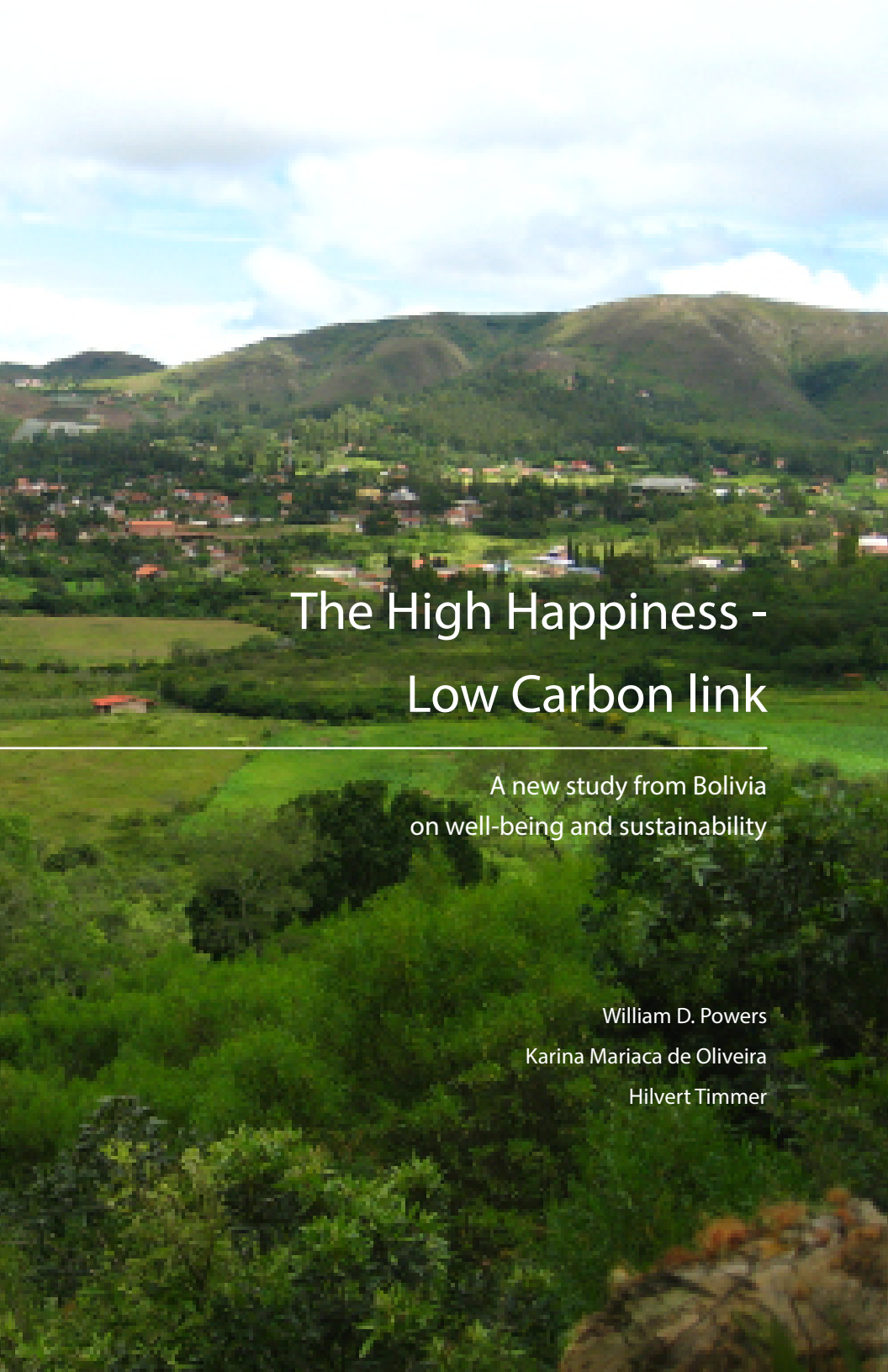

The High Happiness - Low Carbon link

A new study from Bolivia
on well-being and sustainability

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SUMMARY

Projections suggest that two out of three humans will live in cities by 2030.[1] However, emerging counter-urbanization movements challenge this trend. In the heart of South America, several concrete examples posit a new paradigm. Among these is Samaipata, a small town in eastern Bolivia, where the Amazon meets the Andes, with a population of 4,500 including foreign residents from more than 30 different countries. Historically known as the "Valley of Purification," and home to civilizations from the Chané, to the Incan and the Spaniards, the town's reputation for high levels of happiness and low levels of consumption inspired research into concrete data about the linkages between well-being and carbon footprint.

The driving question thus became: could hybrid towns in the Global South – instead of being in need of 'western-style development' – be, rather, a model of sustainability and future-fit living? To probe this question, the research team chose measurement tools to determine levels of happiness and identify the precise carbon footprint of its inhabitants. The team applied the internationally-approved Gross National Happiness Index Survey (based on the Gross National Happiness, or GNH, index of Bhutan), and the Happy Planet Index. The town's carbon footprint was calculated by the internationally-recognized Servicios Ambientales S.A. Finally, the data also included the GDP per capita

of Samaipata. These data points allowed for a comparative analysis between Samaipata, Bolivia, and countries that, like the United States, are deemed to have obtained a high level of 'development' and for which data was available.

The result is startling in its magnitude: the analysis concludes that Samaipata shows higher levels of happiness than countries that have per capita income levels 17 times higher. Moreover, according to calculations of the carbon footprint, Samaipata's environmental impact is 17 times lighter than those same countries in the Global North. This data is especially important when we consider the multidimensional crisis we face as humankind, including the intensifying climate crisis which threatens all life on Earth. The three primary conclusions of the research are critical to expand our understanding of these relationships between consumption, sustainability, and happiness levels:

1. It is possible to achieve high levels of well-being with low GDP levels and low environmental impact.

2. Models developed in the Global South, like "Buen Vivir" (Living Well)[2] may be effective and sustainable alternatives to conventional development models.

3. The "re-villaging" movement (i.e. a current trend countering "urbanization") correlates with high levels of happiness and low environmental impact.

These conclusions confirm that the village of Samaipata, in many ways representative of dozens of similar demographic contexts throughout Latin America, offers powerful alternatives for a planet facing grave and intersecting crises of unhappiness and environmental destruction. Samaipata sets forth a compelling case for a town in the Global South that can share clear and insightful lessons for the Global North and industrialized nations in general.

THE CLIMATE CRISIS AND URBAN DEVELOPMENT

The global debate around the causes, principal drivers, and necessary response to the climate crisis remains unresolved. It is a crisis that has no precedent and that carries risks higher than any other we have known.

For decades, scientists, academics, and politicians have explored the relationship across development models, levels of human well-being, and environmental limits. Climate change has become a central theme of 21st century international politics, as reflected in the high-profile global meetings of the UN's Conference of Parties (COP), charged with reviewing the international agreement of the UN´s Framework Convention on Climate Change (UNFCCC), especially the 2015 United Nations Climate Change Conference (COP21)[3] in Paris.

The COP21 sought to achieve agreement on greenhouse gas emissions reductions to limit a global temperature spike to 2oC (3.6 oF).[4] Although the greenhouse gases that cause global warming exist naturally in the atmosphere, scientific research points to an alarming increase in the emission of these gases since the Industrial Revolution (IPCC, 2014).[5] Most of the emissions are linked to the burning of fossil fuels in industrial activities and transportation.

Although cities only occupy 2.8% of the Earth's surface, they consume 75% of its natural resources. Considering estimates of urbanization rates, which predict that 90% of the world population will live in cities by the year of 2050[6], it is imperative that we closely consider the role of cities and their development patterns. Beyond alternative models of urbanizations –like energy efficient, "green" cities—we must seriously consider alternatives to urbanization, like the Transition Town[7], re-villaging, and Slow movements which promise low-carbon happiness at a human scale.

DEVELOPMENT MODELS AND NEW PARADIGMS

The Western development model has been the subject of extensive debate and criticism for several decades, giving rise to an alternative: post-development theory[8] and practice. Uruguayan scholar Eduardo Gudynas (2011) asserts that the dominant Western model is based on the myth of unlimited growth[9]. Development has been become a "zombie concept," he writes, "dead and alive at the same time." Indeed, although the conventional Western vision of development —linked to the dual environmental and well-being crises— has repeatedly been declared "dead" in the last several decades, it continues to be promoted by major institutions as the only way forward. Other scholars, including Arturo Escobar, have deepened this analysis to challenge current semantics around development and its connection to the underlying political and economic goals of "development."[10]

Gudynas and economist Alberto Acosta (2011) have developed a new approach focused on alternatives originating in the Global South. They have extensively analyzed Buen Vivir ("living well"), a concept which places value on the worldview of indigenous Latin Americans, and which provides the underlying foundation to both the Bolivian and Ecuadorian national constitutions.[11] According to Aymaran researcher Fernando Huanacuni, "Vivir Bien is life in a state of fullness. It is to know how to live in harmony and balance…with the cycles of Mother Earth." [12]

New paradigms are emerging in the Global South that offer nuanced interpretations about the human-nature relationship. These proposals break from conventionally anthropocentric and individualistic development models and instead parallel Western holistic and bio-centric worldviews such as deep ecology[13], which understands the Earth to be a

living entity. According to deep ecology, humans are linked to the Earth by a relationship of intimate inter-dependency.[14]

German geographer Jörg Elbers argues that, in this sense, Vivir Bien is an animistic paradigm, "a conception of life (that is) based on community and on the interrelation of its members, whether they be humans, plants, animals, or mountains." Elbers suggests that this broader perception of life could "offer a paradigm from which humankind can learn viable strategies to confront the challenges of the 21st century." Gudynas´ conclusion that "living-well is only possible when living in community" may be the most important lesson the Global South can share with its Northern neighbors, given the likely necessity for profound adaptation measures in the face of climate change.

Photo: Quinta Conciencia

THE ROAD TO HAPPINESS: THE WESTERN "GOOD LIFE" OR THE AMERICAN INDIGENOUS "SWEET LIFE"?

How does a given society articulate the path to happiness? The answer to that is shaped by how it defines the basic concept of well-being. According to Bolivian philosopher Javier Medina, an expert in indigenous American intercultural studies, there exists a radical contradiction between the Western "good life" (i.e. the American Dream) and the Amerindian "sweet life," by virtue of their origin in distinct worldviews.[15] The former promotes the individual, and progress and development through increased urbanization and modernization. The Amerindian "sweet life," in contrast, places emphasis on "the balance and sufficiency of the good," through austerity and respect for diversity.

Urban life is closely linked to the Western notion of Medina's conception of the individualistic "good life." The search for happiness in modern cities—where marketing and publicity are most pervasive, and where there is a marked absence of nature—is essentially consumerist, disregarding the consequences of human impact on the planet. The cultural paradigms that we uphold determine our behavior. Through consumption habits, based on assumptions about individual well-being and striving for "the good life", urban dwellers become accomplices to major corporate actors and the dominant economic and political trends that are

the primary driving forces of the climate crisis. If sustainability is defined in basic terms as the capacity to meet present needs without compromising the well-being of future generations, we are faced with a dilemma when we ask ourselves: "What are our true needs?" and "What is necessary to achieve well-being?"

Photo: Quinta Conciencia

OUR ECOLOGICAL AND CARBON FOOTPRINTS

Tools such as ecological-and carbon footprints provide a concrete measurement that help identify human impact on the environment, and therefore can inform policy decisions to address the discrepancy b etween overwhelming demand for natural resources and the actual availability of these resources.[16]

The ecological footprint "is a resource accounting tool that measures the extent of nature that we have, how many resources are used, and by whom."[17] Research indicates that industrialized nations generate a much larger ecological footprint compared to countries in the Global South. A simple hypothetical situation reveals a somber conclusion: If the average global citizen consumed the same quantity of natural resources and emitted the same amount of greenhouse gases as the average citizen in the Global North, several planets of resources would be needed to sustain humanity.[18] Herein lies the dilemma: The unsustainable development model of the so-called First World— based on the myth that unlimited consumption will lead to the "good life"— are imposed on other cultures and societies, who are drawn to, in an unbalanced power relationship, adopt those models. In this way, both the environmental as well as the happiness crisis are further deepened.

Photo: Quinta Conciencia

MEASURING HAPPINESS

GDP, Human Poverty Index, and Happiness Indices

Traditionally, "happiness" levels have been measured by the primary economic standard: Gross Domestic Product (GDP), an indicator of the amount of goods and services produced annually within a country. Dividing the total GDP by the population of the country yields per capita GDP. This approach is rooted in a purely capitalist logic that equates higher income per capita with greater well-being. Indeed, according to the World Bank, the five countries with the highest levels of "well-being" as defined by GDP would thus be the United States, China, Japan, Germany and the United Kingdom. [19] In other words, the "developed" countries of the Global North.

A second conventional way of determining the well-being of a given population has been the Human Poverty Index, replaced in 2010 by the Multidimensional Poverty Index (MPI).[20] These indices focus on quality of life based on the probability of survival until the age of 40, literacy levels, and the percentage of the population´s access to drinking water. The development of the MPI expanded these measurements to 10 different indicators, but is still limited. While these factors are closely linked to dimensions of happiness, they do not encompass the full scope of well-being, and they distort the results to favor "developed" countries over "underdeveloped" ones.

As the debate has deepened around competing understandings of well-being, it has become clear that neither the GDP nor the HPI measurements are adequate to capture the full picture. Consequently, measuring happiness has become fashionable, and a dozen new indexes have already been developed.[21] In the Kingdom of Bhutan, for example, Gross National Happiness (GNH), first introduced in 1972, forms an integral part of national politics.[22] Other countries, like France, claim to follow Bhutan's example[23] and countries like the Australia and the United States have committed funds to investigate "alternative indicators" to GDP, but those indicators are far from entering the realm where they would influence policy.[24]

Samaipata, Bolivia. Photo: Hernando Hache

Economist Amartya Sen helped develop the new well-being metrics on which another index, that of the World Happiness Report (WHR), was based. Though the WHR is a well-developed index, it continues to use an individualistic and economics-heavy basis for "happiness."[25] More recently, the academic world has undertaken an effort to understand and measure happiness by considering a broader set of indicators linked to Bhutan's Gross National Happiness index. A handful of universities in the U.S., including in Illinois and Oregon, along with British Columbia in Canada now use the Gross National Happiness Index Survey, which measures subjective parameters about well-being. This subjective approach is now widespread, and is especially common in the United States.

It is within this overarching context that the current study was conducted to determine levels of happiness, economic throughput, and climate impact in the Bolivian town of Samaipata.

AN INDEX FOR SAMAIPATA

Samaipata is a town of 4,500 inhabitants located in central Bolivia, a country that sits in the heart of South America, at an altitude of 1,650 meters. Its population is primarily composed of Bolivians, who represent a diversity of Bolivian regions and ethnicities. Approximately 3% of current inhabitants are foreigners who hail from over 30 different countries. Samaipata, which means "resting place in the highlands," also known as the "Valley of Purification," is nestled in a valley with a temperate climate and diverse natural landscapes which set the stage for the region´s principal economic activities: tourism and agriculture.

Samaipata was chosen as the site of this study principally due to the fact that its size-- both in terms of demographics and income level-- is that of a typical village in the Global South. However, it is important to note the factors that make Samaipata unique. The town receives an active migration flow from various Bolivian cities and from the rest of the world. As a result of this diverse migration and the fact that Samaipata is situated at the intersection between the Amazon and the Andes, it is a converging point of many cultural and developmental practices from across different communities. Several local economic activities seek a more friendly relation with nature and ways in which to maintain local supplies of food and goods. Moreover, many of the town's models of social organization are based on traditional examples that are based on communitarian principles, and thus have the effect of placing a high value on intentional living.

METHODOLOGY

The Research Index

The most appropriate index was chosen based on an analysis of internationally-recognized models, placing emphasis on those that could be best adapted to the goals of the research and to the local context.[26]

Two indices were used to collect data, both the Happy Planet Index (HPI) and the Gross National Happiness Index (GNH).[27] The former is calculated through subjective judgments of happiness in tandem with the society's level of regard for the environment. Meanwhile, the latter is an adaptation of Bhutan's index, and is meant to be universally applicable. Like the HPI, GNH it is based on subjective parameters of happiness, which seeks to address several spheres of life. The questionnaire is thorough, measuring the level of satisfaction with life in relation to various social, political, economic, and environmental factors.[28]

The relationship between happiness and income level was determined by comparing the happiness index with the GDP per capita. The analysis also included a measure of the carbon footprint in order to account for the interconnectedness between human beings and their environment.

Data Sources and Sample Size

The study considers the most recent data available. Data on Samaipata was collected in a variety of ways: interviews, reviews of public-sector institutional documents, estimates of demography, geography, tourism development and the size of the village in comparison with national figures.

The optimal size of the random sample was determined using a calculator with conventional distribution (50%), and a standard

deviation.[29] Given a population of 4,500 inhabitants, the sample size was 95 individual surveys, with a confidence level of 95% and a 10% margin of error.[30]

Happy Planet Index

The HPI is determined by a combination of objective (measurable) data and subjective (satisfaction) data. The index relies on transparent and comparable data from 151 countries and is made up of three components: well-being, life expectancy and the ecological footprint.[31] Thus, the index integrates key internal and external factors, addressing the personal "inner world" as well as an individual's environmental responsibility to the "outer world". In this way, the index is directly compatible with the Bolivian constitutional concept of Vivir Bien (Sweet Life).

The HPI webpage offers figures for the three aforementioned categories for all 151 countries. The table below shows results for the five countries with the highest scores:[32]

IPF Ranking	Country	Life Expectancy	Well-being (0-10)	Ecological footprint (gha/capita)		Happy Planet Index
1	Costa Rica	79.3	7.3	2.5	=	64.0
2	Vietnam	75.2	5.8	1.4	=	60.4
3	Colombia	73.7	6.4	1.8	=	59.8
4	Belize	76.1	6.5	2.1	=	59.3
5	El Salvador	72.2	6.7	2.0	=	58.9

Evidently, this index yields results that depart sharply from those of GDP-based calculations. The index based on GDP results in a list of the more "developed" countries, while this index shows that the countries ranking the highest in HPI are not ones that have high levels of income.

According to the HPI:

"…the results show that we are still not living on a happy planet. No country is able to score successfully across the three goals of high life expectancy for all, high experienced well-being for all and living within environmental limits. Most often, long, happy lives come at the expense of our environment. Wealthy, western nations with high-incomes tend to score highly on life expectancy and well-being, but do not score highly on the Happy Planet Index because of the environmental costs of how their economy runs. But the success of Latin American countries demonstrates that it is possible to build a strong economy that delivers high well-being, and long life expectancy, without having a large ecological footprint."

In fact, nine of the top ten countries in the HPI ranking are located in Latin America; Bolivia is 64th on this list, and the United States, 105th. The ranking of the U.S. according to this metric may be surprising, especially considering the World Bank's assessment of the U.S. as the most developed country in the world, with the highest GDP, and the leader of various development projects in

countries across the Global South. Yet, when we transcend the strictly economic parameters of traditional assessments to include measures of environmental responsibility, levels of consumerism and the use of natural resources (or, the ecological footprint), the resulting sustainable happiness level of the U.S. is, in fact, very low.

IPF Ranking	Country	Life Expectancy	Well-being (0-10)	Ecological footprint (gha/capita)		Happy Planet Index
64	Bolivia	66.6	5.8	2.6	=	64.0
105	U.S.A.	78.5	7.2	7.2	=	60.4

RESULTADOS

Result 1: The Sense of Happiness

Below are the results of the field study in Samaipata[33] compared to the responses of 50,000 mainly North-American survey participants (Gross National Happiness of the Happiness Alliance/Happycounts).[34] The United States is used as a point of comparison not only because the same questionnaire has been applied to various North-American cities and towns, but also due to the fact that the U.S. has been labeled as the most-developed country in the world paired with the highest income.

Category	Samaipata	Happycounts	% different to Happycounts
Cantril Scale	77.2	65.4	15%
Life Satisfaction	76.7	64.1	16%
Psychological well-being	86.5	73	16%
Health	74.5	64.2	14%
Time balance	68.8	45	35%
Permanent learning, art and culture	63.7	55.7	13%
Community	61.5	53.7	13%
Social support	83.1	62.3	25%
Environment	68.7	62.2	9%
Government	42.4	48.5	-14%
Economy	71.6	66.2	8%
Work	78.9	59.3	25%
Total	71.1	60.0	16%

These figures reveal that the participants based in Samaipata score higher than their U.S. counterparts in nearly all categories of the survey, a fact which is reflected in the 16% difference with Happycounts. The contrast is especially notable in the areas of time balance (freedom), social support and work satisfaction.[35]

Result 2: Happy Planet Index

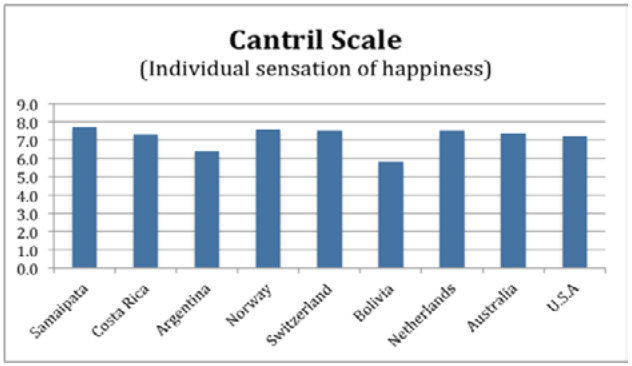
The HPI index uses the following simplified calculation[36]:

$$\text{Happy Planet Index} \approx \frac{\text{Subjective well-being} \times \text{Life expectancy}}{\text{Ecological footprint}}$$

1. Subjective well-being

The first question of on the survey distributed in Samaipata regards subjective well-being, for which HPI uses the Cantril Scale.[37] Samaipata scored 7.7, placing it among the highest of those

measured. The figure to the right depicts the different countries' scores on the Cantril Scale[38] in comparison to Samaipata.



As evidenced from this graphic, the sense of happiness does not differ significantly across the countries included.

2. Life expectancy

According to the National Statistics Institute of Bolivia (INE), life expectancy rose from 63.9 years in 2005 to 68 years in 2013.[39] This new figure is comprised of data from populations who live in a variety of different environments, including extreme conditions, such as in mining centers and in the altiplano– or highland - region, where life is much harsher than in Samaipata. One way of understanding the increase in life expectancy in Bolivia is by considering the shifting political climate; until the year 2005, national policies were focused on productivity, competition and international market forces. Since the country's first indigenous president, Evo Morales Ayma's government ascended to power in 2006, the development model has been reoriented much more towards social considerations, a fact that is reflected by public health and conventional poverty indicators for the country.

Life expectancy in Samaipata in 2005 was 71.7 years.[40] The estimation of life expectancy in 2013, following the general trend of growth in the country, is 75.7 years. That figure is similar to life expectancy in the United States (78.5 years).

3. Ecological footprint

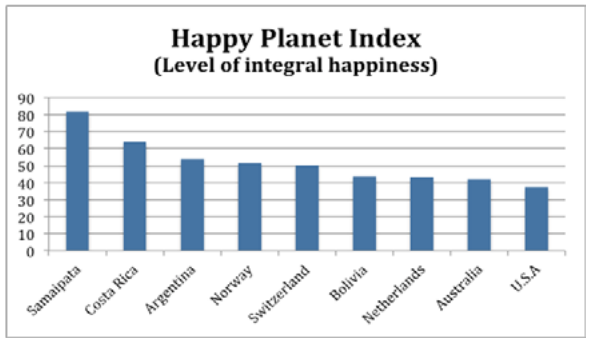
In 2008, Bolivia had an ecological footprint of 2.6 global hectares per capita (gha), according to the Happy Planet Index.[41] The 2015 estimate for Bolivia was 1.58 gha per capita.[42]

The carbon footprint forms 54% of our ecological footprint and is its fastest growing factor.[43] Samaipata's ecological footprint can be determined by collecting and synthesizing data through a directed investigation,[44] or by following the relationship between both footprints. The result of the calculation is as follows:

$$\frac{\text{Carbon Footprint Samaipata (0,99)}}{\text{Carbon Footprint Bolivia (1,6)}} \times \text{Ecological Footprint Bolivia (1,58 gha)} = \text{Ecological Footprint Samaipata (0,98 gha/capita)}$$

Calculating the HPI[45]

Samaipata scores an 81.9 on the Happy Planet Index, on a scale of 0-100, beating out the top-ranked country, Costa Rica, which scored 64 in 2012. Indeed, it is perhaps surprising that a "poor" village of the Global South would contain inhabitants that are significantly happier than their counterparts in the 151 countries listed by the HPI.

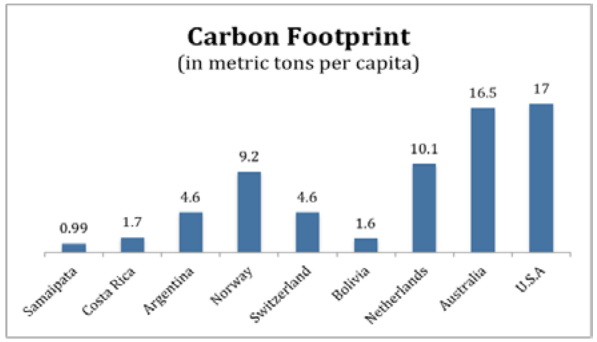


These results confirm the observations of post-development theory, that people are generally happier in rural, de-urbanized areas, where communities have not succumbed either to the same high levels of consumption, or to the pressures generated by life in the city, as in more developed countries.[46] A second important observation to highlight is that Samaipata is the only one in the ranking that has reached a green score in all three evaluative categories (well-being, life expectancy and ecological footprint), an achievement not yet registered by any country included in the HPI until now. While it is obvious that the comparison of a town's measurement to that of a country's is not the most precise, it does nevertheless point to some critical conclusions.

Result 3: Carbon footprint

According to 2011 data from the World Bank, Bolivia's CO2 emissions -its carbon footprint- are at 1.6 metric tons per capita.[47]

The internationally-accredited agency, Servicios Ambientales S.A., calculated Samaipata's carbon footprint specifically for this study.[48] The organization relied on data about the following components of consumption: electric energy, fuels (including firewood), transportation and tourism, natural gas for domestic use, and the generation of waste and its disposal. The resulting carbon footprint for Samaipata was 4.453 tons of CO2 in the year 2015, or 0.99 metric tons per capita.

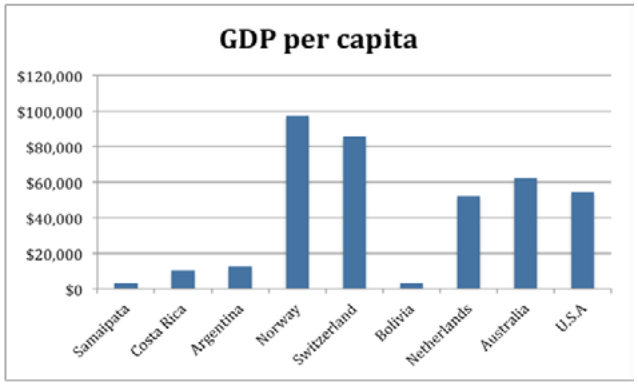


In order to make a comparative analysis, the above diagram illustrates the carbon footprints of various countries along with that of Samaipata. The graphic allows us to discern, for example, that Samaipata's per capita footprint is 17 times smaller than that of the United States, at 17 tons.

Result 4: Annual per capita income (GDP)

In 2014, Bolivia had a GDP of US $33 billion and a population of 10.56 million people[49], making the GDP per capita US $3.125. This same figure is used in the case of Samaipata.[50]

As demonstrated by the figure, Bolivia's GDP per capita is the lowest among this set of countries from across the Global North and South. In fact, Samaipata's per capita income is 17 times lower than that of the United States.



CONCLUSIONS

In order to simplify the comparative analysis between the eight countries included in this study, the following figure reflects the relevant research data:

		Happy Planet Index	HPI No.	Cantril Scale	Happiness questionnaire	Ecological footprint	GDP per capita
1	*Samaipata*	81.9	[1]	7.7	71.1	0.99	$3,125
2	Costa Rica	64	1	7.3		1.7	$10,414
3	Argentina	54.1	17	6.4		4.6	$12,510
4	Norway	51.4	29	7.6		9.2	$97,313
5	Switzerland	50.3	34	7.5		4.6	$85,592
6	Bolivia	43.6	64	5.8		1.6	$3,125
7	Netherlands	43.1	67	7.5		10.1	$52,184
8	Australia	42	76	7.4		16.5	$61,941
9	U.S.A	37.3	105	7.2	60.0	17	$54,625

Based on the research cited above, three general conclusions have been identified:

1) It is possible to achieve high levels of well-being with relatively low income and a low environmental impact.

Although the inhabitants of high-income countries attest to being "happy" (Cantril Scale), their consumption habits generate a very large carbon footprint, thus reducing the population's integrated happiness. From a holistic perspective it becomes clear that the environmental impact of a given lifestyle

influences happiness levels. As this study ultimately suggests, the environmental crisis is linked to the dominance of traditional development models, which in theory—but not always in actuality—have the ultimate goal of ensuring the "well-being" of communities. The results of the study demonstrate that the most developed countries of the industrialized world are not, in fact, happier than "developing" countries. Meanwhile, the former generate a significantly higher negative impact on the planet.

This research confirms that classic development models warrant scrutiny, as do the values they uphold and the tools they use to promote well-being. Given the extremity of the environmental crisis, the research argues that individualistic notions of happiness do not justify extractivism and the overexploitation of natural resources. In this sense, it is critical that the Global North consider other forms of happiness which have been the foundation of cultures for thousands of years in the Global South.

An integral part of the overall survey was the last question, which asked respondents to define what made them happy. The resulting responses showed that 100% of the participants find happiness in relational moments with family, friends, in nature and in relaxation, which corroborates the notion that well-being is determined by affective and natural bonds as opposed to material goods.

2) Proposals from the Global South, such as "Buen Vivir" o "Vivir Bien" (Sweet Life) may be effective and sustainable alternatives to the classic models of development.

"The industrialized countries," writes Gudynas, "have sunk into a deep, multidimensional crisis, whose debates go in circles at superficial levels around financial and technical themes, without proposing profound structural changes that question as of now obsolete Western development models" (2011). New paradigms such as the indigenous concept of Buen Vivir emerge in a genuine search for alternatives to classic development theory, offering a roadmap toward profound structural changes. The results of this research confirm one of the basic principles of Buen Vivir: happiness is only possible if it exists in harmony with Mother Earth and with all of her living inhabitants. In other words, Buen Vivir upholds a bio-centric worldview in which happiness is achieved by caring for the environment. This philosophy promotes the values of reciprocity, complementarity and community life, and offers an alternative to the competition, separation and individualism of models from the Global North.

3) The re-villaging movement has demonstrated high levels of happiness and a low environmental impact.

It is imperative to pursue alternatives to urbanization and the individualistic vision which accompanies it. Cities foster high levels of resource consumption to satisfy the demands of their inhabitants, exhausting environmental as well as social resources in the process. In the face of this reality, we can observe worldwide re-villaging movements, especially in the Global South. In those examples, people seek more intimate contact with nature and experiment with various economic, productive, social, ecological and collaborative forms of life.

The results of the study support the importance of re-villaging movements. According to the research, life in a rural village like Samaipata can yield higher levels of happiness than life in industrialized cities. Moreover, the smaller ecological and carbon footprints generated by living in a village rather than a city are linked to higher levels of happiness, likely due to the stronger interconnection between humankind and its environmental surroundings.

The new forms of happiness which are emerging in the Global South offer answers to future global scenarios. These powerful and concrete examples invite us to re-examine the causes of the climate crisis to consider holistic, bio-centric, and ancestral worldviews, and to reflect on existing alternatives to traditional development, which can help guide us on a clear path forward.

REFERENCES

CAF (Banco de Desarrollo de América Latina), "Proyecto Huella de ciudades; resultados estratégicos y guía metodológica". CAF, Bolivia: 2015.

Escobar, A., Antropología y desarrollo. Revista Internacional de Ciencias Sociales: 1997. Disponible en: http://www.unesco.org/issj/rics154/escobarspa.html

Elbers, J.,"Ciencia holística para el buen vivir: una introducción". Quito, Centro Ecuatoriano de Derecho Ambiental: 2013

Gross National Happiness. Howell, R.T., Musikanski, L., de Graaf, J., Godzikoskaya, J. & Goldenberg, E. - www.happycounts.org

Gudynas, E., "Buen Vivir: Today's tomorrow", en: www.palgrave-journals.com

Gudynas, E. & A. Acosta, "Buen Vivir: germinando alternativas al desarrollo": 2011

Huanacuni, F. , Memoria del Congreso Internacional "Construyendo la sostenibilidad desde la cosmovisión de los pueblos indígenas de Latinoamérica". Ministerio de Medio Ambiente y Agua del Estado Plurinacional de Bolivia: 2010.

Hopkins, R., The Transition Handbook. From oil dependency to local resilience. Green Books: 2008

IMCO: Helliwell, J., R. Layard & J. Sachs, Reporte Mundial de Felicidad 2015 – resumen.

IPCC, "Impactos, adaptación y vulnerabilidad": 2014.

Klein, N., Esto lo cambia todo: El capitalismo contra el clima. Editorial Paidos Ibérica: 2015

Medina, J., Suma Qamaña: Por una convivialidad postindustrial. Segunda Edición. La Paz, Bolivia: 2006

NEF, "The Happy Planet Index: 2012 report; a global index of sustainable well-being", www.happyplanetindex.org.

Smith, P. y Max-Neef, M., "Economics Unmasked", Green Books: 2011

Webpages:

- Banco Mundial: data.worldbank.org
- Better Life Index (OECD): www.oecdbetterlifeindex.org
- Asociación de Ciencias Ambientales (ACA): www.cienciasambientales.org.es.
- INE: www.ine.gob.bo
- Footprint Network: www.footprintnetwork.org
- WWF: footprint.wwf.org.uk/
- IMCO: imco.org.mx/articulo_es/como_se_mide_la_felicidad
- Gallup World Poll: www.gallup.com
- Gross National Happiness Index: www.happycounts.org
- Gross National Happiness Bhutan: www.grossnationalhappiness.com
- Happy Planet Index: www.happyplanetindex.org
- World Happiness Report: worldhappiness.report
- www.jornadanet.com

FOOTNOTES

1 Source: Banco de desarrollo de América Latina CAF, "Huella de Ciudades" (2016).

2 The two phrases "buen vivir" and "vivir bien" essentially mean the same thing. The former is more closely associated with the concept as it is used in Ecuador and Peru, the latter with use in Bolivia. In this article we have chosen to use that which has the most neutral connotation due to the highly-charged political connotation that the former carries, as it was taken on as a political campaigning slogan and its implementation has become hotly contested.

3 Known as the 2015 Paris Climate Conference, which is the 21st Conference of the UN Framework on Climate Change (CMNUCC), with official representatives of the 195 countries of the United Nations. The Conference took place in France from 30 November until 11 December 2015, with 45,000 participants.

4 According to the organizing committee, the Conference accomplished its goals by the approval of the consensus of the Agreement of Paris, which shall become valid with the ratification of all members. Nevertheless, there are doubts about the ratification by 55 countries that emit over 55% of the greenhouse gases, as is the case of the United States, the most "developed" and industrialized country in the world.

5 "The Intergovernmental Panel on Climate Change (IPCC) was founded in 1988 with the objective to deliver integral evaluations on the state of scientific, technical and socio-economical knowledge about climate change, its causes, its possible repercussions and respond strategies." Source: www.ipcc.ch

6 Source: Banco de desarrollo de América Latina CAF, "Huella de Ciudades" (2016)

7 The transition towns are communitarian citizen projects that attempt to create social resilience against the progressive social collapse, provoked by climate change, the peak of petroleum production and the instable economy. The transition movement (also known as Transition Network or Transition Towns) is a pragmatic movement in favor of agro-ecology, permaculture, consumption of locally and/or collectively produced goods, and the revaluation of skills in favor of life and harmony with the rest of nature (Rob Hopkins: 2008).

8 The theory of post-development affirms that the development models are often ethnocentric, universalists, and based on Western industrial models that are unsustainable in this world of limited resources, and which are ineffective because of its ignorance of local, cultural and historical contexts of the population to which they are pointed to. The essential problem that the theorists of post-development (f.e. A. Escobar, G. Steva, W. Sachs, J. Ferguson) identify in development and its practice, is the inequality, influence and dominion by the West.

9 Source: the article "Buen Vivir: Today's tomorrow" (2011).

10 Arturo Escobar, (1996) in La invención del Tercer Mundo, affirms that "…terms as "third world" or "underdeveloped" are the result of international politics connected to post-war reality, which brought international actors like the World Bank to define the countries with an income less than $100 per capita as "poor", with the goal to consolidate the concept of poverty as an organizing term for reality that justifies future interventions of control and social dominion".

11 Buen Vivir (in the quechua lenguage: Sumak Kawsay) and Vivir Bien (in the aymara lenguaje: Sumaq Qamaña). These are concepts that stem from the indigenous peoples of Latina America, and that are currently used as alternatives to traditional development.

12 Cited in Elbers (2014). Huanacuni was named Bolivia´s Foreign Minister in early 2017.

13 "Deep Ecology" recognizes the fundamental inter-dependency between all phenomena, and the fact that, as individuals and as societies, we are all linked to (and dependent from) the cyclical processes of Nature (Capra, F., La trama de la vida, 2003).

14 According to the Aymara researcher Fernando Huanacuni, (2010): "The West, which its paradigm of individualism has de-sensibilized us, first of life, and now from ourselves. […] We must undertake a profound reflection, because at the opposite of individualism exists the communitarian process; this is a process of sensibilization, of connecting ourselves to the community, which is not only a social structure, but we understand this as the unity and structure of life, where the ant, the tree, the mountains, the ancestors, live - we all are here…".

15 The Western concept of Good Life is mainly based on two pillars: "the biblical myth of the Garden of Eden and the Aristotelian vision that bind the Good Life to city life (2006: 105). Both aspects are characterized by the separation of humankind to nature, which is clearly different to the Amerindian Sweet Life that is based on the symbiosis of both. The Western worldview grants mankind the natural resources to its disposal, while in the Amerindian worldview humankind is being understood as "(s)he who helps Mother Earth giving birth", so in this worldview nature is not understood as a "life tool, or business" (Medina, J., 2006).

16 According to the Global Footprint Network (2016), the carbon footprint is the totality of greenhouse gases emitted directly or indirectly by an individual, organization, event or product. The Ecological Footprint represents the productive area required to provide the renewable resources humanity is using and to absorb its waste.

17 Global Footprint Network at www.footprintnetwork.org.

18 Since 1961, the carbon footprint of humanity has increased 11-fold, as a result, humanity's pressure over nature has exceeded the planet's capacity to recuperate. Today, we would need the regenerative capacity of 1.5 planets to provide ecological services we use each year. Source: www.footprintnetwork.org

19 The smallest "developed countries" have the highest rankings en terms of GDP per capita, like Monaco, Liechtenstein, Luxemburg and Switzerland. Data based on 2016 list of countries. http://databank.worldbank.org/data/download/GDP.pdf

20 https://en.wikipedia.org/wiki/Multidimensional_Poverty_Index

21 The United Nations established the date of 30 of March as the International Day of Happiness at the international calendar.

22 The Gross National Happiness index was created by Dragon King IV Jigme Singye Wangchuck. It represents his commitment to create an economy that serves the Bhutan culture with its focus on spiritual Buddhist values, instead of the Western material development based on the Gross Domestic Product (GDP).

23 Burns G.W. (2011) "Gross National Happiness: A Gift from Bhutan to the World." Biswas-Diener R. (eds) Positive Psychology as Social Change. Springer, Dordrecht.

24 For more information on alternatives, see this article, Dec 1, 2014, at http://theconversation.com/beyond-gdp-are-there-better-ways-to-measure-well-being-33414

25 According to the Brazilian sociologist and agronomist José Da Sousa Silva (2002), there are three existing predominant worldviews, three different forms to interpret reality: 1) the mechanical view: the world is understood as a machine, 2) the market view: the world is understood as a giant market, and 3) the holistic view: the world is understood as a giant web of interconnected relations.

26 The primary indices available include 1) The World Happiness Report of the United Nations is a well-developed index however it focuses heavily on GDP and other individual economic parameters and is therefore unable to take into account the integral view of the person. 2) The Better Life Index of the OECD is also a useful measurement, however its focus is more on individual comfort. 3) The Happy Planet Index is the index that best integrates the carbon footprint in its calculations.

27 From the Happiness Alliance: www.happycounts.org.

28 The index is especially useful as a tool for public management based on the levels of happiness of the population. To the reality of countries with indigenous peoples, it might be recommended to put more emphasis in the questionnaire in topics like social support, community, family, spirituality, celebration (joy) and traditions.

29 Source: www.surveymonkey.com.

30 Level of confidence: is the percentage that allows to know if the sample reflects the population. The common standard among researchers is 90%, 95% and 99%. Error margin: is the percentage that describes the closeness of the outcome of the sample to the "true value" in the population. The smaller the margin, the more exact is the outcome within the level of confidence of the sample.

31 The well-being is the subjective component that can be measured through direct questions to the people. Life expectancy is the universally important measure for health, which indicates the amount of years that a certain population live in a certain period of time. The ecological footprint is the measure that WWF promotes to determine the level of the use of resources of the planet. The footprint per capita is the amount of earth that's

required to be able to sustain the consumption pattern of an individual. It's been measured in terms of global hectares (gha) which represents a hectare of land with a medium productive bio-capacity.

32 The results of the HPI are defined by colors per country, with the scores good (green), medium (orange) and (very) bad (red). These colors are only applied to the three components, but not to the final index column, where the colors have different connotations that are irrelevant at this point.

33 The participants in the survey form a sufficiently representative sample of the community: man/woman (55/45%), of all ages between 18-70 years, with an average age of 36 years, 77% of mixed (mestizo) Bolivian origin, married/single (39/33%), with an income over/under USD $10.000/year (74/26%).

34 The participants of Happycounts filled out the questionnaire online (internet). 55% is of North-American origin, 45% has a different origin, especially from the Global North. The data set has been used that was published till the 1st of April 2016.

35 The motive that reduces the state of happiness in Samaipata is the low satisfaction that's been felt about the government on all levels (national, department and local), caused by the sensation of corruption and the lack of confidence in general.

36 The complete calculation can be found in NEF: 2012.

37 Cantril Scale: Please imagine a ladder with numbered steps from 0 to 10. The highest step represents the best possible world for you, and the lowest step the worst possible world. On which step of the ladder you find yourself personally, at this moment? 0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 - 10

38 In the international index, the results of the Cantril Scale were taken from the Gallup World Poll.

39 http://www.ine.gob.bo/

40 Statistics available from Bolivia's INE allowed us to extrapolate, using national level statistics to draw conclusions about Samaipata's precise figures. Since there is no data at all about this topic at the municipal level, we applied the same trend of growth from the national level, which is cited as follows: 63.9 (2005) to 68 (2013), a growth of 6.4%. http://www.ine.gob.bo/

41 Data acquired from the Global Footprint Network. http://happyplanetindex.org/countries/bolivia.

42 Source: Bolivian Research Center PIEB, Bolivia, at www.boliviarural.org.

43 Source: www.footprintnetwork.org.

44 For example the one of WWF: http://footprint.wwf.org.uk

45 To take into consideration: the available data which are used to obtain the score of Samaipata in the HPI stem from the years 2013-2015, while the data of the countries to whom it is compared to are from the year 2012.

46 To back up these observations, we recommend conducting further research in other villages with comparable conditions to Samaipata.

47 The data of www.boliviarural.org reflect that the carbon footprint of each Bolivian might be even smaller, mentioning only 0,8 tons of CO2 per year, although without considering the effects of deforestation and the slash-and-burn of the forests which are caused by the agricultural production to be able to respond to the international demand for soya and meat.

48 Servicios Ambientales S.A.: www.sasa-bolivia.com. In 2015, the agency defined as well the ecological footprint for big cities in Latin America like La Paz, Santa Cruz de la Sierra, Quito and Lima (CAF 2015).

49 Source: http://data.worldbank.org/country/bolivia

50 To define the GDP de Samaipata we considered the following: 65% of the population live in the countryside and have a low income, while the 35% of the population in the urban areas have a higher income than the average. Samaipata is a village that largely depends on agriculture and tourism for its economic activity, and represents an option in-between an urban and rural center. Therefore, we apply the same GDP per capita as the number for Bolivia.