

PAPER 2: BEYOND GDP

MEASURING OUR PROGRESS

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² Global Footprint Network. See <http://www.footprintnetwork.org/en/index.php/GFN/>

³ National Secretary for Planning and Development, Ecuador. See “El vivir (bien) como riqueza de las sociedades. Hacia una socio-ecología política del tiempo”, Senplades, www.senplades.gob.ec

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ABOUT GLOBAL TRANSITION 2012

Global Transition 2012 is a collaborative initiative between Stakeholder Forum and nef (new economics foundation) that focusses on the Green and fair Economy theme towards the UN Conference on Sustainable Development in 2012 (UNCSD), also known as 'Rio+20' and 'Earth Summit 2012'.

GOAL

To achieve an outcome from the UNCSD 2012 that catalyses a 'Global Transition' to an economy that maximizes wellbeing, operates within environmental limits and is capable of coping and adapting to global environmental change.

PURPOSE

To build a global civil society and stakeholder movement to promote alternative models of economy that can deliver sustainable development to people, countries and generations that builds on the three pillars of sustainable development: social, environmental and economic.

THE INITIATIVE CONSISTS OF THE FOLLOWING ACTIVITIES:

- **Research and Thinking and Policy and Advocacy:** to **commission** and **publish** a series of research reports and think-pieces that will provide the evidence based analysis and address critical components of a Global Transition and translating research and thinking into key policy outputs towards Rio+20 and beyond and organising workshops with governments to discuss policy options; and **building capacity** and **developing tools** for countries to institute policies and systems that move towards a Global Transition;
- **Coalition Building and Dialogue:** **building a coalition** of actors and organisations from the global North and South committed to the principles and objectives of a Global Transition;
- **Submissions:** making **official submissions** to the Rio+20 process based on think pieces and dialogue;
- **Information and Resources:** publishing informative **guides** and **briefings** on aspects of the green economy; in particular developing a 'how to guide' for the green economy Roadmap work that is underway in a range of sectors and contexts.

ABOUT STAKEHOLDER FORUM

Stakeholder Forum is an international organisation working to advance sustainable development and promote stakeholder democracy at a global level. Our work aims to enhance open, accountable and participatory international decision-making on sustainable development. Stakeholder Forum works across four key areas: Global Policy and Advocacy; Stakeholder Engagement; Media and Communications; and Capacity Building. Our Global Transition 2012 initiative sits within our work on Global Policy and Advocacy.

ABOUT nef

nef (the new economics foundation) is an independent think-and-do tank that inspires and demonstrates real economic well-being. nef aims to improve quality of life by promoting innovative solutions that challenge mainstream thinking on economic, environment and social issues. We work in partnership and put people and the planet first.

MORE INFORMATION

If you would like to provide feedback on this paper, get involved in the Global Transition 2012 initiative, or put yourself forward to write a paper/blog, please contact Kirsty Schneeberger, Senior Project Officer at Stakeholder Forum: kirstys@stakeholderforum.org

PAPER SUMMARY

For decades governments have allowed a single indicator, Gross Domestic Product (GDP), to assume dominance as the critical measure of a nation's progress. It is now widely recognised by politicians and officials across the world that we must move beyond GDP and recognise it for what it is – a measure of economic exchange, which is itself a means to an end; the 'end' being the achievement of high well-being for all within environmental limits ('sustainable well-being').

Here, we focus on ways of measuring environmental sustainability and well-being, as well as offering a view from the global South which entails measures of both of these. We call for governments around the world to:

- Amend their national accounting systems to align what they measure with what really matters, and
- Use those measures as a guide for policy and political action.

First we outline the conceptual and measurement frameworks used, which draw on the work of nef, and in particular on the Centre for Well-being's publication *Measuring our Progress*. Second, we address measuring environmental sustainability. Third we examine the measurement of human well-being. Finally, we present a proposal by René Ramirez Gallegos, National Secretary of Planning of Development in Ecuador, for the measurement of *Buen Vivir*, or Good Living.

Once governments move beyond GDP to measure what matters, they can turn their attention to the equally important business of ensuring that these new measures are used as the basis of policy and political action. Then, the global community can be hopeful that lives really will improve and that improvements are made within environmental limits.

INTRODUCTION

One of the biggest challenges we face in the world today is finding ways to improve people's lives in ways that are sustainable and socially just. Measurement can play a central role in meeting this challenge. It was for this reason that President Sarkozy set up the Commission on the Measurement of Economic Performance and Social Progress chaired by Joseph Stiglitz.

For decades governments have allowed a single indicator, Gross Domestic Product (GDP), to assume dominance as the critical measure of a nation's progress. It is now widely recognised by politicians and officials across the world that we must move beyond GDP and recognise it for what it is – a measure of economic exchange, which is itself a means to an end; the 'end' being the achievement of high well-being for all within environmental limits ('sustainable well-being'). Since the publication of the Stiglitz report two years ago there have been numerous initiatives at national and international level to advance this agenda. For example the need for environmental accounting is being recognized by the UN; under their aegis, statisticians from around the world are developing a System of Integrated Environmental and Economic Accounts (SEEA) with the hope of standardizing environmental data. In addition, in July 2011 the United Nations' General Assembly called on its member states to recognise the importance of well-being to development, and is encouraging governments to elaborate their measurement systems with a view to using well-being information to guide public policy. There is a 'GDP and Beyond' initiative within the European Commission, several initiatives within the OECD, the UK's plans to measure National Well-being, Ecuador's measurement of *Buen Vivir* (see Section 4) and numerous other initiatives at national and sub-national levels. .

As yet, though, these initiatives are at a relatively early stage and there is a danger that the momentum will not be sustained and policy will not change, or only change in relatively trivial ways. If in practice governments continue to place a premium on GDP – measuring and valuing economic growth above all other routes to sustainable well-being – then we will pay a serious social and environmental price - sub-optimal well-being and environmental resource depletion - and we will pass the effects of this on to future generations. The challenge remains to make sure governments really do move "beyond GDP" and alter their measurement systems to take account of environmental sustainability and well-being, and that this then paves the way for systematic action to promote these things..

This paper is a contribution to a now quite widespread debate about how best to achieve this. It is not intended to be a comprehensive review of the 'state of the art' or an update of the Stiglitz Commission's work. Rather, it presents four measurement concepts which have proved useful in various ways and which may help to advance the debate and sustain momentum. In the first section we outline an overall framework for measuring economic and social progress that builds on that adopted by the Stiglitz Commission and which nef (the new economics foundation) has used to underpin its advice to the UK Office for National Statistics. In the second section we present the views of the Global Footprint Network on the measurement of environmental sustainability. In the third section we turn to the measurement of human well-being – which involves a discussion of just what it is that is being measured based on nef's work for the UK Government Office for Science. In the final section we present a proposal by René Ramirez Gallegos, National Secretary of Planning of Development in Ecuador, for the measurement of *Buen Vivir*, or Good Living. For more information on contributing authors or organizations, please see the hyperlinks at the end of the document.

A FRAMEWORK FOR MEASURING ECONOMIC AND SOCIAL PROGRESS

Definitions

Well-being is what happens when life goes well. It is hardly controversial to say that public policy should maximise citizens' well-being in this sense. It is equally uncontroversial to say that the economy influences levels of well-being. An economy can be said to be more or less *well-being efficient* depending on how much well-being it creates for each unit of output.

Some economic activity is not designed to increase well-being short term but to increase the stock of capital (human, social, natural etc.) – and so increase well-being long term. Conversely, some economic activity only increases well-being short term by depleting capital. An economy is *accumulating* at a greater, lesser or negative rate depending on how much capital (of all kinds) it creates for each unit of output.

Threats to environmental sustainability are sometimes conceived of as a form of capital depletion, with the capital equal to our current distance from certain environmental limits (more strictly environmental danger zones). This might be more intuitively expressed by equating the capital to environmentally limited resources. It is important that the impact of this form of depletion may not be marginal decline (as with other forms) but catastrophe. In addition, even when this is not the case, accumulation of other forms of capital may not compensate for this kind of depletion. It therefore needs to be considered separately from other forms of capital depletion. An economy is more or less *environmentally efficient* depending on the impact on our distance from environmental limits of each unit of output.

Elements of a measurement framework

We suggest that a complete set of measures of progress will track well-being (the ultimate goal), changes in the capital stock (the basis for achieving this goal in the future) and depletion of environmentally limited resources (a particularly important form of change to the capital stock). It will also measure the most important drivers of changes in these things (such as economic activity, equality, health, social capital and so on and so on). Because distribution of well-being is as if not more important than the mean level of well-being, the set will also include a measure of the distribution of well-being.

In addition, because of the centrality of economic activity to achieving well-being and sustaining our various forms of capital, it is important to measure the impact of the economy on each of these (ie as defined above: well-being efficiency, accumulation rate and environmental efficiency). These impacts are best expressed as a set of ratios: well-being divided by GDP, change in capital stock divided by GDP, and GDP divided by depletion of environmentally limited resources. At nef we have combined the measure of well-being efficiency and environmental efficiency into a single ratio: well-being divided by depletion of environmentally limited resources (using Gallup data on well-being and the Ecological Footprint – see below – as a measure of depletion). We have calculated this for every country and published it as the Happy Planet Index.

Figure 1 shows schematically the relationship between depletion of environmentally limited resources, economic activity and well-being other forms of capital depletion are excluded for simplicity. Figure 2 shows key metrics that measure either these quantities or the relationships between them. In the next two sections of the paper we focus on one measure of depletion of environmentally limited resources (Ecological Footprint) and on an approach to measuring well-being.

MEASURING MOVEMENT TOWARDS ENVIRONMENTAL LIMITS

There are various ways of measuring this although none are perfect – they are essentially proxies. This section represents the work of the Global Footprint Network and focuses on the measurement of Ecological Footprint.

One fundamental requirement for sustainability is using renewable resources more slowly than nature can replenish them. Ecosystems have a limited ability to supply us with natural resources – this is based on factors such as available water, climate, solar energy, technology and management practices. The ability of an ecosystem to produce useful biological materials and to absorb waste such as carbon dioxide emissions from

fossil fuel is called biocapacity. Populations that consume those services of nature at a rate faster than ecosystems can regenerate run biocapacity deficits.

Figure 1: Conceptual framework for societal progress

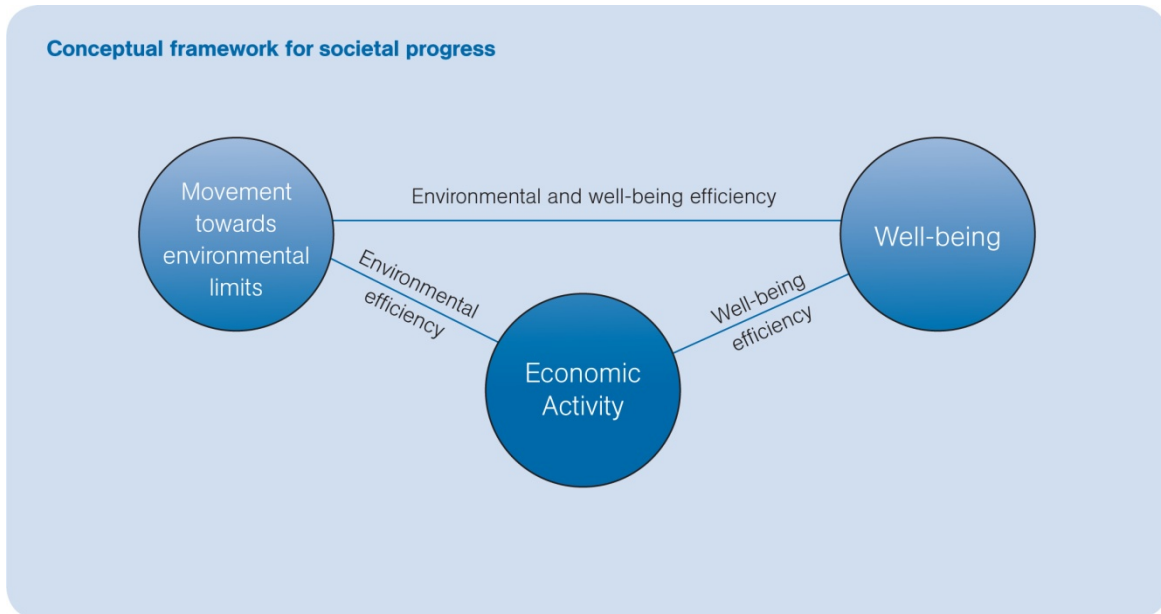
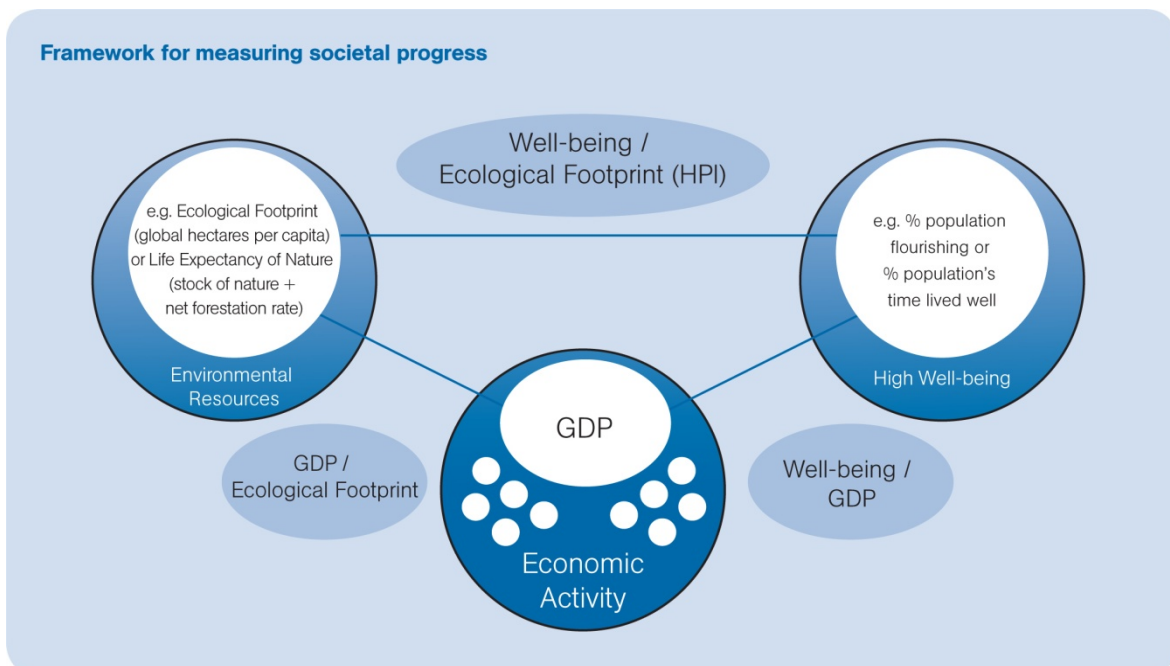


Figure 2: A framework for measuring progress



To know whether we live within the means of nature, and to properly manage our ecological assets, we need to keep accounts. We need resource accounts that keep track of how much nature we have versus how much we use.

Ecological Footprint accounting operates like financial accounting: it tracks revenues and expenditures. Accounts have typically two sides. Just as financial balance sheets include both “income” and “expenditure”, Footprint accounts compare availability of biocapacity against demand on biocapacity (Footprint).

This demand includes both the resources we consume as well as resources needed to absorb the waste we produce, such as the CO₂ from fossil fuel burning that is emitted into the atmosphere. We obtain these resources from forests, cropland, fisheries, and grazing land. The built environment compromises the land’s ability to provide biological resources. Additionally, ecosystems absorb and assimilate the waste we produce as a result of resource consumption. The Ecological Footprint adds up these ecosystem areas to measure total human demand on nature. In other words, Ecological Footprint analysis builds on “mass flow balance,” and each flow is translated into the ecologically productive areas necessary to support these flows.

As with financial assets, it is possible to spend more of our ecological assets than are being regenerated – for a limited amount of time. But such overspending depletes the natural capital and cannot be sustained in the long term. Continued ecological deficit spending leads to environmental bankruptcy, eroding economies, lessened quality of life and societal instability. When a population’s Ecological Footprint exceeds its biocapacity, biological resource ‘overshoot’ occurs.

Global Footprint Network calculates the Ecological Footprint of nations on an annual basis. Adding together national Ecological Footprints into the global average reveals an alarming trend. At the global level data show that humanity’s demands began to exceed planet Earth’s ability to meet this demand in the 1980s. Today humanity exceeds the planet’s ability to provide biological resources by over 40 per cent – thereby dipping into the natural capital stock. While the world average capacity was 1.8 hectares per person in 2007, the world average Footprint was 2.7 hectares per person.

For each country, it can be calculated how much the population uses compared to global average biocapacity, or compared to the biocapacity within the country’s boundaries. Today, over 80 per cent of the world population lives in countries where the residents consume more than what the domestic ecosystems can regenerate. This is becoming a major economic risk and destabilization factor.

Obviously, the Ecological Footprint measures merely one aspect of sustainability: the availability of, and the human demand on, Earth’s regenerative capacity. Other measures are needed to complement this tool, for example for assessing social well-being, depletion of non-renewable resources, and inherently unsustainable activities such as the release of persistent pollutants, or the degradation of ecosystems.

In writing about resources limitations, Jeremy Grantham (2011) notes the relatively little ‘*fuss*’ and ‘*panicking*’ over what he refers to as the ‘*greatest challenge facing our species*’.⁴ And he attributes this lack of fuss to ‘*some unusual human traits*, which we can think of as barriers to dealing with the challenge of resource depletion.

Grantham argues that the ‘*problem with humans*’ in this respect is fourfold: First, we are not good at dealing with ‘*long horizon issues*’ or deferring gratification; with our roots in day-to-day survival in the open savannah this is unsurprising, but it means we struggle to think about the long-term effects of our current actions on the environment. Second, we are excessively optimistic and overconfident, and whilst again this may have helped our survival early on and remains related to success and life expectancy today, it has a downside – namely that on the whole we don’t like bad news and are unprepared to listen to even realistic accounts that bear such news. Third, we are unable to understand the effects of compound growth, which means that we ignore its effects on limited resources and its ultimate unsustainability. Finally, Grantham argues that we have an unwarranted trust in the human brain and its intellectual capacity to ride to our rescue in this matter; given the brain’s capacity for infinite intellectual activity this may be unsurprising, but we should not simply assume this infinite capacity applies to the natural environment.

⁴ Grantham, J (2011) *Time to Wake Up: Days of Abundant Resources and Falling Prices Are Over Forever*, GMO Quarterly Letter, April

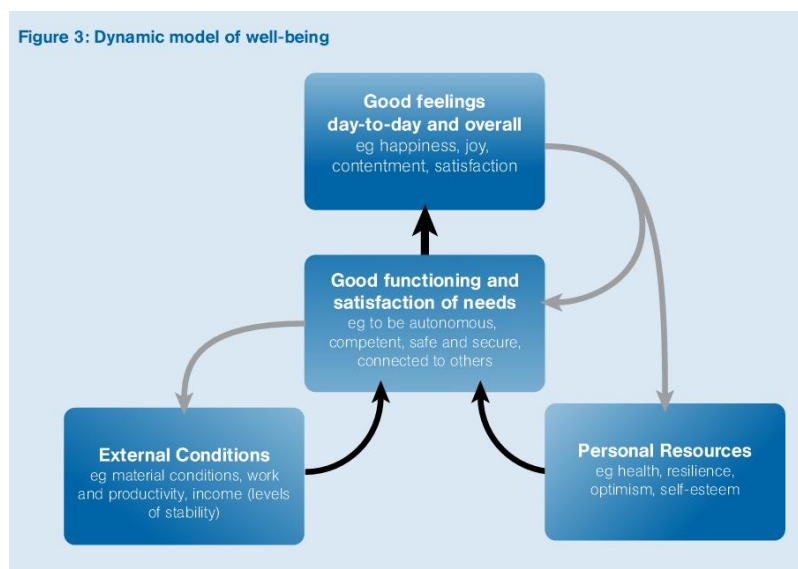
Human nature is slow to change. But it can and it does, and responsibility falls in part upon governments to take the lead, in particular through amending measurement systems - and in the process helping to tackle some of the 'unusual human traits' that currently stand in the way of sustainability.

In this section we have discussed a measurement of environmental sustainability, and some of the barriers to making this a priority. We have pointed to the importance of government action in amending measurement systems so that they capture resource depletion. The following section turns to the measurement of human well-being, and is based on the work of nef.

3. Measuring Human well-being

Researchers have attempted to measure well-being in many ways. It is increasingly recognised that this involves, in part, using subjective measurement – i.e. asking people how they feel about their lives. In 2008 nef developed a conceptual model of well-being and its determinants for the UK Government Office for Science, which integrates the key approaches hitherto taken in measuring well-being. Figure 3 is an adapted version of this model.

Figure 3: Dynamic Model of Well-Being



This dynamic model describes how an individual's external conditions (bottom left) act together with their personal resources (bottom right) to allow them to function well (middle) and therefore experience positive feelings (top). Well-being, or 'flourishing' is defined as the combination of good functioning and good feelings and this needs to be measured. However, as already noted, a complete set of measures of progress includes the drivers – external conditions and those things that influence personal resources.

One of the key benefits of this model is that it reconciles a long standing clash between 'hedonic' and 'eudaimonic' approaches to well-being, the former focusing on feelings of happiness and the latter on how people function in interaction with the world around them.

Whilst some believe it right to focus on happiness as the *summum bonum* of life, others believe well-being is more than good feeling; that meaning, purpose, social relations and other aspects of functioning are important in their own right. The dynamic model of well-being does not attempt to resolve this debate⁵, rather, it gives equal space to the two positions, and shows how having good overall feelings (and a positive evaluation of those feelings) is dependent on functioning well. Taken together, these two components constitute flourishing.

⁵ This can be traced to differences between the philosophical traditions of Epicurus and Aristotle over 2,000 years ago.

Our dynamic model also contains two elements which relate to what individuals have to draw on in the production of well-being. First, the external conditions box (bottom left) refers to the social and material conditions of people's lives, and as such includes factors such as income and housing. Second, the personal resources box (bottom right) refers to personality, character and so on, as well as physical endowment; these are assumed to be relatively stable characteristics of the person – though not necessarily fixed – that are likely to influence their behaviour.

This model highlights that relationships between constituent parts are dynamic, for example with feedback from positive functioning and feelings to people's conditions and personal resources.

The key recommendation emerging from this dynamic model is that governments should include robust indicators for all four boxes in order to understand and measure human well-being fully. In particular, it is important that subjective questions take sufficient account of functioning and needs satisfaction as well as happiness and life satisfaction. So, which indicators should be used?

It is evident that the best way to measure happiness is to ask people whether they feel happy, or satisfied – these are inherently subjective concepts. Deciding how to measure functioning is more complex. In our model, functioning is both about whether someone does things that are likely to fulfil their psychological needs and whether their psychological needs are actually fulfilled as a result. For example, we can ask whether someone's daily routine offers them opportunities to be autonomous and whether they feel autonomous. The former lends itself to objective measurement, the latter to subjective. But we suggest that in practice functioning is best measured subjectively: the feeling of autonomy is one of the best indicators of autonomy.

In this dynamic model, external conditions are fundamental to well-being, but they are best considered as drivers of well-being, not as constituting human well-being itself. They include the size of the economy and those features of the economy and society which make the economy more or less well-being efficient, as defined in Section 1. Gathering data on the drivers of well-being is of course essential; it is only by considering such data in conjunction with subjective well-being data that we can begin to understand causal relationships between the two and thus target policy more effectively at improving well-being. However, measuring the external conditions that drive well-being should not be confused with measuring well-being itself.

Last, we should not ignore personal resources, such as self-esteem and optimism. These are slow to change but measuring them is not an impossible task⁶, and they have a substantial effect on well-being. Again, it is important that measuring the personal resources which influence well-being is not confused with measuring well-being itself. (There is always a danger of tautologous or near tautologous conclusions given that personal resources are often defined as dispositions to certain feelings and behaviours.) We can also measure those external things that influence personal resources (for example certain aspects of education).

Thus, measuring subjective well-being entails measuring the top two boxes of our dynamic model – feelings and functioning. This requires governments to develop tailor-made surveys which include a broad set of questions addressed to a substantial sample of the population.⁷ Subjective measures of well-being should be accompanied by measures of the potential objective drivers of well-being.

Clearly, a concerted effort is needed to make this happen, and barriers exist – for example cost-related, cultural and methodological. Arguably, underpinning all barriers is that of ideology, or mind-set. Writing about why relatively little has been done to use subjective well-being measures in developing policy, John Helliwell (2011) notes that:⁸

The relatively slow progress ... is partly due to the human predilection ... to adhere to old ways despite the arrival of contrary evidence ... [The] effect is pervasive, and is so hard to dislodge because

⁶ See Bacon, N., Brophy, M., Mguni, N., Mulgan, G. & Shandro, A. (2010). *The state of happiness: Can public policy shape people's wellbeing and resilience* (London: The Young Foundation)

⁷ nef's 2009 report National Accounts of Well-Being provides a detailed illustration of how this might look. See <http://www.nationalaccountsofwellbeing.org/> for more information

⁸ Helliwell J (2011) 'How Can Subjective Well-Being be Improved?' In Gorbet F and Sharpe A (eds.) *New Directions for Intelligent Government in Canada* (Ottawa: Centre for the Study of Living Standards).

decision-makers are generally unaware of their subconscious biases in favour of evidence supporting the view that they already hold.

In the simplest terms, it is easier to do what you have always done. But this barrier can be overcome. Governments will need to be reflective and honest about their biases and the effects of these on well-being. They will also need to understand why and how measurement systems matter. And they will need to be bold – especially in dealing with businesses whose *raison d'être* is economic growth – in reorienting the understanding of progress towards one that is commensurate with sustainability and high-well-being for all.

To encourage this, thinkers and campaigners will need to put persistent pressure on governments to amend their measurement systems, and equally important to publish the results in ways that engage the public and create political salience, and to develop analytical and policy making tools that allow them to respond to the results. As already noted, there is hope here; in adopting the second draft resolution on well-being and development, the United Nations' General Assembly [noted](#) that “it had been inspired by the increasing number of thinkers, economists and political leaders seeking ways to make development more sustainable, humane and holistic”. Persistent pressure – backed by well-constructed arguments based on sound evidence – can pay off.

So far we have explored the measurement of environmental sustainability and the measurement of well-being, arguing that governments should evaluate both as a partial means of re-orienting progress beyond GDP, towards a sustainable future for all. In the next section we offer a view from Ecuador, which suggests a different way of measuring economic activity that takes into account aspects of well-being and of environmental sustainability. It can be considered a particular development of the idea of functioning already described.

4. Measuring *Buen Vivir* (Good Living) – a view from Ecuador

In 2008, the notion of *Buen Vivir* (*sumak kawsay* in Kichwa) was enshrined in the new Ecuadorian constitution. *Buen Vivir* is multi-dimensional, and encompasses the satisfaction of needs, the achievement of quality of life, loving and being loved, and the healthy flourishing of everyone in peace and harmony with nature, for the indefinite continuation of human cultures and of biodiversity.

Whilst traditional, neo-classical economics focuses on the production and consumption of goods and income, with progress measured by GDP growth, the economy of *Buen Vivir* is based on the fundamental need for humans to relate with others and with nature, and evaluating *Buen Vivir* requires measuring something other than GDP. It is impossible to construct a new social order with a unit of analysis as dehumanising as money.

Attention to subjective well-being represents an advancement in the understanding and measurement of progress, however the literature tends to focus on the hedonic realm and on the maximisation of utility. Even the capabilities theory of Sen and Nussbaum, including Sen's criticisms of happiness – a positive development in the subjective well-being literature – is problematic, as it is hard to operationalise a capabilities approach.

The notion of *Buen Vivir* deals with these issues. It entails measuring the generation and enjoyment of relational goods which, according to Aristotle are: friendship, love and civic or political participation. It also entails measuring people's relationship to nature, as well as the opportunities people have for contemplation, as the latter is necessary for producing relational goods. Only work that does not alienate – work in which there is no division between the world of work and the world of life – can be considered part of *Buen Vivir*. Work which does not fulfill this condition is merely work for the satisfaction of material needs and cannot be considered *Buen Vivir*.

Given that measuring relationships themselves is not possible, the *Buen Vivir* approach uses time as a proxy. Therefore, the most important thermometer of *Buen Vivir* in a given country or region is how much time people spend living healthily, producing social relations, contemplating, giving and receiving love, and carrying out work that allows for a communion with the world of life. In addition, *Buen Vivir* is evaluated by calculating how much time, how many years of life are lost due to the degradation of the natural environment. Neoclassical approaches to time have incorporated it into money-based analyses, by counting the opportunity costs of non-productive time. These neoclassical approaches marketise household activities, seeing the ideal household as one where everyone works, all household chores (e.g. cleaning) are done by paid workers, and all meals are eaten outside. Similarly they would quantify the benefit gained from meeting a friend for a coffee in terms of the price of the coffee, without taking into account the value of the relational good, the moment of intimacy between the two friends sharing a coffee.

Whereas capitalism has sought to maximise the time available for work, this new perspective seeks to minimise the time appropriated by capitalism. In this new framework, the productivity gains from new technology should translate into time for Good Living, rather than more profit. It is important to note that time for Good Living should not be confused with time spent consuming the products and services of the entertainment industry – these should be thought of as ways of “killing time”. Within this framework, what is at stake is the set of values of a new civilization.

The actual measurement of *Buen Vivir* entails using two indicators: The Index of Healthy Life Well-Lived (IVSBV), and the life expectancy of nature per person and km². The first of these can be expressed using the following formula:

$$(1) \text{ IVSBV} = t\text{BV} \times \text{LE} \times (1 - \text{ill})$$

$$(2) \text{ IVSBV}_{\text{adj}} = t\text{BV} \times \text{LE} \times (1 - \text{ill}) \times (1 + \text{Edu}/100) \times (1 - \text{Gini})$$

IVSBV is a function of the proportion of time well-lived (tBV), life expectancy (LE), proportion of life in illness (Ill), where time well-lived (tBV) is equal to time for contemplation (production and consumption of art, sport, personal development, reading, music, nature, reflection and meditation) + social time + public time (participation in community groups, volunteering, social activities, citizen actions, political or religious actions) + labour time not divided from the world of life (1). In this framework, time spent working is considered to be time for meeting needs rather than time well-lived. Only when there is a communion between the world of work and the world of life itself, can work be considered part of time well-lived. Otherwise, it is alienated time devoted to the satisfaction of necessities. Ongoing work on measuring *Buen Vivir* has also suggested the index could be adjusted by taking into account schooling (Edu) and inequality (Gini) (2).⁹

The measure of the life expectancy of nature is based on the stock of nature, plus net forestation rate, measured in time. This second indicator is best expressed in the following formula:

$$\text{NLE}_{\text{pc}} = \frac{\text{NLS} + \text{R} - \text{D}}{\text{population}} \quad \text{or} \quad \text{NLE}_{\text{km}^2} = \frac{\text{NLS} + \text{R} - \text{D}}{\text{extension of territory}}$$

Where NLE is nature life expectancy (in average years); NLS the natural life stock, D is deforestation and R is reforestation. As indicated above, all these indicators are in temporal units.

One of the more precise indicators that is often used to analyse the loss of natural capital is deforestation. However, this indicator doesn't account for the diversity that is lost through deforestation or that is “won” through conservation. Using the “deforestation” indicator, often measured in hectares, it is the same if the area deforested is in a mega-diverse national park or in a recently planted pine wood. Using biological studies that actually determine the extent of life in a native forest is therefore more useful. It is this that we understand as the stock of nature.

Using this proposed measure, and analysing data from the Ecuadorian labour force survey to evaluate the *Buen Vivir* of Ecuadorians, we find that Ecuadorians have a healthy-and-well-lived life-expectancy of 11 years. That is, they spend on average 14.3% of their life living well. In general, richer people have more time for living well, but this relationship is not sharp. There are those who qualify as millionaires by monetary measurements but live a life of poverty by time measurements. Those with the highest IVSBV live in more urban regions, followed by coastal areas, then inland. In our analysis, we find that time spent living well strongly predicts life satisfaction. Using this measure, it seems that few people in Ecuador have the time for a life lived well. In addition, we can infer that Ecuador's Gini coefficient for life well lived is 0.38.

It should be noted that this analysis shows that, in Ecuador, the time required for the generation of a well-lived life is continuously expropriated as a result of the structural conditions of society itself. The precariousness of the labour market, social exclusion and different forms of discrimination play an important role in this process of expropriation. Similarly, the analysis shows that if overwork was better distributed, there would be no unemployment in Ecuador. Indeed, the working day could even be reduced.

⁹ Another methodological proposition, for the purpose of measuring the impact of inequality on Good Living, following the recommendations of the Human Development Report (2010), would be to adjust the family's IVSBV to Atkinson's inequality measurement (A), fixing the aversion parameter ϵ in one ($A=1-g/\mu$).

Over the last two centuries, the organisation of society and the economy has been based on the circulation and accumulation of capital. More recently, the liberalisation policies of the 1990s have reduced people's time for life lived well, by increasing working hours and labour market flexibility. Neoclassical economics has created a hegemony whereby it is irrefutable that wealth is about increasing the production of goods and services expressed monetarily. There has been a strong defence of the freedom of choice and expanding the possibilities for purchasing goods and services. In this framework, opulence has been the ultimate goal.

In this sense, mainstream economics has completely overlooked the importance of flourishing and interpersonal relationships. Whilst neoclassical economics undervalues human life, relationships and the environment, the economy of *Buen Vivir* dignifies life, social relationships and relationships with nature.

CONCLUSION

The global community faces an enormous challenge; improving people's lives in a way that is sustainable, equitable and socially just. Measurement can play a central role in meeting this challenge, and changes to the way in which governments measure progress is an urgent priority if we are to increase human well-being and ensure environmental sustainability.

With changes to what is systematically measured, comes the opportunity to change to what is widely deemed important, and this can facilitate changes to what is done in the name of progress. If governments move beyond GDP and alter their measurement systems to give environmental sustainability and well-being their due weight, then they help pave the way for a happy, fulfilling and sustainable future for their own citizens, for others throughout the world, and for future generations.

Clearly, barriers exist, but these can be overcome, not least through persistent pressure on the part of government officials, thinkers, campaigners, academics, the media and so on, and through bold leadership that helps to shift ingrained human traits that stand in the way of sustainability. Once governments move beyond GDP to measure what matters, they can turn their attention to the equally important business of ensuring that these new measures are used as the basis of policy and political action. Then, the global community can be hopeful that lives really will improve and that improvements are made within environmental limits.

For more information on:

nef, see <http://www.neweconomics.org/>. For *Measuring our Progress*, see <http://www.neweconomics.org/publications/measuring-our-progress>

Global Footprint Network, see <http://www.footprintnetwork.org/en/index.php/GFN/>

René Ramírez Gallegos, National Secretary of Planning and Development, Ecuador, see "El vivir (bien) como riqueza de las sociedades. Hacia una socio-ecología política del tiempo", Senplades, www.senplades.gob.ec