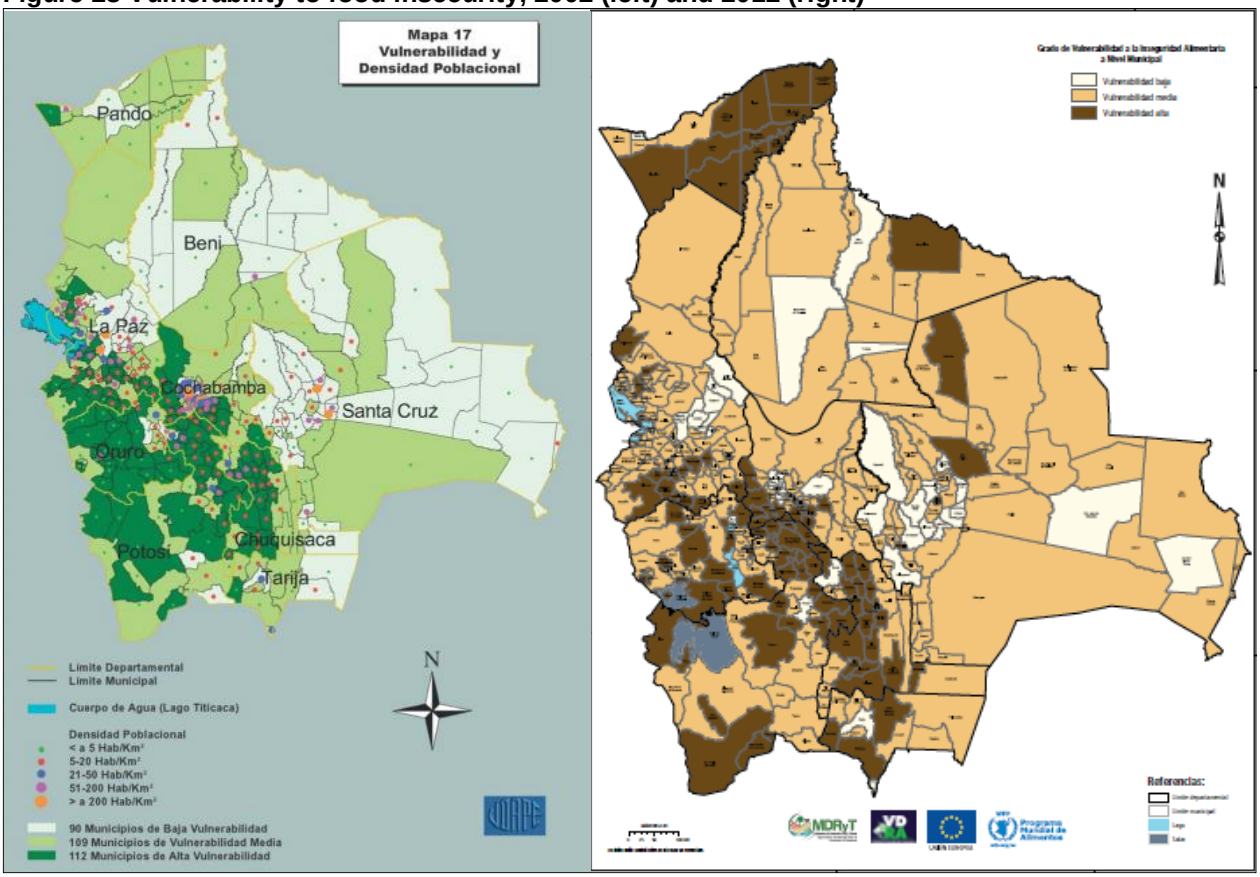
Area of residence	2003		2008	
	Children 6 to 59 months (%)	Women aged 14 to 49 (%)	Children 6 to 59 months (%)	Women aged 14 to 49 (%)
Total	51.0	33.1	61.3	38.3
Urban	46.7	30.0	55.7	36.0
Rural	56.3	39.9	67.6	42.3

Source: INE, 2014. Health indicators *http://www.ine.gob.bo/indice/EstadisticaSocial.aspx?codigo=30101*

The following figure presents Bolivia's vulnerability to food insecurity maps from 2002 and 2012. The maps identify municipalities (Municipios) that have low (white), medium (light green/beige) and high (dark green/brown) vulnerability to food insecurity. The maps were developed by government institutions, in association with other national and international organizations/institutions. Vulnerability to food insecurity is dependent on the occurrence of risk factors (climatic, socioeconomic) and the response capacity owned in order to affront these factors (PMA et al, 2002).

By 2012, 30% of the municipalities were highly vulnerable to food insecurity, 58.7% were moderately vulnerably, and the remaining 11.2% showed low vulnerability. From the maps we see that high vulnerability to food insecurity prevails in the areas near the city of Cochabamba, region where the qualitative research takes place.

Figure 23 Vulnerability to food insecurity, 2002 (left) and 2012 (right)



Source: PMA et al, 2002 (extracted from page 47, map 15) and *http://observatorio.agrobolivia.gob.bo/docuemntos%20oap/vam/mapas/MAPA%20VAM%202012_OK.pdf*

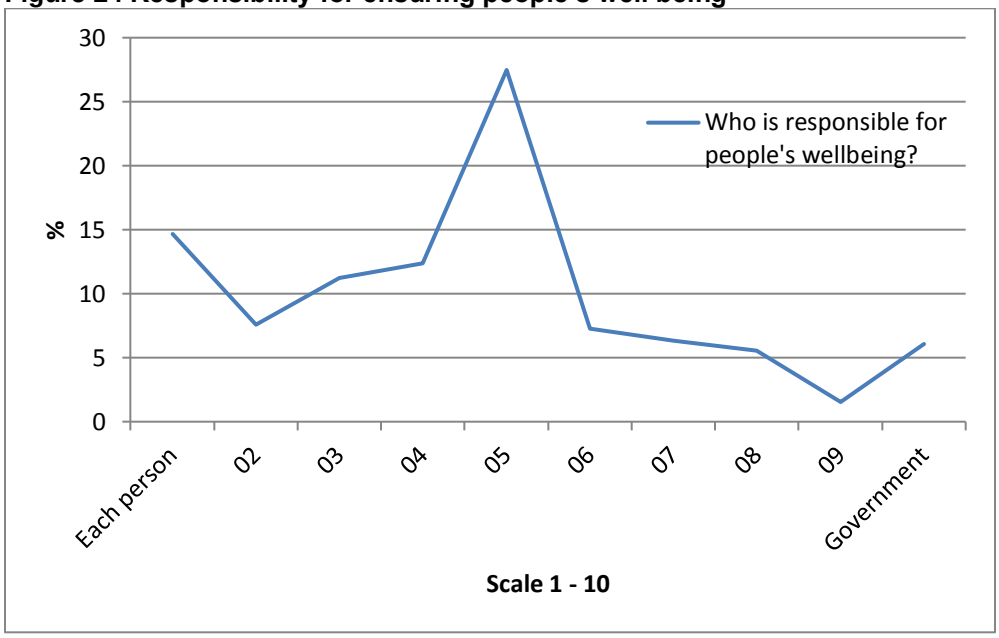
6 FORMAL AND INFORMAL SUPPORT

Social protection, being it formal or informal, aims to contribute to the development of societies by facilitating the achievement of minimum living standards to the population. Formal social protection, particularly government based protection, is also considered as a mechanism for the realization of the population's social and economic rights and as a tool for constructing inclusive and fair societies (Martinez Franzoni, 2009).

While the State is the responsible actor for ensuring and protecting the realization of rights, as well as for the implementation of formal social protection; there are other non-governmental organizations and institutions, communities, and individuals who offer support to the population who faces unfavorable conditions (i.e. poverty, vulnerability, malnutrition, illiteracy, risk, etc.).

The Latinobarómetro survey of 2006 collected data on the population's opinion with regards to the responsibility for ensuring people's well being. Using a scale from 1 to 10, where 1 suggests that each person has to look for their own well being and 10 suggests that the government has to assume the responsibility for the people's well being, it is observed that more people considered well being as an own responsibility (scale range 1 to 5). A considerable proportion of persons (about 28%) considered well being as a shared responsibility between each person and the government (scale = 5).

Figure 24 Responsibility for ensuring people's well being



Source: Own calculations using survey data (Latinobarómetro 2006)

Formal social support

Social protection is the second most important sector on which the resources for social public spending are allocated in Bolivia, only after education. On average, it represents about 5% of the GDP. Pensions and retirement capture more than half of the social protection resources (Canavire-Bacarreza and Mariscal Ayaviri, 2010).

Depending on its nature, formal social protection in Bolivia is contributory or non contributory. Contributory social protection (social security) includes health insurance and old-age pensions and is available to those who are, or have been, engaged in the formal sector. Non contributory social protection mainly relates to social assistance programs, such as cash transfers (Juancito Pinto Bonus, Renta Dignidad, Juana Azurduy Bonus), maternal and child health care, education, employment programs, access to basic services, and nutrition. These programs support the development of human capital, particularly among the children and the youth, and the access to health care and improved nutrition for the poor and the vulnerable. Many of the programs implemented are funded with the revenues collected from the hydrocarbons tax. Co-responsibility entails regular school attendance and proper follow up with regards to health care (Monterrey Arce, 2013).

According to Monterrey Arce (2013), contributory social security benefits mainly the urban formal workers with higher qualifications and better socioeconomic status. A small proportion of formal workers does not have access to social security. It is argued that, particularly for low skilled and low paid jobs, many enterprises avoid the fulfillment of their obligations. In the other side, the broad majority of informal workers do not have access to social security.

The following subsections present the access to the most relevant non-contributory social protection programs in Bolivia.

Renta Dignidad (Dignity pension)

Since 2008, Renta Dignidad is a program which aims to provide a pension for all persons older than 60 years of age. In previous years a similar program, Bonosol, provided pensions to persons older than 65.

From those persons aged 60 or more, 90.6% received the Renta Dignidad in 2011. For those receiving it, 79.4% of the money was spent on food for the household and 6.5% for health care. Those receiving it were, on average, 70.5 years old. Those in the appropriate age for receiving it, and who didn't get it report that the main reason for this was that they didn't have the necessary documents or witnesses required for filing an application.

By condition of poverty, 63.6% of the beneficiaries were non poor, 19.8% moderate poor, and 16.6% extreme poor.

Juancito Pinto Bonus

The Juancito Pinto bonus was implemented in 2006. Initially, its objective was to support students towards the completion of primary education, however the program has undergone a couple of modifications (expansions), including the incorporation of children in upper school grades to the program. It provides Bs. 200 to students who complete the school year.

In 2011, about 45% of students who were enrolled in school in 2011 reported having received the Juancito Pinto bonus in 2010. From them, 70.4% attended primary school and 29.6% attended secondary school.

According to the beneficiaries, most of the bonus is spent on clothes and shoes (57.2%), followed by school materials (18.4%), and savings (17.6%). Only 1.6% report having spent most of it on food. The average age of those receiving the Juancito Pinto bonus was 10.8 years of age.

By condition of poverty, 39.1% of the beneficiaries were non poor, the 60.9% remaining was equally distributed among the extreme poor (30.8%) and the moderate poor (30.2%).

While the bonus is indeed a help for the children and their families, some participants from the qualitative research pointed out that the amount of money given is rather low since some school supplies, for

instance backpacks and similar bags which cost around Bs. 150, are expensive and would require the use of most of the bonus for their purchase. In face of these prices, some might think that the bonus is of limited help.

Juana Azurduy Bonus

The Juana Azurduy bonus was created in 2009 with the objective of reducing maternal and child mortality. With this purpose, it promotes and facilitates the use of health services for women, during pregnancy and up to the 2 years of age of their children. Over the pregnancy and the 2-years period, it transfers Bs. 1,820 (Monterrey Arce, 2013). The bonus targets women aged 13-50, which by 2011 represented 28.7% of the total population.

According to the 2011 survey data, only 5.7% of the women in the eligible age group received the bonus. By condition of poverty, 41.9% of the beneficiaries were non poor, followed by 29.9% extreme poor, and 28.3% moderate poor. A participant in the qualitative research pointed out to the difficulty (bureaucracy) that prevents many women to access this support.

Few of the qualitative research participants reported accessing some of these programs, particularly the Juancito Pinto bonus and Renta Dignidad. However, some other participants reported difficulties accessing these programs (and also the Juana Azurduy bonus) due to bureaucratic burden, and lack of information and transparency on how to access these programs and on how decisions are made for selecting beneficiaries.

Focusing specifically in supporting households´ access to food in face of rising food prices, in 2007 the Bolivian government created EMAPA (Empresa de Apoyo a la Producción de Alimentos)[35], a state enterprise providing support to food production and commercialization. EMAPA´s objectives are to ensure availability and access to key food products in Bolivia.

Qualitative research participants involved in food production reported not having access to EMAPA´s productive support. As consumers, while some persons recognized that EMAPA offered products at lower market prices, a larger number of participants reported not accessing the products due to a variety of reasons. For instance: *"People had to stand in long lines, even sleep on the street a day before, to receive a small amount of certain products. Products such as flour and rice were low quality or had expired. It was not good. You could find those same products in neighbourhood stores, which proved that products were being distributed irregularly, that there was favouritism or even corruption."* (Urban women, 2012). Other participant indicated: *"When I went to EMAPA, all I saw were other traders. Poor persons really need it but cannot afford to buy more than a few kilos. Businesses in EMAPA sell by 25-lb bags and prefer to sell to other traders. Another time, one trader asked me to buy things for him with my ID and he would pay me. I hated him for doing that because all they look for is their own profit and do not care for poor people."* (Urban woman, 2012).

Unfortunately, it appears that government efforts channeled to support food access might not have reached the poorest and the most vulnerable, as originally planned, and are perceived by some to feed corruption and favoritism practices. Hence, the qualitative research results pointing to the lack of access to social protection are not surprising given that informality and low quality jobs are prevalent in the participant communities and that social assistance programs are benefiting only a few. The general feeling is reflected in a farmer´s statement (2012): "*Here there are no government policies. Here everything depends on our work. No one has given us anything. The only help [I get] is from my sons who are in Spain."*

[35] http://www.emapa.gob.bo/index.php

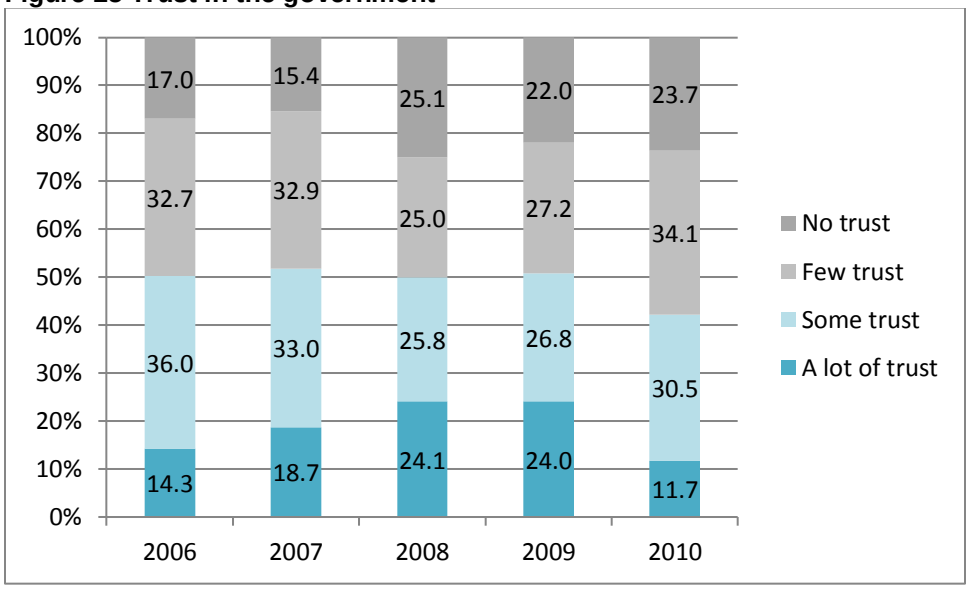
Trust in the government

According to Colleta and Cullen (2000, p. 6), social capital refers to "*systems that lead to or result from social and economic organization, such as worldviews, trust, reciprocity, informational and economic exchange, and informal and formal groups and associations*". Social capital facilitates overall development, economic growth, and collective action. González Tablada (2005) differentiates between two main types of social capital: community social capital (between family, neighbors, acquaintances) and "bridge building" social capital (between groups, communities, associations, political parties, institutions).

Trust and civic responsibility are key to overall development. Trust in others is key for investment, savings, and long term contracts. Trust that the government maintains the law of order and promotes a positive investment and development environment is needed in order to motivate society to grow. Civic responsibility from the population is key for facilitating coexistence and for facilitating the government's action (for instance, through due payment of taxes and respect of rules, González Tablada, 2005).

Every year, the Latinobarómetro survey asks respondents to assess their level of trust for different institutions (government, private enterprises, church, the army, the congress/parliament, etc.). From the following figure it can be observed that in the 2006-2010 period, about half of the population trusted the government. The differences between the years are marginal. Only in 2010 distrust to the government grew, almost reaching 60% of the persons surveyed.

Figure 25 Trust in the government

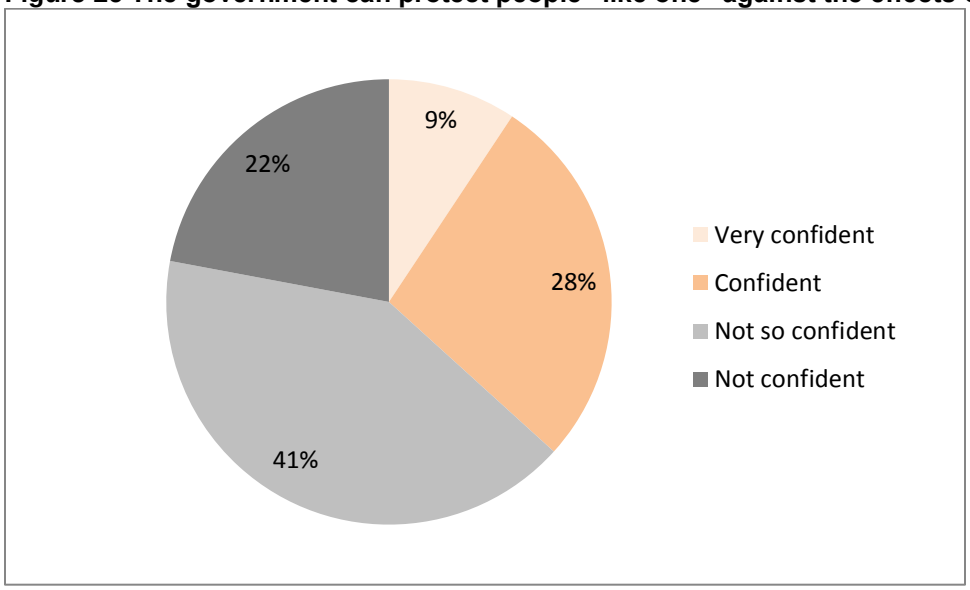


Source: Own calculations using survey data (Latinobarómetro 2006-10)

Turning to the trust on the government in times of crisis, in 2009, the Latinobarómetro survey asked respondents to value how confident were they that the government could protect persons like them, against the effects of a prolonged economic crisis. A broader majority (63%) were not so confident, or not confident at all, that the government could protect them from a prolonged economic crisis.

Overall, these results are more positive than the perceptions shared by the qualitative research participants, who clearly indicated feeling being left alone and not trusting how local representatives and programme employees made decisions.

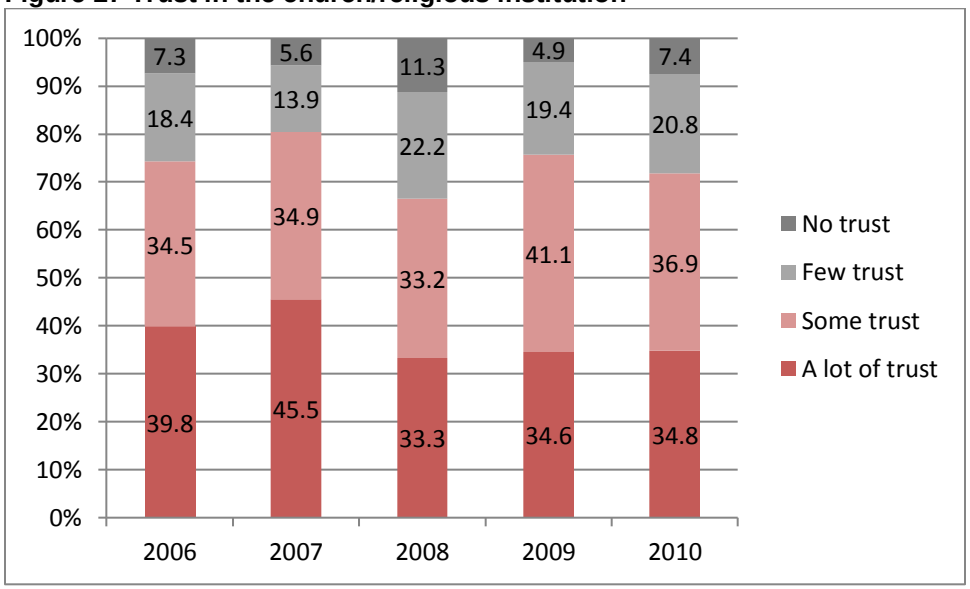
Figure 26 The government can protect people "like one" against the effects of the crisis



Source: Own calculations using survey data (Latinobarómetro 2009)

Churches and religious institutions are regarded more positively. Participants in the qualitative research often mentioned the church as an institution delivering help to the needy in their communities. According to the Latinobarómetro data, with the exception of 2008, more than 70% of the population trusts the church or other religious institutions.

Figure 27 Trust in the church/religious institution



Source: Own calculations using survey data (Latinobarómetro 2006-10)

Informal social support

Strong social capital is observed between individuals who belong to the same family or neighborhood/ community, ethnic group, or religious group. The relationship between these individuals can act as a safety net in case of need (Colleta and Cullen, 2000). For the purpose of this work, informal social support

refers to support made by individuals or groups to other individuals or groups, based on their personal relationship.

According to the qualitative research results, Bolivians are displaying more individualistic behaviors than what the collective memory suggests was the case in earlier times. This result supports what others have found in similar research areas. For instance, focusing on the 2006-2009 period, Hernani-Limarino and Villegas (2010) found that social cohesion declined in Bolivia in spite of declining trends in social divisions. According to the authors, the propensity of people to engage in cooperative behavior decreased significantly, particularly between people of different ethnic, political, and income group.

In 2007, the Latinobarómetro survey asked respondents to report their experience with social solidarity. They were asked to identify, in a scale from 0 to 10, where zero indicates that "most of the people only cares for themselves" and 10 indicates that "most of the people try to help others", whether they consider people try to help others.

As the following figure shows, a very low proportion of respondents identified the extremes (no help, help others) as indications of the reality. Rather, the higher concentration of responses were located in the central part of the 0 – 10 scale, indicating that the solidarity situation in Bolivia is characterized by a sort of balance between caring for oneself and trying to help others.

Figure 28 Informal social support

Source: Own calculations using survey data (Latinobarómetro 2007)

7 CONCLUSIONS

During the 2000s Bolivia experienced sustained economic growth, which was accompanied by significant reductions in poverty. While the economy contracted in 2009 as a result of the global crisis, the overall growth rate remained positive and by 2010, the country had recovered from the crisis shock.

A combination of inclusive social policies has facilitated the improvement of the well being of those in extreme need. However, in spite of these efforts, Bolivia still has a high poverty rate, which positions the

country among the poorest in the region. Thus, while the poverty rate has been decreasing continuously, the population´s vulnerability to shocks is still considerable. The results from the qualitative research clearly show that households suffer when food prices increase and that they have experienced considerable economic hardship in the recent years.

Do the quantitative results support the qualitative findings?

Looking specifically at the qualitative results outlined at the onset of the document, the general findings were the following:

- Food prices vary differently for different products. While locally grown agricultural products display consumer price variations that are consistent with seasonality, prices for products brought from elsewhere or for processed products do not vary, but rather increase their level when price changes occur. That is the case of sugar, rice, and cooking oil.

Information regarding the cost of the basic food basket clearly show annual increases in the period 2000-2010. The largest increase was observed in 2008 with 30% increase relative to the 2007 average cost. Products with documented (in local newspapers) frequent price increases (rather than volatile prices) were sugar, beef and chicken meat, oil, potatoes, noodles, vegetables such as onions, carrots, faba bean, peas, and tomatoes, wheat flour and maize. The reasons behind the increases are in fact related to climate, social factors (instability), increasing wages, and increasing price of fuel and agricultural inputs.

The Latinobarómetro data clearly showed that a considerable proportion of Bolivians do not enjoy a good economic situation nor believe that the country economy is good. They recognize that the crisis has affected the family economy and that over the years; the household income is not enough for covering household needs, including food. The preoccupation about rising prices has been shared by 90% of the population, who by 2008 indicated being concerned with rising food prices. This same year 34.6% of the persons surveyed reported running out of money needed for buying food.

- Retail price changes do not benefit poor farmers. Increases in production input prices and low revenue margins out of agriculture have discouraged small scale production. Agriculture is not considered as an option for building a future.

The increase in production inputs such as fuel and animal feeding as documented in local newspapers led to increases in the cost of food transport and in the price of animal end products. Further, reduction in cultivated area and shortage of supplies increased the demand for imported inputs, which were more expensive and thus, affected both production costs and consumer prices. According to the information, due to the higher production costs, the margin of benefit for produces was minimal (if at all) even in face of higher consumer prices.

According to the survey estimates, the proportion of persons engaged in agriculture dropped 16 percentage points between 2006 and 2011. That is, while agriculture was employing 40% of the working population in 2006, it only employed 24% in 2011. Looking specifically at the occupation of the youth (18-30 years of age), the results are the same: by 2011 a considerably lower proportion of the youth was engaged in agriculture (73.5% vs 58.6%).

- Decent employment opportunities are lacking locally for both, young and adults, skilled (professionals) and unskilled persons.

According to the Latinobarómetro data, between 2006 and 2010 (except 2008), unemployment was considered the most important problem in the country and up to 72% of Bolivians were concerned of becoming unemployed.

Among the several effects of the crisis, Bolivia experienced a contraction in the productive sector leading to a rise on unemployment and decreased quality of employment. This situation affected the chances of both skilled and unskilled workers to enter the labor market. The age group of 15-24 years comprised about 40% of the unemployed. For those who are employed (predominantly as unskilled labor), low salaries, lack of social protection, wage discrimination, and employment instability are a constant reality.

For young and adults, the survey data revealed that by 2011 a larger proportion of workers in low skill/unskilled occupations were persons with higher educational achievement (Superior level). They work as unskilled workers, machinery operators, in agriculture, or in the services and commerce sector.

Economic hardship has pushed poor people to do any type of activity in order to earn a basic salary/wage. In addition, school dropout for children and teenagers is becoming more frequent, as minors need to enter the labor force for contributing to the household income. With respect to the engagement on multiple occupations, the survey data did not reveal an increasing trend between 2006 and 2011.

Overall, one of the key challenges for the Bolivian government is to promote employment, and quality employment, in order to support the employment demands of a growing labor force.

- The community social network is diminishing. The traditional custom of helping each other is no longer practiced and community representation posts are left vacant over time.

Other research focusing on the 2006-2009 period found that social cohesion and cooperative behavior declined, in fact, particularly between people of different ethnic, political, and income groups.

The Latinobarómetro data also shows that the solidarity situation in Bolivia is a sort of balance between caring for oneself and trying to help others. Hence, the results from the qualitative research might well reflect a changing practice of solidarity at the national level.

- Volatile and rising prices, coupled with low household income and “modern” food preferences, are generating a change in the households´ food consumption patterns. Poor families are purchasing more of lower quality products (i.e. old potatoes, broken rice), substituting certain products by other cheaper ones, increasing the consumption of processed foods, or eventually, foregoing consumption of food items that have become too expensive (i.e. meat, quinoa).

Compared to 2006, survey data from 2011 showed that households spent more money for buying a similar amount of food. The share of food expenditures from total expenditures rose from 64.8% to 67.1%.

The survey data facilitated the identification of food items whose consumption changed between 2006 and 2011. The products showing changes generally correspond to products reported in the qualitative research to be consumed differently. However, while statistical significant differences were registered with regards to per capita calorie availability in the pre and post crisis years for such products, in real terms the differences observed between both years (2006 and 2011) are too low (just a few calories) to have practical implications. Thus, the quantitative data does not fully capture the qualitative changes in the diet as reported by the qualitative research participants.

The qualitative aspect of the dietary changes (old potatoes, broken rice) could not be explored with the available data. Further research is needed to understand the nuances in the changed consumption (in terms of quantity and quality) and the dynamics behind current food choices. This information is key for

assessing the potential nutritional impacts (in terms of macro and micro nutrient consumption) of dietary change in Bolivia, being it a result of changing dietary preferences or a result of impaired consumption.

- Increases in prices for other non-food items (especially fuel and transport) stretch even more the household budget. Price increases and volatility hit the poorest harder.

As indicated earlier, the cost of living increased in Bolivia in the 2006-2011 period. Survey estimates show that in fact, household expenditures were higher in 2011 than in 2006 in all expenditure categories, except non-food expenditures.

While total household expenditures rose for both poor and non poor households, the share of food expenditures from total household expenditures was higher for the poorest, reaching a level of 76%.

- Access to formal social protection systems is low and there is a feeling of being left alone. High bureaucratic burden, local political dynamics, and lack of information on support options and the procedures to access them, limit the population´s chances to benefit from government support. Churches and NGOs are considered as the main support providers at the local level.

Access to formal social protection varies depending on the type of program under consideration. While 90% of the elderly reported receiving a pension (Renta Dignidad) in 2011, only 5.7% of women in the age group 13-50 had access to the Juana Azurduy bonus.

Reasons behind the lack of access to government support are only available for Renta Dignidad. In this case, the main reason for not accessing the benefit was the inability to gather the documentation needed for filing an application. Thus, the quantitative analysis can´t explore the issues raised by the qualitative research. Further research could seek to address this issue. Its results would certainly be beneficial for improving the targeting approaches of the corresponding programs and facilitating their delivery to the intended population.

With little access to formal social protection and to help from others in their communities or circle of acquaintances, a large proportion of Bolivian households have no other option than to face crises and shocks in their own. The Latinobarómetro data showed that 63% of the population was not confident that the government could protect them from a prolonged economic crisis.

A more positive attitude is observed towards churches and religious institutions. Except for 2008, in the 2006-2011 period more than 70% trusted these institutions. For the same period, only about half of the population reported having trust in the government.

In relation to access to food, while the Bolivian government has become a key actor in the food system (through EMAPA and other institutions), its support has not benefited equally to those in need and the vulnerable populations. For the achievement of food security, it will be important that the government assumes a constructive role of developer centered on social inclusion, redistribution, and sustainability.

Additional insights from the quantitative approach

While the analyses presented in this document have focused on the pre and post 2007-08 crisis period, increasing and volatile food prices remain in Bolivia to these days. For instance, this year – 2014, has seen increases in products such as onions, tomatoes, faba beans, peas, carrots, potatoes, sugar, beef meat and chicken. The reasons behind the increases are (as always) manifold: the onset of the winter, insufficient rains (or floodings in certain areas), insufficient internal supply, wage raises, and the

occurrence of certain regional festivities, among others.[36] This same year, the government announced that price regulation would only apply for certain key products and suggested the population to substitute the most commonly consumed meats (beef and chicken) by other products such as goat, rabbit, fish, or lama[37]. While the sale of food in public institutions, such as EMAPA continues, it is often reported that the products offered are of low quality, motivating the population (and vendors) to purchase in other places, which offer better quality and terms of trade, but high prices[38]. This issue raises concerns on the benefit of initiatives such as EMAPA if the cases where the population ends up choosing other options due to the perceived quality of the products offered.

Overall, it appears that the more recent government's measures to face high food prices haven't changed much from the measures implemented during and right after the 2007-08 crisis period. As well, the population, similarly to that time, is facing continuous shocks to their incomes and do not report an improvement in their situation. Thus, after at least 5 years with such measures, it will be important to conduct due evaluations on their impact and their efficacy for protecting the food security of the population.

It is likely that the prices of some food products will continue to vary and increase in the coming years. The reorientation of national policies (based on evaluation results) will be essential for adjusting to the evolving context and for ensuring an adequate support to the population.

Focusing on other aspects related to the quantitative analysis per se, the following reflections arise:

Being 2011 relatively far from the 2007-08 crisis, it is expected that by 2011 households have partially recovered from the price shocks, or have adapted by changing their consumption patterns. Hence, the survey data used in these analyses does not allow to explore the short term impacts of the crisis on households consumption and food security.

Nonetheless, even with this limitation, the quantitative analyses show an overall hardening on the living conditions between 2006 and 2011. The Latinobarómetro data, collected annually, has been particularly useful for monitoring annual changes in the population´s perceptions of the context and on their personal situation. This data clearly showed a worsening of the own economic situation between 2006 and 2010, with 2008 being the year with the largest proportion of negative assessments.

With respect to the measurement of food security, the possibility of constructing estimates on the per capita calorie availability has facilitated comparisons across households (poor/non poor) and locations (urban/rural). While this indicator is key in food security assessments, it falls short in the incorporation of food quality aspects into its calculations. Being dietary adjustments towards lower quality products frequently mentioned in the qualitative research, it would be important to be able to measure this aspect from food consumption data in order to gain a deeper understanding of food consumption patterns and to explore issues related to consumption and the social value and acceptability of foods.

Any efforts of improving quantitative measurements and data collection in this direction will be of great use for food security related initiatives which seek to address not only the sufficiency (calorie) aspect of food,

[36] http://www.la-razon.com/economia/IPC-sube-precio-pollo-mantiene-carne-vacuna_0_2105789405.html ; http://www.eldiario.net/noticias/2014/2014_07/nt140711/economia.php?n=75&-sube-precio-de-verduras-en-mercados-crucenios

[37] http://www.eldiario.net/noticias/2014/2014_06/nt140614/economia.php?n=2&-emplazan-al-gobierno-afrontar-en-serio-encarecimiento-de-alimentos ; http://www.eldiario.net/noticias/2014/2014_06/nt140617/principal.php?n=108&-gobierno-deja-control-de-precios-de-alimentos

[38] http://www.eldiario.net/noticias/2014/2014_07/nt140719/nacional.php?n=16&-emapa-vende-carne-a-bs-21-el-kilo-gancho ; http://www.la-razon.com/economia/Carniceros-denuncian-EMAPA-incumple-distribucion_0_2105189529.html

but also the qualitative and social acceptability aspects of foods acquired. Further research could also explore how these factors interplay for generating a given food security and nutritional status and the own perception of well being.

Lessons learned from complementing research approaches

The use of both qualitative and quantitative research approaches for studying how life is affected in face of food price volatility has certainly shed some deeper insights on the impacts of price volatility on the well being of the poor and the population as a whole.

While the survey data stems from years previous to the qualitative data, its findings are still relevant for it. The recurrence of food price spikes and production crises after 2011 has exposed households to a constant situation of price movements (most of the times with upward trends) all along the period and until these days. Thus, in spite of not focusing in the same time periods, both data sources capture recent exposures to food price movements and the consequent effects on households.

Being the survey data collected for other specific purposes, it was clear that not all the information needed for triangulation would be available. Thus, the process of complementing quantitative analyses with other information available from the literature helped to cover the gaps between both pieces of information and to gain a broader picture of the situation.

Ideally both research approaches would feed into each other when conducting research. In this case, the quantitative research took place two years after initiated the qualitative work, so there wasn´t a real possibility of feeding into this work at that stage. With its final year upcoming, the qualitative research can now incorporate elements identified in the quantitative analyses and seek deeper understanding of the dynamics and processes behind those results.

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ANNEX

Descriptive statistics

All results presented in the following tables have been calculated using the corresponding sampling weights. All monetary figures are shown in local currency (Bs.)

Year		N	Mean		Std. Deviation
		Statistic	Statistic	Std. Error	Statistic
2006	**Household monthly income**	2382499	3147.1551	3.13512	4839.17261
	Per capita monthly income	2382499	1013.5215	1.28538	1984.03619
	Household monthly expenditure	2382499	2567.1650	1.45191	2241.06928
	Household monthly food expenditures	2382499	1492.5017	.71771	1107.80659
	Household monthly food expenditures, foods taken inside the home	2382499	1223.4751	.59436	917.41548
	Household monthly food expenditures, foods taken outside the home	2382499	269.0265	.28429	438.81094
	Household monthly education expenditures	2382499	209.2647	.30009	463.19445
	Household monthly non food expenditures	2382499	564.1524	.61073	942.68183
	Household monthly housing and basic services expenditures	2382499	301.2462	.30174	465.74135
	Per capita monthly food expenditures	2382499	437.0746	.21714	335.16011
	Per capita monthly expenditures	2382499	786.8657	.58720	906.36836
	Per capita daily calorie availability, total	2369010	2070.6475	.70027	1077.82736
	Per capita monthly expenditures in…				
	Cereals	2369010	67.2625	.02730	42.01492
	Roots, tubers and plantains	2369010	21.7428	.01249	19.21668
	Pulses, legumes, nuts and seeds	2369010	8.6801	.00751	11.55399
	Vegetables	2369010	24.1246	.01489	22.92052
	Fruits	2369010	22.5652	.01903	29.28948
	Meats	2369010	69.2766	.04523	69.61457
	Fish and sea food	2369010	43.1514	.03706	57.04725
	Milk and dairy products	2369010	25.9340	.02048	31.52500
	Eggs	2369010	7.6187	.00510	7.84955
	Oils and fats	2369010	11.2255	.00588	9.05425
	Per capita daily calorie availability in…				
	Cereals	2369010	1131.0932	.41031	631.53392

	Roots, tubers and plantains	2369010	199.5640	.11736	180.63942
	Pulses, legumes, nuts and seeds	2369010	7.1752	.00740	11.39371
	Vegetables	2369010	49.2405	.02699	41.54315
	Fruits	2369010	109.8039	.06925	106.58774
	Meats	2369010	200.3175	.12907	198.66457
	Fish and sea food	2369010	16.1315	.01887	29.04648
	Milk and dairy products	2369010	59.3734	.05815	89.49851
	Eggs	2369010	37.2115	.02397	36.89361
	Oils and fats	2369010	23.8891	.05863	90.24611
	Per capita monthly availability of key food products (grams)				
	Bread	2369010	4036.5465	2.15030	3309.65959
	Rice	2369010	2345.5106	1.38219	2127.40884
	Noodles	2369010	1619.6333	.96771	1489.46290
	Chicken meat	2369010	1273.9830	1.03124	1587.23557
	Beef meat	2369010	1070.4499	.97864	1506.28999
	Oil	2369010	.9681	.00049	.75993
	Milk	2369010	2.2608	.00246	3.79091
	Eggs	2369010	862.9762	.55589	855.60321
	Onions	2369010	1509.7412	.91914	1414.70853
	Tomatoes	2369010	1262.2628	.86766	1335.46759
	Carrots	2369010	1222.0728	.78845	1213.54620
	Peas	2369010	581.5596	.55645	856.46277
	Faba beans	2369010	596.6081	.61551	947.37055
	Potatoes	2369010	4575.5336	2.62925	4046.82782
	Bananas	2369010	2087.6868	2.69650	4150.34339
	Apples	2369010	470.8169	.52988	815.57104
	Sugar	2369010	1830.8322	.90198	1388.28319
2011	**Household monthly income**	2785386	3737.8480	2.27019	3788.83162
	Per capita monthly income	2785386	1165.8819	.82880	1383.22817
	Household monthly expenditure	2785386	2843.6266	1.26265	2107.29852
	Household monthly food expenditures	2785386	1764.8741	.65970	1101.00001
	Household monthly food expenditures, foods taken inside the home	2785386	1396.7845	.51931	866.69982
	Household monthly food expenditures, foods taken outside the home	2785386	368.0896	.33180	553.76344
	Household monthly education expenditures	2785386	240.1643	.30280	505.35397
	Household monthly non food expenditures	2785386	462.4462	.35692	595.68875
	Household monthly housing and basic services expenditures	2785386	376.1421	.46711	779.57511
	Per capita monthly food expenditures	2785386	526.8203	.20307	338.91051
	Per capita monthly expenditures	2785386	874.0677	.47498	792.72393
	Per capita daily calorie availability, total	2785386	2025.5303	.57610	961.48685

	Per capita monthly expenditures in…				
	Cereals	2785386	84.8875	.03215	53.65417
	Roots, tubers and plantains	2785386	26.5283	.01591	26.55466
	Pulses, legumes, nuts and seeds	2785386	11.0884	.01020	17.01616
	Vegetables	2785386	31.4611	.01875	31.28693
	Fruits	2785386	27.6442	.01830	30.53602
	Meats	2785386	92.9835	.04562	76.13249
	Fish and sea food	2785386	56.3756	.04437	74.05422
	Milk and dairy products	2785386	32.3797	.02038	34.01713
	Eggs	2785386	9.8092	.00600	10.00967
	Oils and fats	2785386	11.0247	.00567	9.46298
	Per capita daily calorie availability in…				
	Cereals	2785386	1086.6830	.35518	592.76986
	Roots, tubers and plantains	2785386	186.4580	.10367	173.02070
	Pulses, legumes, nuts and seeds	2785386	6.2709	.00545	9.09707
	Vegetables	2785386	50.5395	.02290	38.22256
	Fruits	2785386	103.7849	.05692	94.98900
	Meats	2785386	241.5888	.11871	198.11362
	Fish and sea food	2785386	16.8035	.01632	27.24142
	Milk and dairy products	2785386	62.0051	.05223	87.16639
	Eggs	2785386	42.8343	.02487	41.51140
	Oils and fats	2785386	14.7277	.04015	67.00931
	Per capita monthly availability of key food products (grams)				
	Bread	2785386	3761.2126	1.55715	2598.79825
	Rice	2785386	2333.2177	1.27910	2134.75885
	Noodles	2785386	1605.0664	.90266	1506.48884
	Chicken meat	2785386	1859.2185	1.17138	1954.97787
	Beef meat	2785386	1252.9438	.88670	1479.85155
	Oil	2785386	.9310	.00044	.74131
	Milk	2785386	2.4978	.00224	3.73115
	Eggs	2785386	993.3752	.57683	962.69478
	Onions	2785386	1593.2838	.92666	1546.55176
	Tomatoes	2785386	1368.4246	.82213	1372.09115
	Carrots	2785386	1210.3877	.66848	1115.65865
	Peas	2785386	588.7053	.46089	769.19855
	Faba beans	2785386	521.4133	.45322	756.40860
	Potatoes	2785386	4639.5797	2.69860	4503.81795
	Bananas	2785386	1837.2785	2.14818	3585.19883
	Apples	2785386	466.7620	.40644	678.33270
	Sugar	2785386	1655.8996	.82842	1382.59727

Tests for differences between the 2006 and 2011 values

The following tests were performed in order to assess the existence of statistically significant differences between 2006 and 2011 results:

- T-test: Ho = there is no difference between the 2006 and 2011 means (at the 0.05 significance level) – for normally distributed variables
- Mann-Whitney test: Ho = there is no difference between the 2006 and 2011 medians (at the 0.05 significance level) – for not normally distributed variables

The tests results are based in the following decision criteria:

- If p-value <0.05 = Reject Ho = there is a statistically significant difference between the 2006 and 2011 values
- If p-value >0.05 = Accept Ho.

Variable	Results (p value)	Accept / Reject Ho
Household monthly income	< 0.05	Reject Ho
Per capita monthly income	< 0.05	Reject Ho
Household monthly expenditure	< 0.05	Reject Ho
Household monthly food expenditures	< 0.05	Reject Ho
Household monthly education expenditures	< 0.05	Reject Ho
Household monthly non food expenditures	< 0.05	Reject Ho
Household monthly housing and basic services expenditures	< 0.05	Reject Ho
Per capita monthly expenditures	< 0.05	Reject Ho
Per capita monthly food expenditures		
Total	< 0.05	Reject Ho
Urban non poor	< 0.05	Reject Ho
Urban moderate poor	< 0.05	Reject Ho
Urban extreme poor	< 0.05	Reject Ho
Rural non poor	< 0.05	Reject Ho
Rural moderate poor	< 0.05	Reject Ho
Rural extreme poor	< 0.05	Reject Ho
Cereals	< 0.05	Reject Ho
Roots, tubers and plantains	< 0.05	Reject Ho
Pulses, legumes, nuts and seeds	< 0.05	Reject Ho
Vegetables	< 0.05	Reject Ho
Fruits	< 0.05	Reject Ho
Meats	< 0.05	Reject Ho
Fish and sea products	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Oils and fats	< 0.05	Reject Ho
Per capita daily calorie availability		
Total	< 0.05	Reject Ho
Cereals	< 0.05	Reject Ho
Roots, tubers and plantains	< 0.05	Reject Ho
Pulses, legumes, nuts and seeds	< 0.05	Reject Ho
Vegetables	< 0.05	Reject Ho
Fruits	< 0.05	Reject Ho
Meats	< 0.05	Reject Ho
Fish and sea products	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Oils and fats	< 0.05	Reject Ho
Not poor		
Cereals	< 0.05	Reject Ho
Roots, tubers and plantains	< 0.05	Reject Ho
Pulses, legumes, nuts and seeds	< 0.05	Reject Ho
Vegetables	< 0.05	Reject Ho

Fruits	< 0.05	Reject Ho
Meats	< 0.05	Reject Ho
Fish and sea products	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Oils and fats	< 0.05	Reject Ho
Poor		
Cereals	< 0.05	Reject Ho
Roots, tubers and plantains	< 0.05	Reject Ho
Pulses, legumes, nuts and seeds	< 0.05	Reject Ho
Vegetables	< 0.05	Reject Ho
Fruits	< 0.05	Reject Ho
Meats	< 0.05	Reject Ho
Fish and sea products	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Oils and fats	< 0.05	Reject Ho
Per capita monthly availability of key food products		
Total		
Bread	< 0.05	Reject Ho
Rice	< 0.05	Reject Ho
Noodles	< 0.05	Reject Ho
Chicken meat	< 0.05	Reject Ho
Beef meat	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Onions	< 0.05	Reject Ho
Tomatoes	< 0.05	Reject Ho
Carrots	< 0.05	Reject Ho
Peas	< 0.05	Reject Ho
Faba beans	< 0.05	Reject Ho
Potatoes	< 0.05	Reject Ho
Bananas	< 0.05	Reject Ho
Apples	< 0.05	Reject Ho
Oil	< 0.05	Reject Ho
Milk	< 0.05	Reject Ho
Sugar	< 0.05	Reject Ho
Extreme poor		
Bread	< 0.05	Reject Ho
Rice	< 0.05	Reject Ho
Noodles	< 0.05	Reject Ho
Chicken meat	< 0.05	Reject Ho
Beef meat	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Onions	< 0.05	Reject Ho
Tomatoes	< 0.05	Reject Ho
Carrots	< 0.05	Reject Ho
Peas	< 0.05	Reject Ho
Faba beans	< 0.05	Reject Ho
Potatoes	< 0.05	Reject Ho
Bananas	< 0.05	Reject Ho
Apples	< 0.05	Reject Ho
Oil	< 0.05	Reject Ho
Milk	< 0.05	Reject Ho
Sugar	< 0.05	Reject Ho
Moderate poor		

Bread	< 0.05	Reject Ho
Rice	< 0.05	Reject Ho
Noodles	< 0.05	Reject Ho
Chicken meat	< 0.05	Reject Ho
Beef meat	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Onions	< 0.05	Reject Ho
Tomatoes	< 0.05	Reject Ho
Carrots	< 0.05	Reject Ho
Peas	< 0.05	Reject Ho
Faba beans	< 0.05	Reject Ho
Potatoes	< 0.05	Reject Ho
Bananas	< 0.05	Reject Ho
Apples	< 0.05	Reject Ho
Oil	< 0.05	Reject Ho
Milk	< 0.05	Reject Ho
Sugar	< 0.05	Reject Ho
Not poor		
Bread	< 0.05	Reject Ho
Rice	< 0.05	Reject Ho
Noodles	< 0.05	Reject Ho
Chicken meat	< 0.05	Reject Ho
Beef meat	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Onions	< 0.05	Reject Ho
Tomatoes	< 0.05	Reject Ho
Carrots	< 0.05	Reject Ho
Peas	< 0.05	Reject Ho
Faba beans	< 0.05	Reject Ho
Potatoes	< 0.05	Reject Ho
Bananas	< 0.05	Reject Ho
Apples	< 0.05	Reject Ho
Oil	< 0.05	Reject Ho
Milk	< 0.05	Reject Ho
Sugar	< 0.05	Reject Ho
Per capita calorie deficiency		
Calorie sufficient households		
Bread	< 0.05	Reject Ho
Rice	< 0.05	Reject Ho
Noodles	< 0.05	Reject Ho
Chicken meat	< 0.05	Reject Ho
Beef meat	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Onions	< 0.05	Reject Ho
Tomatoes	< 0.05	Reject Ho
Carrots	< 0.05	Reject Ho
Peas	< 0.05	Reject Ho
Faba beans	< 0.05	Reject Ho
Potatoes	< 0.05	Reject Ho
Bananas	< 0.05	Reject Ho
Apples	< 0.05	Reject Ho
Oil	< 0.05	Reject Ho
Milk	< 0.05	Reject Ho
Sugar	< 0.05	Reject Ho

Calorie insufficient households		
Bread	< 0.05	Reject Ho
Rice	< 0.05	Reject Ho
Noodles	< 0.05	Reject Ho
Chicken meat	< 0.05	Reject Ho
Beef meat	< 0.05	Reject Ho
Eggs	< 0.05	Reject Ho
Onions	< 0.05	Reject Ho
Tomatoes	< 0.05	Reject Ho
Carrots	< 0.05	Reject Ho
Peas	< 0.05	Reject Ho
Faba beans	< 0.05	Reject Ho
Potatoes	< 0.05	Reject Ho
Bananas	< 0.05	Reject Ho
Apples	< 0.05	Reject Ho
Oil	< 0.05	Reject Ho
Milk	< 0.05	Reject Ho
Sugar	< 0.05	Reject Ho

The information in this publication is correct at the time of going to press.

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