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Measuring Progress towards Gross National Happiness: From GNH indicators to GNH national accounts

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Why go beyond indicators?

Since the First International Conference on Gross National Happiness nearly five years ago, major progress has been made in Bhutan on developing indicators to measure progress towards GNH. The Centre for Bhutan Studies, under its brilliant and inspiring leadership of Dasho Karma Ura, has developed the Kingdom's first ever GNH survey, pilot tested it, then administered the survey to a nationally representative sample, and analysed results – all in the most rigorous and careful way.

The emerging indicators are an absolutely essential first step in operationalizing GNH and measuring progress towards GNH, and in ensuring that the enduring values of Gross National Happiness guide the Kingdom steadily through the unpredictable vagaries of party politics. People sometimes ask – what is the relationship between measurement and policy? The two are intimately and naturally connected in several ways:

Good evidence is essential for informed decision-making. Without such measures, policy making would be blind, and have no understanding where the greatest needs are, and which population groups need to be targeted with which programs. They can also send early warning signals to policy makers if key indicators begin to trend downward, and they thus allow and encourage timely remedial action.

The new GNH measures spanning nine different domains (health, education, living standards, time use, environmental quality, culture, community vitality, governance, and psychological wellbeing) enable policy makers and the general public to be aware of the practical trade-offs involved in each decision. If we make progress in one area, is it at the expense of another, or can we advance all domains of GNH harmoniously?

The indicators can help set specific goals and targets and mobilize the population behind a common vision. This is not theoretical or conceptual but very practical. For example, if we know what the crime rate or poverty rate in a certain area is, we could set the goal of halving those rates by a certain year, and measure our progress in getting there.

The new measures can help evaluate which programs are working and which are not, according to whether or not they are achieving the GNH goals and targets established through the indicators. Ineffective programs can be scrapped and better ones put in their place.

The indicators enable Bhutanese to hold their government accountable. At election time, for example, the people can assess the degree to which their elected representatives made progress towards the GNH goals and targets established through the indicators, and they can cast their votes accordingly. They can also assess their own personal commitment and that of their community in making progress towards those goals.

The new measures can ensure that—whichever political party gains power—all elected representatives are held to a set of common principles and consensus goals, and they will all be judged by the same standard.

In all these ways and more, the indicators can be very practical policy-relevant tools that are now ready for application. So we should not underestimate the remarkable achievements of the

Centre for Bhutan Studies in the last four years in creating these new GNH measures and producing the first ever baseline data that henceforth will provide the ground for measuring progress. This is an historical achievement.

But are these new indicators all that is needed to embed GNH firmly in the institutional structure of the Kingdom for the long haul? I don't think so, and I want to be bold enough to suggest a second key measurement step—perhaps for the next five years. Resting on the firm foundation of the indicators, I believe—based on our Nova Scotia experience—that the next essential step is the development of a set of GNH National Accounts.

So why go beyond indicators? Why a set of National Accounts? And what does that mean? The best place to begin is to recollect the ground-breaking words of His Majesty the Fourth King, who started the whole thing by declaring: “Gross National Happiness is more important than Gross National Product.” It is no coincidence that the birth of the term GNH took place by way of explicit contrast with GNP (or GDP as currently used, which measures the total quantity of goods and services produced and sold in the domestic market economy)—a totally materialist measure.

GDP is not an indicator; it is an accounting system

So if the power of GDP as a measurement system is to be broken or at least weakened, that will not happen through indicators alone. We eventually need to take aim at our materialist GDP-based accounting system and to reshape that accounting system entirely to reflect the constituents and components of GNH.

Nothing changes people's behaviour like price signals. All the preaching about greenhouse gas emissions and energy conservation and all the good energy efficiency and climate change indicators in the world didn't tempt North Americans to switch away from their gas-guzzling SUVs. But a doubling of oil

prices very quickly stopped the SUV lust in its tracks and created an overnight demand for small fuel-efficient cars that the market could not meet.

We won't begin to send price signals that are in accord with GNH principles until we change the present produce-and-spend economic accounting system to reflect the true social, cultural, and environmental costs and benefits of economic activity. And yet...if we do not dare to take that scary next step onto the main highway of the economy, we face the real danger that GNH will become a wonderfully inspiring set of principles, reflecting people's deepest aspirations—the fodder for countless brilliant speeches—but it will become ever more divorced from behaviour and action.

We *can* rebuild that economic accounting highway, and we have the tools to do so. We *can* face down the GDP accounting monster head-on and create a sane accounting system that not only fully reflects our GNH values but also protects against the kind of insane boom and bust cycles that our present economic system and its growth-based accounting system inevitably produce. Most importantly—unlike our present winner-take-all-and-future-generations-be-damned accounting system—such a new GNH accounting system can actually shape an economic infrastructure capable of supporting future generations and of ensuring long-term sustainable prosperity in harmony with the natural world and with our longstanding cultural traditions.

The difference between indicators and accounts

Indicators assess *progress* and are based on physical measures (e.g. employment, crime, poverty, and illness rates, levels of educational attainment, greenhouse gas and air pollutant emissions, etc.) The units of measurement are unique to each indicator, with rates generally measured in per capita terms (e.g. number of jobs, crimes, smokers, graduates per 100,000 or as percentage of total population, or in tonnes per capita for

pollutant emissions). Indicators tell us if things are getting better or worse. And they perform vitally important policy functions, sending early warning signals to policy makers, and assessing which programs are working and which are not in attaining agreed targets.

Accounts assess *value*, with units of measurement expressed in common monetary terms (ngultrum) to the degree possible, and with evidence describing and pointing to economic value when monetization is not possible. Accounts form the basis of government financial incentives and penalties—including taxes, subsidies, and investments in particular sectors of the economy. And those financial incentives and penalties in turn affect price—which, as we saw, is the most immediate, powerful, and effective determinant of behavioural change.

Here are some examples of the difference between indicators and accounts:

Crime rates (an indicator) tell us—in criminal incidents per 100,000 population—whether crime is going up or down, with lower rates signifying progress. Accounts tell us the cost of crime to society—how much we spend in ngultrum on courts, prisons, burglar alarms, security guards, hospital costs due to assault, replacing victim losses, etc. This can be expressed as the amount we would save and have available for more productive investments in wellbeing if there were no crime. We found that crime costs Nova Scotia more than \$700 million a year.

Trends in volunteer work can be a good indicator of generosity and community strength, and tell us—in hours—whether volunteerism is increasing or declining. Accounts tell us the *economic value of volunteer work*—by assessing what it would cost to replace for pay the services presently provided free by volunteers. If volunteerism declines, as it has in Canada, accounts tell us the lost economic value of those missing volunteer hours. We found that voluntary work contributes the equivalent of \$1.8

billion a year in services to the Nova Scotia economy. (Of course this figure is invisible in the GDP statistics and conventional economic accounts, which ignore the value of unpaid work and only measure paid work.)

Smoking rates (an indicator) tell us—in number of smokers as a percentage of total population—whether we are making progress in avoiding the high rates of premature death and illness attributable to smoking. Accounts tell us the cost of smoking to society which, in Nova Scotia, we found was \$171 million a year in direct health care costs and about \$700 million more in lost productivity.

Of course, there is a good news side to all these stories. The sharp decline in smoking rates translates into a long-term saving of hundreds of millions of dollars. We calculated that if Nova Scotians didn't smoke, had healthy weights, and exercised regularly, the Province would save half a billion dollars in years in avoided excess health care costs.

Needless to say, all these examples make very clear the *relationship* between indicators and accounts, and why the latter depend on the data and evidence provided by the former. It is the change in the *rates* of smoking, crime, volunteer work, etc, that allow the calculation of the related economic costs and the savings (in gultrum) that will accrue from an improvement in the indicator.

Fortunately, smoking is one indicator that Bhutan doesn't have to worry too much about, being the first country in the world to ban the sale of tobacco. And, since Bhutan had no problem being a world leader in this field and in many others related to the GNH view, it is likely the world's best candidate to be the first to adopt and implement the new GNH economic accounting framework.

One more example of the relationship between indicators and accounts. A climate change *indicator* tells us—in CO₂ equivalent

kilo tonnes – whether greenhouse gas emissions are increasing or not and therefore whether we are making *progress* in combating climate change. *Accounts* tell us the economic costs of climate change damages and the costs of controlling and reducing greenhouse gas emissions by a certain amount. By comparing those damage costs with those control costs, accounts enable us to assess the cost-effectiveness of particular measures to reduce emissions.

I think those few examples illustrate the difference between indicators, which measure *progress* in physical units of measurement (crime incidents, smoking rates, greenhouse gas emissions, etc.), and accounts which assess *value* in economic terms. An effective set of GNH measures requires both, with the former providing the basis of the latter. Now that the Centre for Bhutan Studies has done such excellent work in the last few years in developing GNH indicators, it may be time to consider the next step – which for the first time can confront GDP directly and truly turn the world on its head in the best possible way. And in doing so, I do believe we can begin to realize the profound aspiration of His Majesty the Fourth King when he declared: “Gross National Happiness is more important than Gross National Product.”

Fundamentals of the new accounting system – stocks and flows

Two types of accounts or systems of economic valuation are always needed – stock accounts and flow accounts. The former consist of national balance sheets that assess a nation’s assets, liabilities, and wealth (which is defined as assets minus liabilities). These stocks – also sometimes called capital accounts – represent value that has accumulated over time, and which can also depreciate over time. Flow accounts, by contrast, assess what we earn and spend, and represent a current snapshot. A house, for example, is a stock or capital asset, while monthly rent or mortgage payments represent a flow. Unfortunately, our present conventional stock and flow accounts account for only a fraction

of our true wealth and spending, and are therefore remarkably narrow and distorted—not surprisingly sending highly misleading signals to policy makers:

Our conventional national balance sheets (our present stock accounts) count only the value of our manufactured, built, and financial capital, and entirely ignore the value of our natural, human, social, and cultural capital—though the latter are just as subject to depreciation and in need of re-investment as manufactured capital. If a forest is cut down or degraded, that is a depreciation of natural capital as surely as machines in disrepair or an unsafe bridge reflect a depreciation of manufactured and built capital. Similarly, a sick and uneducated populace reflects a depreciation of human capital; higher crime rates reflect a depreciation of social capital; and a loss of native language speakers, traditional wisdom, or knowledge of traditional arts and crafts reflects a depreciation of cultural capital.

Similarly, environmental protection and restoration, health promotion efforts, skills training, promoting use of Dzongkha and other Bhutanese languages and dialects, training young Bhutanese in traditional crafts, and wearing the gho and kira can rightly be seen as investments in the natural, human, and cultural capital that constitute essential components of the nation's wealth. In short, we need to expand our present narrowly based balance sheets or stock accounts, which ignore and therefore devalue our true wealth, into a full capital accounting system that properly accounts for the value of all our assets.

Likewise, our present flow accounts—namely GDP—count only the value of market production (goods and services produced for pay), and take no account at all of the value of unpaid work or of the un-priced services to society provided by nature, culture, social networks, or knowledge— though these underpin the market economy itself. So we presently count what we earn and spend, but we take no account of the demands that our

consumption and human activities place on nature and on our communities. Ironically, when those un-priced services become depleted or degraded and have to be replaced for pay, we mistakenly count that replacement as growth and a contribution to prosperity. So if the water coming from our streams and taps is no longer safe to drink, we count what we pay for water in plastic bottles as a contribution to GDP. And when we have to pay for child care once provided for free, the economy grows again.

In fact, our current accounting system has a convenient term for everything it excludes—it calls them “externalities,” which is a handy way of ignoring the true costs of resource depletion, greenhouse and pollutant emissions, smoking, crime, cultural breakdown and more. The more trees we cut down, the more the economy will grow, because GDP counts only what we extract from our resource base and send to market and takes no account of the health of the forest we leave behind. According to GDP-based measures, we can deplete our natural wealth and count it as if it were economic gain—bad accounting and bad economics, as any factory knows if he were to sell off all his machinery and count it as profit.... And bad financial management, as we now humbly recognize after a debt-fuelled decade of spending.

One reason we are so confused about the difference between indicators and accounts is that—contrary to the admonitions of its architects—GDP *has* been wrongly turned into an indicator of wellbeing and economic prosperity. Nobel prize winner, Simon Kuznets—primary architect of national income accounting—warned 60 years ago that GDP should never be used as a measure of nation’s welfare. To measure how a country is doing, he said, you have to ask *what* is growing, not just *how much* is growing. After all, anything can make the economy grow—more sickness, crime, pollution, natural disasters, war, resource depletion.... So long as we are spending money, the economy will grow. And Kuznets broke from the U.S. Department of Commerce largely over its refusal to include the value of unpaid work in its

calculation of GDP which, he argued, at least had to value all production.

But before saying a few words on the new accounting system, it is essential to add one key caveat: We are *not* seeking either to replace or modify GDP. Rather we seek to replace the widespread misuse of GDP as a measure of progress, wellbeing, and prosperity—a purpose for which it was not intended or designed. GDP will always be needed to assess the size of the market economy. But, confined to that role and put in its proper place, so to speak, it becomes far less important—and certainly not needed nearly as frequently as currently produced. Even logically, a quantitative measure of economic size cannot possibly assess *quality* of life. We know well what's wrong with GDP-based measures—no need to dwell further on that.

But we cannot fix the problem or meet the challenge with indicators alone, though they are an essential *part* of the solution. An integrated, holistic set of measures like GNH or GPI requires both indicators of progress *and* a set of full cost accounts that include valuations of all key forms of capital (stock or wealth accounts) and the services they provide (flow accounts). Only such accounts can properly assess the cost-effectiveness of alternative policy options, and balance the costs and benefits of particular actions against the costs of not taking action.

Principles and methods of full cost accounting

There are basically three key principles of full-cost accounting, which together can actually function to make the market economy much more efficient if adopted in practice.

First—from a flow perspective—full cost accounting internalizes 'externalities' like the social and environmental impacts of economic activity, and thus assesses the true costs of production, which in turn *should* be reflected in market prices. If, for example, the full costs of pollution and greenhouse gas emissions were

included in the cost of production (and thus) in market prices, imported food might become considerably more expensive than locally grown produce, and driving an SUV would cost far more than it presently does.

For those on the political right, such an accounting system should be particularly attractive, as government will no longer need to step in with heavy-handed regulatory mechanisms and expensive taxpayer funded environmental clean-up costs to compensate for the consequences of market failures. Instead the costs of pollution or profligate fossil fuel combustion, for example, will be reflected in higher market prices once these current externalities are internalized, and such unsustainable behaviours thus discouraged at the production stage in order to keep goods competitive.

Secondly—from a stock perspective—full-cost accounting recognizes and accounts for the economic value of non-market assets that are not traded in the market economy, but which nevertheless have real economic value. In assessing the value of a forest, for example, a full set of natural capital accounts will value not only the timber value of a forest, as in conventional balance sheets, but also the value of the forest in regulating the climate and sequestering carbon from the atmosphere, in protecting watersheds, in preventing soil erosion, in providing habitat for many species, and in providing aesthetic and recreational enjoyment. From the perspective of a full benefit-cost analysis, a 'healthy forest' is one that performs all these functions optimally. Indeed, the scientific evidence clearly shows that when the non-market values of a forest are compromised, timber quality also declines. In that sense, full-cost accounting is far more in accord with science, the scientific method, and economic efficiency, than an accounting system that ignores the non-market values of natural, social, human, and cultural capital.

And thirdly, a full-cost accounting system substitutes variable for fixed costs to the extent possible. To give a concrete example, fixed

annual payments for car registration and insurance provide no incentives for conservation and no penalties for unsustainable behaviours. By contrast, varying such payments by type of vehicle, fuel efficiency, and number of kilometres driven annually reflects a far more accurate picture of reality and of the actual social, economic, and environmental impacts of driving. All three of these principles enhance market efficiency by pricing assets and economic activity more comprehensively and in ways that reflect actual benefits and costs to society.

One major caveat must be added here. Any system of full capital accounts and economic valuation is severely constrained by the inadequacy of money as a valuation instrument and common metric. Money was designed to facilitate market transactions and was never intended to price non-market assets and services. So 'economic value' in a full-cost accounting system must necessarily be defined far more broadly than in monetary terms alone. Monetization of non-market values and so-called 'externalities' *is* undertaken, where possible, but for strategic reasons – primarily because it creates a language and bridge to the world of conventional accounting. But it cannot and should never be taken as a literal or accurate description of reality.

And where monetization is not possible, as it often is not, economic value must be described in non-monetary terms by pointing to the social and economic functions performed by natural, human, social, and cultural capital. For example, there is no doubt that a coastal wetland is performing an economically valuable function by protecting against storm surges and coastal erosion, though it is not presently possible to monetize the value of that function with rigour or accuracy.

To illustrate the challenges inherent in the internalization of externalities and in the economic valuation of non-market assets, let us look briefly at a few of several full-cost accounting

methodologies—replacement cost valuation, damage and control cost assessments, and contingent valuation.

To assess the value of volunteer work, the GPI looks at the actual work performed by volunteers and then assesses what it would cost to replace volunteer services for pay in the market economy. The City of New York purchased a standing forest that naturally filtered the City's water supply. The consequent saving to the City of hundreds of millions of dollars that would have been spent on a hugely expensive filtration plant can be taken as a proxy for the watershed protection value of that forest—demonstrating that a forest may be worth more standing than felled for timber (contrary to the message sent by GDP). These are replacement cost valuations.

It is possible to use climate change models—as former World Bank chief economist Nicholas Stern recently did in the UK—to assess in monetary terms the potential damage costs of each tonne of greenhouse gas emissions. In that case, the valuations are complicated by the wide range of assumptions underlying different climate change models—leading GPI Atlantic in its accounting work to provide ranges of estimates from low-end, highly conservative valuations to higher-end ones that account for positive feedback loops and potentially catastrophic consequences. This example also illustrates the close linkage between stock and flow accounts. Every tonne of carbon emitted (a flow) has an atmospheric life of at least a hundred years, and thus contributes to the stock of greenhouse gases in the atmosphere. In short, that tonne of carbon emitted in 2008 will continue to contribute to climate change and to its damages and costs into the next century. Those potential damage costs can then be compared to the costs of controlling emissions to assess the cost-effectiveness of different greenhouse gas reduction strategies.

Contingent valuations are often considered more 'dodgy' and suspect, yet there is a strong argument that even indirect ways of

assessing value are more accurate than assigning an arbitrary value of zero to non-market assets and services, as GDP does, and as would continue to happen if we did not at least attempt such valuations. In this method, behaviours are examined and surveys conducted to assess people's 'willingness to pay' for such non-market assets and services. What, for example, is the value of aesthetic enjoyment? Clearly money is a hugely inadequate tool to answer such questions. And yet, it is clear that a nice view *does* have real economic value, as evidenced by people's willingness to pay a higher rent for an apartment overlooking a beautiful and scenic park than for one overlooking a dump or scarred landscape.

The problem—if we don't at least attempt such economic valuations, however indirect and inadequate—is that the conservation and protection of our natural, cultural, human, and social assets will get inadequate attention and funding in the policy arena. This has never been clearer than at present, where all the talk of staving off recession, stimulating the global economy, and fiscal stimulus to spur consumer and corporate spending, virtually never references environmental concerns. For strategic reasons alone, therefore, there is an absolute necessity to include human, social, cultural, and natural capital values in our new GNH accounting system.

Despite the enormous challenges inherent in valuing natural, human, social, and cultural capital, and in pricing non-market assets and services, the good news is that the methods and data sources available to do so have vastly improved and expanded in recent years—making a full set of GNH National Accounts more feasible than ever. Thirty years ago, we had no reliable measures of greenhouse gas emissions, few comprehensive forest inventories, almost no scientific monitoring of soil, water, and air quality, virtually no diversion of solid waste from dumps, almost no systematic monitoring of health risks like obesity and physical inactivity, no comparable international literacy assessments, and no time use surveys assessing time spent on unpaid work and free

time. We now know how to measure these and other non-market values, and we have burgeoning databases and time series in these and other areas. Statistics Canada now regularly asks survey questions on social supports, and it recently conducted its first full-fledged national social capital survey.

The splendid advantage that a country like the Royal Kingdom of Bhutan has in entering this field in the 21st century is that it can reap the direct benefit of the last three decades of developmental work in this field in other places and begin with the latest and best methods available from elsewhere in the world—leapfrogging over earlier, clumsier, and more primitive valuation attempts, and not bound to previous, less effective systems. Discussions with Statistics Canada have led me to believe that the diversion of only a fraction of the resources currently devoted to collecting the regular GDP statistics would suffice to make considerable headway in developing usable and workable natural, social, human, and cultural capital accounts.

In terms of feasibility, we often hear that economic valuations of human activity—even if not currently valued in conventional accounting systems—make more sense than valuations of natural capital and ecological services that are generally not replaceable or substitutable by other forms of capital and that are therefore literally ‘price-less.’ Thus, the use of market replacement values to assess the value of unpaid voluntary or household work makes intuitive sense to users, since similar work can be performed for pay. And monetizing the cost of crime is relatively straightforward since most costs are market-based—including direct victim losses, spending on police, courts, lawyers, prisons, security guards, and burglar alarms, hospitalization costs due to assault, retail losses due to shoplifting and employee theft, higher premiums due to insurance fraud, and productivity losses to the economy due to homicide or assault. Illness costs attributable to risk factors like smoking, physical inactivity, and obesity are also market-based—either directly through taxpayer funded or private

health care costs and economic productivity losses due to premature death and disability.

But how do we assign an economic value to natural capital like forests, agricultural soils, fisheries, water, and clean air? And how do we assess the costs of their depreciation and the returns on investment in natural capital. While valuations of natural capital and environmental services certainly pose particular challenges, and while money is a particularly inadequate valuation tool in this area, the attempt to undertake such economic valuation is essential to prevent the under-valuation of natural wealth and to bring the necessity for adequate conservation and protection properly into the policy arena.

Policy applications of GNH indicators and accounts

I think our prior discussion has already demonstrated the policy utility and relevance of both GNH indicators and potential GNH accounts in several ways, and I noted earlier that our accounting work and economic valuations have actually penetrated the policy arena far more effectively than our indicators. Here are a few remarks on possible future directions in applying these measures to the policy arena.

The expanded capital model increasingly recognized

First, I am delighted to report that in 2006 the Nova Scotia Government officially adopted a five capital approach to its development, undertaking to value its natural capital, human capital, and social capital in addition to its built and financial capital. I am sure that the Royal Kingdom of Bhutan will want to adopt a six capital model that includes cultural capital. That recommendation actually comes from New Zealand, where the preservation of Maori culture has become a high national priority. The remarkable resurgence of Maori language in the last 25 years, after teetering on the brink of extinction, is a powerful testimonial that dedicated investment in cultural capital can yield a high

return (to use accounting language), and that cultural assets can not only be preserved but strengthened in the most creative ways. The Maori instituted “language nests” in which toddlers were immersed in Maori language from a very young age. Not surprisingly, since language carries knowledge, Maori cultural institutions, practices, traditions, and even political assertiveness have also seen a most inspiring revival in the last two decades. To its credit, and in recognition of this new reality, Statistics New Zealand has now recommended consideration of a six capital model that includes cultural capital.

Consensus goals and political debate

One of the most interesting and important aspects of this commitment—which *has* manifested in Nova Scotia, and which I venture to say is equally true in the Royal Kingdom of Bhutan—is that these new measurement tools have proved to be a remarkably unifying force that has the power to transcend partisan politics. While Nova Scotia politics—like most party political systems—is characterized by endless and endemic bickering, attack, and name-calling, the new measures, accompanied by specific targets designed “to make Nova Scotia one of the cleanest and most sustainable environments in the world by the year 2020,” have received unanimous all-party support. Indeed, a 2007 Environmental Goals and Sustainable Prosperity Act setting out these targets was passed by the Nova Scotia legislature without a dissenting vote. Likewise in Bhutan, GNH is a powerfully unifying force that expresses underlying national values.

I believe that the measures of progress themselves contribute greatly to this unifying role, since they necessarily reflect deeply held underlying values and express agreed goals. Indeed, any measure of progress is normative by definition, since—by definition—it must ask the question: “progress towards what?” Answering that question in turn requires some vision of the kind of society we want to see five, ten, or fifty years from now. In

identifying our genuine progress indicators for Nova Scotia, we therefore took particular care to ensure that each indicator reflected consensus values. Thus, no political party of left or right will argue that more crime is better than less crime, that a sicker population is better than a healthy one, that higher rates of poverty are better than lower rates, that an ignorant populace is better than an educated one, that a polluted and degraded environment is better than a clean and healthy environment, or that social exclusion and alienation are better than inclusion in strong and safe communities. So long as our indicators and measures reflect such consensus values, they can effectively help to mobilize and unify a society behind common goals and targets in a way that transcends partisan politics.

Of course, this does not eliminate the need for debate. While consensus goals, shared vision, and non-partisan measurement can help unify a society and provide a strong basis for evidence-based decision making and informed debate, politics is about *how* to get there. Indeed, the appropriate role of democratic politics is to debate the best way to achieve GNH goals, even while there is a consensus on what those goals are and on the agreed ways of measuring progress towards those goals. To take some practical examples, there can be complete consensus on the need to reduce poverty and greenhouse gas emissions and even agreement on specific targets, and at the same time vigorous debate on how best to achieve those goals. In other words, there should be consensus on goals – the realm of measurement, and debate on strategy – the realm of politics.

As well, to add fuel to the political fire, the new measures can and should be used both to hold governments accountable according to their success or failure in attaining or moving towards the agreed goals, and to evaluate the effectiveness of programs designed to achieve those goals. The political arena is the place to debate those programs and possible alternatives to them. But the benchmark of those debates and the reference point of all political

parties will remain the consensus goals and the measures that assess progress towards them.

Urgency and predictive power

I mentioned early on that we have found—in our Nova Scotia experience with this work—that the accounts and economic valuations have had a much more direct and powerful impact on policy than the indicators, and they also grab media attention far more readily than reports on trends and rates. That said, however, I want to emphasize that we have only begun to scratch the surface of the longer-term potential impact of this economic valuation and accounting work.

In fact, I see us to date as having taken only the first step in a four-step process (described in the next sub-section below), the final fruition of which I fervently hope (but am not sure) I will see in my lifetime. Recall that GDP-based accounting has held sway for more than half a century, still rules the minds of policy makers, economists, financial analysts, and journalists worldwide. As the current obsessive focus on stimulating spending and economic growth to stave off recession clearly shows, this GDP-based economic paradigm is not close to being dislodged. How long will it take for the new expanded capital accounting system to take hold and supersede the existing narrow one as the primary method of economic valuation?

If we continue to assign an arbitrary value of zero to our natural, human, and social wealth; if we continue to ignore the costs of their depreciation; if we continue to treat the services these capitals provide as so-called 'externalities'; and if the true costs of economic activity remain hidden, then I fear that the world we leave our children and grandchildren will be so depleted and uncertain that it may no longer be possible to salvage key components of our true wealth. Most dangerously, a domino effect will become apparent, where the collapse of one resource will

trigger the diminution and eventual exhaustion of another, in a feedback loop that will become unstoppable. These present times, my friends, are “the good old days,” and they will increasingly be looked back upon with nostalgia mixed with astonishment that our generation could have been so wilfully ignorant.

Saddest of all is that—since we are not properly counting and measuring the depreciation of natural, human, social, and cultural—many of these “collapses” will occur with a whimper rather than a bang, since we are simply not keep track of their demise nor heeding early warning signals. We will gradually become accustomed to a degraded world. When Nova Scotians drive down the highway today and look out their SUV windows, they think that what they see is a natural forest. Since they have never seen or walked in an old-growth forest, they do not miss it or have any idea of what this landscape was. Not accustomed to the sound of old-growth dependent song-birds, they think the silence of the forest is its natural state. They will not miss cod or tuna once they have disappeared. And so long as the store shelves are stocked with produce from California and Florida, they will never know that there were once local farms providing fresh-picked seasonal fruits and vegetables.

And the same is true in the social and cultural sphere. I don't think any politician in Canada is aware that voluntary work has declined by 12.3% in the last decade, because unpaid work is not measured in our national accounts or measures of progress, and therefore does not get proper reporting or attention. And because the politicians don't know the numbers, the issue never surfaces for debate in any legislature in the country, even while they pass multimillion dollar bailout packages for the automobile industry. So communities gradually weaken as the fabric of volunteer participation unravels, while those in need gradually get used to a diminution of voluntary services and to relying ever more on their own private resources—all unnoticed, gradual, beneath the

surface, away from the spotlight of regular measurement, monitoring, reporting, and debate.

And how many North Americans miss the fact that most Aboriginal languages on the continent have become extinct, with the remainder in rapid decline—though the loss carries with it a tremendous store of Indigenous knowledge that the world needs more than ever for the lessons it carries about living in harmony with Nature? In the GPI, we document this depreciation of cultural capital and the loss of Indigenous languages and knowledge as one of our key education indicators. But the loss is invisible in the conventional accounts, and so there is little dedicated policy attention or educational reform designed to preserve remaining Indigenous languages, and virtually no public awareness of the issue, despite ample early warning signals of their imminent demise.

And we won't even begin to talk about the mother of all dangers—climate change—where our conventional GDP-based accounts, and the indicators based on them, still count more fossil fuel combustion as a contributor to economic growth and progress. And when I say 15 years, I mean 15 years actually to turn things around, not 15 years before we start counting things right. In fact, if we keep counting natural resource depletion and fossil fuel combustion as gains to the economy and contributions to prosperity for the next 15 years, and thereby justify the continuation of our current growth patterns as if there were no tomorrow, then it will almost certainly be too late. Irreversible changes will have been set in motion that generate their own feedback loops, until it is quickly beyond the capacity of governments to manage change, cope with shortages, and handle the ensuing chaos and flood of environmental refugees. So counting things right has to start without delay, so that at least the framework and paradigm for change are put quickly in place.

This is *not* fear-mongering, my friends—I don't believe in that at all—but a simple analysis of current trends based on the best available statistics and evidence. One thing we have found over the last 12 years of work in this area is that the GPI has remarkable predictive power. In 1998 we released our first report on the economic value of civic and voluntary work, in which we warned of certain trends that threatened the viability of the voluntary sector. Ten years later the numbers pointed to a massive decline in voluntary work, belatedly proving the earlier warning correct.

In 2000, our analysis of the agriculture sector pointed to a serious long-term decline in the economic viability of farming in Nova Scotia, based on five key indicators—net farm income, expense to income ratio, debt to income ratio, return on investment, and solvency ratio. We warned that if existing trends continued unabated, farmers would be forced off the land because they could no longer afford to farm. This year we updated that report and found that in four of the last six years, net farm income had actually dropped below zero. Put simply, it was costing farmers more to farm than they were earning. When we issued the warning eight years ago, net farm income was not yet below zero, but it was headed in that direction. For many farmers, it's now too late!

By contrast, Gross Domestic Product (GDP) sends no such warning signals, and in fact sends perverse and entirely misleading signals to policy makers. While all five of our GPI *net* farm viability indicators were trending seriously downward over a 36-year period from the early 1970s to the present, *gross* farm cash receipts (which are the primary input to agriculture GDP) have trended upward and show no problem at all.

Similarly, fishery GDP remained at record high levels and with the fisheries regarded as a 'boom' industry right up to the moment that the Atlantic groundfish stocks collapsed in 1992. As noted earlier, GDP is a gross rather than net approach that only counts

what we extract from our natural resource base and takes no account of the health of the resource—in this case the fish stocks in the oceans—we leave behind. Reliance on GDP statistics actually encouraged over-fishing and natural resource depletion simply because it tracked only the nominator (fish landings) and not the denominator (fish stocks). This, quite frankly, is primitive and poor accounting practice.

Again, this is not rocket science, and is entirely in line with simple household budgeting practice, in which we count not only our gross income, but rather keep track of our expenses *in relation to* our income. Any *net* approach will have the predictive power described here and the capacity to send early warning signals that allow timely remedial action. That, in a nutshell, is one of the key purposes and practical functions of a set of GNH Accounts.

One final example of the predictive power of the new accounts and perhaps most poignant of all given the current economic circumstances: GPI Atlantic released a report on debt and financial security just a month before the current economic collapse, warning of unsustainable trends in the economy—like the fact that debt growth during the so-called economic boom period of the last decade had massively outpaced income growth for 80% of Canadian households, thus threatening the ability of many households to manage and service their debt. Only among the wealthiest 20% of Canadians did we find the rate of income growth exceeding the rate of debt growth—far too narrow a base for a healthy economy. We noted that more than 77,000 Atlantic Canadian households, in our small corner of Canada, had become so deeply indebted that they could not get out of debt even if they sold everything they owned, including their homes—not a good feeling with which to go to bed or wake up in the morning to say the least! That depth of financial insecurity can hardly be considered an ingredient in wellbeing.

We asked one of the top executives of Canada's most important bank, and a respected financial analyst, to review our report and provide comments prior to its release. He took issue with our conclusions (though interestingly not with our statistics), saying (according to the conventional wisdom of the time) that Canadian household finances had never been healthier, and that Canadian households were more financially secure than ever. When the crash came a few weeks later, we at GPI Atlantic were not surprised—not even slightly. Part of me does want to go back to this 'expert' now and ask "never healthier"? "More financially secure than ever...?" "Would you like to reconsider...?"

But—and this is a very big but—the purpose of the GPI or of GNH indicators and accounts is not to shake our heads in despair months or years later, or to say "I told you so!" The purpose is precisely to identify our strengths so that we can build on them and protect them rather than take them for granted while they weaken behind our backs, and it is precisely to identify our weaknesses so that we can work to overcome them as soon as we detect early warning signals. The good news is that we have not yet crossed the threshold of irreversibility or passed the point of no return, even though we are getting close. We do still have a chance to turn things around, so long as we don't hesitate but act decisively while the narrow window of opportunity remains.

And there may never be a better opportunity than the present, where the conventional system is in crisis and where the so-called experts are wringing their hands in despair and disbelief that they could have been so wrong. Alan Greenspan's chest-beating confession before Congress—the King of Economics utterly humbled—symbolizes a golden opportunity to present a new and saner economic paradigm that accounts properly for true benefits and costs.

That moment of opportunity is probably not while the fire brigades are totally engaged at the scene of the fire and while so

much adrenaline is pumping through the system with desperate trillion dollar fiscal stimulus packages and cash injections to re-stimulate spending and growth. But perhaps six months or a year from now, when the stimulus has not only failed to stimulate, but when governments find themselves with their backs truly up against a wall, having racked up massive deficits and accumulated monstrous debts through their so-called fiscal stimulus and bailout packages. Sad that it always seems to take a catastrophe before eyes and ears open (— ‘Catastrophe’ only from our human perspective, needless to say. For the natural world, the more the stimulus fails to stimulate, the deeper the recession or depression, the greater the crisis in so-called ‘consumer confidence’, and the less spending and consumption that happen, the better its chances for recovery.)

But in the meantime, we can prepare the ground, and when the moment comes, simply quietly demonstrate through practice and action that a sane alternative is not only possible but exists. How remarkable and inspiring it would be for folk in the depths of a global depression to notice that some jurisdiction (like a small Himalayan Kingdom for example) was cheerfully prospering. Then, they might ask themselves with genuine curiosity — how did they manage that? And how did that jurisdiction escape the clutches of depression gripping the world?

A four-step process

These are the four steps I see in changing our systems of accounting and economic valuation:

First Step: We have begun to build the new accounting system by valuing natural, social, and human capital properly. Much more work is needed, including improvements in data sources and methodologies. What was once just a concept and an aspiration is now feasible and measurable, and there is no barrier for jurisdictions like Bhutan and Nova Scotia to construct, adopt, and

implement the new indicator and accounting tools as guides to policy. That measurement work is so well under way that there is already no obstacle to step 2.

Second Step: Some jurisdiction now has to adopt the new indicators and accounts fully and properly, and to take them as its core measures of progress and valuation, in order to demonstrate their feasibility, utility, and policy relevance. This is a matter of political will. Not to put any pressure on anyone, but I don't happen to know of any sovereign nation anywhere in the world, other than a particular small Himalayan mountain kingdom, where that political will is riper and more developed and more ready to take that leap.

Whenever I see new measurement systems begin from the premise that our conventional economic statistics are not enough and that we have to "add" a raft of new social and environmental measures, I begin to worry and hear alarm bells ring. This "add-on" mindset fundamentally accepts the validity of the conventional economic measures, but pats itself on the back for being broad-minded enough to add a bunch of social and environmental statistics *on the side* – **always**, mind you, on the side. Rarely are the new statistics allowed to *challenge* the messages being sent by the conventional measures and through the existing economic paradigm.

"Co-existence" in the sense of having the best of both worlds is not an option! We cannot sing the GNH language without simultaneously challenging a materialist philosophy based on ever expanding consumption. And we cannot simply add on a bunch of new indicators to ones that are fundamentally flawed and that send highly misleading signals to policy makers. We run the danger of exacerbating rather than ameliorating confusion. I believe this is why – in the Buddhist philosophy – "renunciation" is described as the "foot of meditation." And I believe it's why Chogyam Trungpa Rinpoche's Taktsang generated Sadhana of

Mahamudra right here in Bhutan, and indeed his first years in the west right after that, took direct aim at what he called “spiritual materialism.” We run that danger in our indicator and measurement world, however well-intentioned we may be.

In short, Step 2 in this process is the genuine political will to adopt the new measures fully, properly, and with integrity—to implement the new indicator and accounting systems in practice, and to use them actively as the country’s core measures of progress and valuation, and as the evidence base for new policy.

Third Step: Not much point in talking in great detail of Steps 3 and 4 when we are only at Step 2. So a few words will suffice. Once the new accounting system has been adopted by government, it provides the basis for a system of financial incentives and penalties designed to encourage sustainable behaviours that contribute to wellbeing and GNH and to discourage unsustainable behaviours that undermine wellbeing and detract from GNH. This includes very practical actions like shifting taxes from low-income households to carbon and pollutant emissions; subsidizing renewable energy development, public transit, organic farming, and uneven-aged forest management while increasing taxes and fees on gas-guzzling Prados, synthetic fertilizers, and clear-cutting, for example. The underlying *accounts* provide an objective basis for determining the ngultrum amounts of such incentives and penalties, since the accounts assess the true and actual benefits and costs of economic activity to society.

Fourth Step: And those incentives and penalties in turn will naturally affect consumer prices, thereby changing behaviour. It is absurd, at present, that organically grown local food is more expensive than chemically grown food imported from 2,000 miles away—a perversity only made possible by ignoring the true costs of soil degradation, transportation, greenhouse gas and pollutant emissions, and other actual costs of production, and ignoring the

true value of enhanced nutrition, freshness, health, and resource conservation. Once goods are properly and accurately priced according to their true costs of production, not only will consumer behaviour change, but the market economy itself will become far more efficient – with profligate and wasteful energy use penalized for example, and rewards for energy conservation built into the price structure. We're a long way still from that kind of pricing system, but, as I said, I fervently hope to see it in my lifetime, as it the surest guarantee of widespread behaviour change.

Is such complication really needed, and if so, why now?

We have to be honest enough to acknowledge that all these complicated indicators, accounts, economic valuations, and measurement systems are entirely unnecessary if the underlying GNH values truly pervade and penetrate both the society and the political arena in a profound way. Particularly in an absolute, benevolent monarchy, good and wise policy that judiciously balances social, environmental, cultural, and economic objectives does not need to be justified with such measurement and accounting complexities. And especially when a country is relatively isolated from the world, no particular justification for its unique traditions is needed and no comparative indicators of progress are necessary.

Indeed, economic valuations would never be needed if the full social and environmental consequences of all policy actions were considered in every decision. In any case, we have already noted that such economic valuations are at best only a strategy designed for a materialist world and intended to point towards an underlying physical reality. Even indicators are only a "second best" tool that imperfectly describes reality. As the old saying goes, the finger pointing towards the moon is not the moon. And so indicators can only point in the general direction of a social reality and can never pretend to describe it fully and accurately.

Thus, the Fourth King of Bhutan did not need a complicated battery of charts, tables, and spreadsheets to pronounce that Gross National Happiness is more important than Gross National Product, and yet his meaning was crystal clear. And in some of our native American traditions, there is a custom in which one tribal elder is required—in every major Council decision—to represent the interests of the seventh generation hence. How will this decision affect future generations? When decisions are made in that way, or with the wisdom of a wise and benevolent monarch, we do not need complicated spreadsheets or accounting mechanisms.

But I see three important reasons for adopting the new measures now with all their complications: First, they are a powerful insurance policy in a party-based democracy that holds no long-term guarantee that GNH values will always pervade the decision-making arena regardless of the vagaries of elections and who holds power. Because they transcend partisan politics and represent consensus values, the new measures can serve as a highly effective touchstone of fundamental underlying principles—a standard against which actions can be judged, policies and programs evaluated, and governments held accountable.

Secondly, when Bhutan is increasingly joined to the larger world by internet, television, roads, trade, tourism, and membership in international organizations, the new measures are ever more urgently needed to maintain what is unique and vital to the country's identity and wellbeing, and to prevent it being swamped by the dominant global materialism. Unless its own ways of measuring progress and valuing its wealth are firmly entrenched and well understood, its progress and wealth will be measured for it according to alien standards and outside forces that do not appreciate what is of value here. If Bhutan were to join something like the World Trade Organization—which has its own standards, measures, and ideas of progress that have little to do

with GNH—and were to do so without its own clearly enunciated and officially entrenched measures of progress and accounting system firmly in place, then it will be held entirely accountable to standards and rules not of its own making. Let the WTO rather challenge an official accounting system that does include the full costs of production and that values all forms of capital properly and comprehensively. In short, the new measures and accounts are needed in order for Bhutan to protect its interests and represent itself accurately and with integrity in the international arena, and to avoid being classified, judged, ranked, and manipulated according to alien standards and measures that have no respect for what matters to this country.

And thirdly, the new indicators and accounts are needed *if* the Royal Kingdom of Bhutan wants to help the world and set an example of a sane way forward.... *If*, in other words, the Mahayana Buddhist foundation of the Kingdom truly extends to all beings. That is a decision only the Bhutanese can make. But if they choose to set such an example and work to create an enlightened society that can show humankind a way out of its materialist Dark Age, then it can only do so by communicating and engaging the world in a language the world can understand. Lofty words, principles and ideals will be less effective in getting others to watch, listen, and pay attention than the language of measurement, economics, budgets, and production costs. The new indicator and accounting systems—because they speak in a familiar and universal language—will allow the world to recognize the flaws in its own measurement and accounting systems, and in its consumption and growth-based economic paradigm, and will demonstrate its own potential to shift its view and approach.

From a 'bodhisattva' perspective, therefore, the new measures—both indicators and accounts—constitute a tremendously useful communication tool that creates a bridge to the rest of the world and that starts the dialogue from where others currently are. In all

this, it must be emphasized that the Royal Kingdom of Bhutan does not need to “sell” either itself or GNH or the new measures. So long as Bhutan genuinely puts GNH into practice at home and uses the new measures to guide and explain its own policy, it will naturally be performing an enormously useful and valuable function for the world that cannot help but set an example for a global system in confusion, disarray, and despair. But practice is everything. Talking or reading about an apple is not the same as eating it, and nothing will help the world more than a living, breathing example of GNH in practice.

And if this third reason is operative, then there is absolutely no time like the present to adopt the new measures, since the current global economic downturn represents a unique historical opportunity to make the changes that are needed on a larger scale. I’d like to end this paper with just a few comments on this present historical moment, and its enormous potential to bring GNH to the larger world.

A “balanced,” multi-dimensional approach

I once heard David Suzuki, brilliant scientist and defender of the environment, argue that the only biological organism he could think of, which shared our economic dogma of limitless growth, was the cancer cell – which also thrives on unlimited growth till it destroys its host. I suppose we could add some other examples – like weeds or algal blooms that suffocate plants and water bodies. Suzuki’s point is simple: In nature, limitless growth is inherently destructive. By contrast, he points out, nature always thrives on *balance*. Plants, for example, do best when they have not too much water and not too little, not too much sunlight and not too little.

Indeed, I have often thought that if I had to choose just one single word to describe and characterize GNH or the GPI, it would be “*balanced*” – in sharp contrast to the “*extreme*” view of GDP-based measures. What is GNH if not a judicious balance between

environmental, economic, social, and cultural objectives? And what is the meaning of “good governance” if it does not effectively balance those priorities?

In fact, I would be so bold as to say we don’t have to “sell” GNH or GPI any other way than simply to point out that these are *balanced* or ‘middle way’ approaches that look at both sides of any equation, and which thereby provide far more accurate signals to policy makers than an extreme doctrine like limitless growth.

In applying the new multi-dimensional GNH measures spanning nine different domains, critics often baulk at their complexity, which they find daunting and challenging to interpret compared to the simplicity of the one-dimensional single number GDP / economic growth statistics. I think we should never apologize for this complexity. Would we prefer an airplane pilot to have only one gauge (say altitude) when piloting our plane? The pilot might have quite a difficult time taking off, landing, checking safety features, or ensuring that we have enough fuel to get us to our destination with such limited information. Would we not feel far safer and more secure if the airline pilot had a complex, multi-dimensional set of gauges on his dashboard providing him with all the varied information required to get us safely to our destination?

Piloting the ship of state is no less challenging or complex and requires at least the same multi-dimensional range of information as we would expect of our airline pilot. The very narrow fiscal stimulus fire-fighting currently under way to deal with the present economic downturn well demonstrates the limited tools available to policy makers who operate from within a GDP / economic growth framework alone. Let’s see how the options naturally expand when we broaden our approach and embrace the complexity.

In sum, the GNH approach and practice not only offer highly positive potential solutions to the current global economic crisis, but its most effective agents and standard bearers are likely to be the younger generation whose stake in a sane, secure, sustainable, and balanced world is probably the greatest of any demographic group. Including GNH principles, practices, and examples in educational curricula, training our youth in the GNH measurement methods, and generally nurturing their participation in GNH deliberations and in a wider GNH movement may well be the most effective and productive possible investment in moving towards the realization of GNH in practice.

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