

GNH is about tough choices and tough decisions!

A view on the draft Mineral Development Policy.

I thank the Ministry and the Department for having given this opportunity to the trustees of the natural resources to voice their views on the *policy*. I am hopeful that other trustees have also seized the opportunity to air their views. Rigor mortis behaviour and emotional and passionate outbursts like in the case of Tobacco Act does not help anyone. Seeing the unregulated mining and quarrying operations in various parts of the country (not to say those under the very nose of policy makers and regulators) that disproportionately benefit the operators and harms (net and long term) the uninformed communities in the vicinity in particular and the citizens in general and being guided by the much proclaimed development beacon - GNH, I make this submission being fully aware of the militating environment.

There has been no such policy as such although mining has been there since the eighties. The Department's initiative in finally drawing up a policy is certainly acknowledged. However, the policy once again reconfirms my conviction that we, the citizens of much proclaimed GNH state, are doing exactly what other countries are doing. We are no different!

The opening statement of the policy paper, which states, "*Minerals are limited and nonrenewable resource, and must be exploited prudently in the larger interest of the country. ... have made significant contributions to the economy and the national well being... The Economic Development Policy 2010 envisages the mining sector to play an important role in supply of raw material for industries*" undermines GNH principles. Mining certainly has contributed to the envious GDP of Nu. 61,223.5 million (which in essence does not really make sense to the larger mass) but at what cost? As a lay person, I ask myself "how can exploitation of natural resources ever contribute to the total wellbeing of a nation and her citizens?" The paper certainly endeavours to address the existing structural and policy discrepancies and couches caution of environmental damage but fails to address them comprehensively. For instance, how will the costs for the pollution in the air and water and destruction of watersheds and in general the ecosystems be internalized? Who will calculate those costs?

While industrial development is seen as progress in much of the world, commitment to the values and pillars of GNH means that any development that takes place in the country is seen through a GNH policy lens. In other words, does it contribute to the four pillars of GNH or detract from them?

The philosophy of GNH recognizes that all things are interconnected and that our natural world provides and performs a wide range of ecological, social, and economic functions, providing people with both direct goods and services like wood, food, and recreational opportunities, and indirect goods and services that support life and enable human society and the economy to function (which the paper recognizes).

Depletion of ecosystem services, like any other critical resource, can be self-defeating, expensive, and ultimately reduce long-term net productivity, farm viability, and food security. In the current

national accounting system, in Bhutan and elsewhere, these losses are not counted. In fact, GDP-based measures not only mistakenly count the depletion and degradation of nature's assets and services as economic gain, but send misleading messages to policy-makers by counting detriments to wellbeing as economic gains and Bhutan is no exception.

Even the draft *Mineral Development Policy* falls into this trap by stating (page 6): “*Apart from the direct revenues, there is also the spin off effect of the mining sector in the development of the associated industries and their contribution in terms of revenue and employment generation and other social benefits.*” From a GNH perspective, this statement should be followed immediately by the recognition that the costs associated with mining go far beyond the costs involved in exploration and extraction. Those short and long term “spin off” costs of mining remain invisible in the conventional GDP-based accounts, because they are externalized. That is, they are not paid for by the operators but by the people and the future generations. For example, the removal of forest and mountain ecosystems, environmental destruction, contamination of water bodies, the lowering of water tables affecting rivers and streams, the creation of waste tailings, loss agricultural land and displacement of people are just some of the hidden costs of mining that are currently not accounted for. Indeed, if these costs were included they would likely exceed the benefits. Sadly, our conventional accounts, as cited in the draft *Mineral Development Policy*, only count spin off revenues and ignore spin off costs.

Fortunately, the government in coordination with the National Statistics Bureau and GNH Commission is now in the process of remedying these flaws by embarking on a major project to expand the country's National Accounts to include measures of natural, human, and social capital. Although this step is entirely in line with the recommendations of the Stiglitz Commission, as well as UN, OECD, and European Union recommendations, no country has yet revised its national accounts in this way. Bhutan is, therefore, set to become the first country in the world to have a comprehensive accounting of its full national wealth, to account properly for its depreciation, and thereby to create the evidence base for truly enlightened policies that can be an example to a world in trouble.

Had the *Mineral Development Policy* been devised after the creation of these new GNH-based National Accounts, it would undoubtedly look very different than a policy burdened by reliance on the existing narrow, highly flawed, and misleading GDP-based accounts that have sadly supported the dangerous degradation of nature's assets and wealth nationwide. Can the proposed mining operations and mineral based industries be stalled until the new national accounting system is in place?

Gross National Happiness requires a new accounting system

If the draft *Mineral Development Policy's* stated *Vision* is to be realized: “*Create a vibrant mineral sector that contributes to the achievement of GNH,*” then all current and proposed mining activities must be assessed in a holistic manner and undergo a full-cost accounting that together can actually function to make the market economy much more efficient if adopted and implemented in practice:

Internalization of external costs

Full-cost accounting internalizes ‘externalities’ such as 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 in market prices, imported food might become considerably more expensive than locally grown produce. Externalities related to the coal industry in the USA in 2008 have been estimated at \$US345 billion. That is \$1124 for every man, woman and child in the USA. These externalities included land disturbance, methane emissions, carcinogens, public health costs, fatalities, loss of productivity and climate damage (*Source: American Journal of Public Health, April 2008, Vol 98, No.4*).

The economic valuation of non-market assets

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 include not only the market value of the timber (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-cost/benefit analysis, therefore, 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, the quality of the wood cut 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.

The replacement of fixed with variable costs to the extent possible

This essentially means that costs would vary according to usage. To give a concrete example, fixed annual payments for car registration and insurance provide no incentives for conservation and no penalties for unsustainable behaviour. If payments varied by type of vehicle, fuel efficiency, and number of kilometers driven annually, they would reflect a far more accurate picture of the actual social, economic, and environmental impacts of driving.

All three of these accounting principles enhance market efficiency by pricing assets and economic activity more comprehensively and in ways that reflect actual benefits and costs to society.

The *Mineral Development Policy* states (page 9):

“The adverse social and environmental impacts of mineral extraction can be prevented or mitigated only with effective administration and monitoring of the mining sector, for which creation of an autonomous body with a specific mandate is found very essential at this juncture.”

Thus, perhaps this autonomous body could be charged with the explicit responsibility of coordinating full-cost assessments of current or proposed mining operations. The cost of these assessments would be borne by the mining operators. By ignoring the value of natural and social capital and ecosystem services, GDP is in fact putting an arbitrary value of zero on these vital assets,

which is not only far less accurate that attempt to assign a proper value, but treats these assets as mere externalities that, therefore, do not get proper policy attention. By contrast, GNH represents an integrated approach to development that doesn't focus narrowly on economic consumption alone, but recognizes the inherent links between social, cultural, economic, and ecological realities.

Case study: Coal mining in Samdrup Jongkhar

Mining of various kinds is known to have serious adverse impacts of different kinds on health and ecology, varying according to type of mineral and mining method. For instance, besides environmental damage, it is reported that talc miners have shown higher rates of lung cancer and other respiratory illnesses from exposure to talc, which contains dangerous silica and asbestos. A case study on the coal mine in Deothang was conducted as part of the Samdrup Jongkhar Initiative research project as an example of the kind of investigation required for all mining projects (*details at www.sji.bt*). The study is not to provide any kind of comprehensive overview of mining impacts, but to illustrate the potential dangers that can result when the full costs of mining are not properly considered.

When people working at the coal mine were asked about the working conditions at the mine, many of the villagers were simply happy to have work and did not want to complain. However, others who did not want to be identified talked about noise and dust created by the transportation of coal. One individual, who no longer lives in the area but worked at the mine between 1997 and 2001, said that there were many health problems, mostly respiratory, associated with working there, as well as several work-related deaths. People also noted landslides, erosion, dust creation, reduction of agricultural productivity and houses being affected because of erosion and blasts.

While it was not possible to ascertain the health status of the employees at the mine, since no study has been undertaken, coal is known to be hazardous to health. According to the U.S Centers for Disease Control, both surface and underground coal miners suffer from coal dust exposure and associated lung diseases such pneumoconiosis (black lung) or anthracosis. The report states that at most risk are those who cut the coal directly from the coal seams (*Centers for Disease Control. Respiratory Diseases Induced by Coal Mine Dust. National Institute for Occupational Safety and Health, Evidence Package for the National Academies' Review 2006-2007*) as is the case of the coal mine in Deothang.

In 2008, data from communities located near coal mines in the U.S. were analyzed by University of West Virginia researchers who found that residents had an increased risk of developing chronic heart, lung, and kidney diseases. The study found that coal-processing chemicals, equipment powered by diesel engines, explosives, toxic impurities in coals, and dust from uncovered coal trucks can cause environmental pollution that could have a negative affect on public health. According to the data, people who live in coal mining communities had a 70% increased risk for developing kidney disease, a 64% increased risk for developing chronic obstructive pulmonary diseases such as emphysema, and were 30% more likely to report high blood pressure. One of the lead authors of the study concluded: "People in coal-mining communities need better access to healthcare, cleaner air, cleaner water, and stricter enforcement of environmental standards" (*Chronic Illness Linked to Coal-Mining Pollution, March 27, 2008*)

Complaints about the dust created by the coal-carrying trucks during the dry season have led the coal mining company to water the roads daily to keep down the dust levels. However, in many places, the result may be just as hazardous to health. The water, when mixed with the spilled coal from the trucks, leaves an iridescent slurry coating the roads and filling the pot holes. Invariably, this mixture washes down the hills, polluting agricultural fields, streams, and water sources.

A comprehensive cost benefit study, including both short and long-term costs associated with the existing mines should be conducted assessing its full costs of mining against the revenues to the state and employment. The study should also include a study of health impacts on mine workers.

Coal mining also brings to the fore another potentially catastrophic reality for Bhutan: Global warming or climate chaos has serious implications for Bhutan in terms of potentially devastating glacial lake outbursts. Elsewhere, human-induced climate change attributed largely to the burning of fossil fuels, is linked to sea level rise, and sharp increases in hurricane, storm, drought, and precipitation activity that Lord Nicholas Stern, former chief economist of the World Bank, estimated would result in ruinous damage costs of between 5% and 20% of global GDP. Thus, it is highly questionable whether a country committed to climate stability by vowing to remain a net carbon sink in perpetuity should be mining and exporting one of the greatest contributors to this global as well as national calamity. The question is particularly pertinent in a country that neither uses nor needs coal for its own development.

Some specific comments

Financing of the Mineral Development Authority (page 11, 3.2.4)

The name of the Authority and its very sustenance is dependent on the exploitation of minerals. There may be an inherent risk of relegating the other important costs amply mentioned above.

Value addition of minerals (page 13, 5.2)

Benefits of adding value to minerals, which has been a persistent government policy, is very narrowly confined to economic value of higher revenue and employment. What about the impact of the processing of minerals on the environment and health of the workers in such industries? Processing of some minerals may cause more damage to the eco systems than bare extraction. There has to be an analysis of all other costs (mentioned earlier) before decisions of value addition are made. The energy subsidy provided to the business firms by the government is another cost. A blanket policy of value addition in narrow economic terms may not be the GNH way.

Environmental restoration bond (pg. 14, 6.1, iv)

Environmental restoration bond has never been enforced in terms of actually restoring the mines or quarries. Over 150 mines and quarries have been leased since 1985. One or two mines are reported to be making some effort of restoration now. Even collection of bond has been erratic besides the fixation of its amount. What is the rationale? It may not be wrong to state that the amount has generally been between Nu.60,000/- - Nu.100,000/-. Fixation of bond based on the mine plan in the FMFS is risky as the actual operation in the field is quite different. Bond based on tonnage may also be inappropriate especially if a mineral deposit is characteristically sporadic as in the case of talc and

coal.

Social and community considerations (page 15, iii & v)

The draft *Mineral Development Policy* states: “*Mineral development if not managed scientifically can cause irreparable adverse impact on the surrounding communities. At the same time it can also make significant contribution for the welfare of the local communities if managed properly.*”

Based on many well researched and carefully documented case studies of large-scale mining operations elsewhere in the world, mining operations tend to benefit the mining companies and their shareholders, not the local communities. In the developed world it is a challenge to get mining companies to pay for the mess they make. For example, in Nova Scotia, Canada, the Sydney tar ponds—a toxic sludge dump that resulted from a century of steel-making—not only caused serious health problems in the local community, but the half a billion dollar costs to clean-up the 700,000 metric tons of toxic sludge were completely downloaded onto the public.¹

However, as bad as mining practices might be in Canada, they don’t compare to what takes place today in developing countries. More often than not, mining companies take advantage of or ignore lax environmental or labour laws, and poverty often forces people to work in conditions that no one should be allowed to endure. Mining operations in the developing world displace indigenous populations and leave devastated communities and horribly depleted and toxic environments in their wake.

For detailed information and articles on mining operations and impacts, sorted by country, issue, and company, refer to *Mining Watch Canada*, an initiative that addresses the “urgent need for a coordinated public interest response to the threats to public health, water and air quality, fish and wildlife habitat and community interests posed by irresponsible mineral policies and practices in Canada and around the world.” (http://www.miningwatch.ca/en/country_categories).

Furthermore, so-called corporate social responsibility (CSR) projects or community development funds, which have been aimed at transferring financial benefits from the mining company to the local affected communities, typically amount to a tiny fraction of what the mining company makes — often only 2% of before-tax profits.

Further, who and how will it be ensured that 10% of the shares are allocated to the affected community? What is the rationale for the contribution of Nu 3 & 5 per ton of minerals dispatched and extracted to community development fund?

Thus, based on the evidence that currently exists on a global scale, the “arrangements” outlined in paper, do not appear strong enough to ensure real protection for local mining-affected communities, and they do not sufficiently advocate on behalf of either the locally affected communities or the larger natural environment, on which the nation and all human society depends for its life support.

¹ Environmental Law and Litigation. <http://envirolaw.com/hungarian-sludge-spill/>; For more information on the Sydney Tar Ponds please refer to: <http://www.sierraclub.ca/national/sydney-tar-ponds/>

Thus, in addition to the “arrangements” outlined on page 15 of the draft, and in line with GNH principles, mining companies with any interest in operations in Bhutan should also be required to:

- a) buy full-coverage insurance against accidents or disasters such as air, water and soil contamination, toxic mine effluent and tailings leachate problems, oil spill/leaks, increased respiratory, kidney, cancer-related, and heart disease incidence in mining communities, and the wide range of other adverse ecological, human, and health impacts associated with mining activities. Insurance companies are in the business of assessing and monetizing risks. If the insurance companies are unwilling or unable to insure these companies, then the mining operators themselves should be required to maintain an assurance bond (i.e., self-insurance) adequate to cover a worst-case-scenario. This would ensure that costs of mining activities in the country would not be borne by the public but by the plant owners. It would also make the cost of those risks transparent and apparent in the short term, and thus part of the price of mining in the country.
- b) submit to a full-cost accounting of the proposed or current mining operation, and pay any damage costs (environmental, social, cultural) associated with setting up and running the mine, calculated by using the most recent studies and work in this area (i.e. in the field of ecological economics). For instance, if a lake were to be used as a tailings pond and a mountain removed for the mining operation, then the value of the lake and the mountain, including the value of the lost forest ecosystem services, as well as associated aesthetic, cultural, and spiritual values, would be calculated. This sum would be paid to the government in advance of receiving approval.

The recent decision of the people of Samtse on mining in their Dzongkhag is a welcome move.

Royalty and other levies on minerals (page 20, chapter 20)

It is learnt that before 1993, the only fees that the mining operators paid was royalty, a token compared to the profit that they made and the damage that they afflicted on the environment and the society. Mineral rent which was introduced only in 1993 was also nominal, is exempted if extraction exceeded the annual target as an incentive for greater exploitation. Although the law says that levies will be revised from time to time, royalty and rent for stone reportedly has never been revised and for the minerals revised only in 2006. What is the process for determining royalty and levies? Market value that have totally ignored other costs of mining?

Incentive (page 21, chapter 10)

Considering the other costs that are never accounted for and the proclamation of GNH as a development beacon, do we really need to encourage investments in the exploitation of our natural resources?

Employment

Further, as employment is an important consideration by the government for any policy or strategy (but its actual impact rarely assessed), it is important to note that the quantity of jobs is not the only measure of employment that should be considered when using a GNH lens. One must also consider the *quality* and *sustainability* of those jobs: are they safe, well paying, providing benefits and

security? Are they dependent on yet another boom and bust industry? Do the jobs contribute to positive human development and quality of life? Are the jobs socially and environmentally benign or are they damaging to communities and natural environments?

Corporate responsibility and the potential for oil and mineral exploration in Bhutan

Between the 1970s and 1990s mineral exploration in Bhutan was done through the Geological Survey of India (GSI), which covered 33% of the country. The GSI found potential for oil in Bhangtar, in Phuntshothang Gewog of Samdrup Jongkhar; traces of gold, silver and copper in the Black Mountains; and tungsten in Sarpang Dzongkhag with an estimated value of Nu. 50–60 billion.

Now there is an American mining company willing to follow up on these finds and to explore the rest of the country — with a few strings attached. In 2009, *Kuensel* reported that U.S.-based Cline Mining Corporation is trying to gain mineral exploration rights for the entire country.² J. Matthew Fifield, managing director of the Cline Group, proposed he would get a group of American investors to invest in Bhutan’s mining sector “in a big way.” The Department of Geology and Mines (DGM), and Druk Holding and Investments (DHI)—through which Fifield communicated with the government—expressed interest in the proposal and were studying it, said the newspaper report. If an agreement were reached, the mining company would get exploration rights and the government would get mining shares and royalties.³

According to DGM nothing has yet been done to implement the 2009 Cline Mining Corporation proposal, which is still in the conceptual stage. The Department reportedly would not consider or act upon any proposal until the draft *Mineral Development Policy* is finalized.

Druk Holding and Investments, however, is currently encouraging interest in potential mineral exploration and extraction by “seeking partners to invest” in mineral based industries among other areas. According to DHI, “*With the development of the Mineral Development Policy, there will be opportunities for investments in extraction of minerals and mineral-based businesses.*”⁴

Both these statements, and that of DHI in particular, indicate the potential for the proposed *policy* to open the floodgates to mineral exploration and extraction throughout Bhutan. Certainly DHI is explicit in referencing the new policy as providing “opportunities” for mining activities. While the Cline Mining Corporation proposal has been stalled since August, 2009, approval of the draft *Mineral Development Policy* may well provide the means through which the Cline “conceptual” proposal becomes reality.

Before dealing with Cline Mining Corporation or similar mining corporations, the government needs to assess these inevitable aforementioned long term costs that have been associated with mining operations worldwide, and to determine whether such activity is in keeping with GNH values, principles, and practices. Needless to say, in negotiating with any foreign company, RGOB will also

² The *Kuensel*. August 29, 2009. American Interest in Mining Rights. Available online.

³ *Ibid.*

⁴ Druk Holding and Investments Corporate Profile, 2010, available on the DHI website <http://www.dhi.bt/forms/DHI%20Corporate%20Profile2010.pdf>, p.11

certainly want to ensure that the company is indeed responsible, without any past negative social, economic, and environmental record, and therefore likely to operate according to GNH principles and practices in a country with the avowed philosophy and policy of adhering to those values and practices. However, recent news reports out of the U.S. raise a red flag regarding the Cline Group's past environmental record in its home country. For example, concerns are currently being expressed at public meetings by residents and environmental groups over a highly contentious proposal by the company for an open-pit iron mine, slated to destroy an ancient mountain range in Ashland Counties, Wisconsin.⁵ Investigation of such past and present activities is clearly essential to establish a clear profile of any foreign company invited to participate in this country's unique development strategy that can be a model for the world.

A caveat

Impact of the best of intentions, policies and strategies will be less in the existing environment. Unless the prevailing environment of weak enforcement, poor monitoring, poor accountability, lack of professional capability in particular in assessing the total costs of exploitation of natural resources which I believe must be computed to rationally fix rents, fees, royalties and evaluate bid offers and compensation for communities change, creation of new bodies or policies will not bear much value. Public interest that the paper is expected to protect, during implementation public interest will give way to private interest, which generally is the case now. Institutions will be abused to legitimize wrong decisions and to peddle private interests. Community elites and local officials will be mobilized by the influential proponents for their gains.

Choosing a development path for the future

More disturbingly, such immediate concerns about *whom* we might be inviting in to exploit our land should provide a deeper invitation to the government and the people to assess the real purpose and potential impacts of the proposed *Mineral Development Policy*. Certainly DHI at least appears to see the new policy as opening the door to what could be a sharp increase in mining activity nationwide, and is already "seeking partners to invest" in this activity among other areas. But who are these potential partners? And would such a move exchange an apparent short-term economic gain for a potentially devastating long-term loss that could carry huge and irreparable costs to our nation's precious earth and ecology? And does the our future lie more with the massive, profit-hungry multinational corporations that are inevitably associated with large mining operations or with smaller, more self-reliant Bhutanese endeavours with a real commitment to the land and its people (hopefully)?

The National Environment Commission's answer to those questions is crystal clear, and points to a clear choice between two different visions of our country's future that deserves to be invoked at this crucial point in history. As stated in Bhutan's NEC 2008 report:

"[T]he concept of large-scale industrial development is in direct conflict with the country's policy of environmentally sustainable development especially when bearing in mind the country's fragile

⁵ Kaeding, Danielle. December 30, 2010. Pondering Environmental Impacts of Potential Mine. Ashland Daily Press. Wisconsin. Available online. Also, Duncan, Casey. January 2, 2011. Public Meeting Held on Proposed Penokee Iron Mine. Headwaters. Community Journalism for the Great Lakes. Available Online.

mountain ecosystem and limited usable land.... The potential for future industrial development in the country lies in the development of a network of small-scale and cottage industries based on sustainable management of cultural and natural endowments, especially focusing on niche products such as hand-woven textiles using natural dye and organically produced food and medicinal products.”

The goals and values of GNH are clearly aligned with the above statement of the NEC. But, how effective is NEC with its strong team of well educated and well exposed professionals? We have managed thus far to act as superbly responsible stewards of a land rich in biodiversity and aesthetic beauty—guardians of some of the world’s most precious natural heritage. That remarkable legacy of stewardship was formally acknowledged in 2005, when the United Nations recognized Bhutan as “Champion of the Earth” for placing the environment at the very centre of all its development policies and thereby setting a vital example to a world with a sad history of destroying its natural assets at incalculable cost to human society and other species.

Only if our deeply-felt ecological “conscience” and commitment to GNH — the extraordinary legacy of its wise and benevolent monarchy, the Fourth Druk Gyalpo, and its profound ancient wisdom tradition — continue to be put into practice in policies today will we continue to protect our own precious heritage. And only then can Bhutan act, in the words of world-renowned ecologist Dr. Vandana Shiva in a recent visit to Samdrup Jongkhar, as “a lighthouse for the way the world should be if the world has to have a future.”

I strongly feel that, this is the context within which the proposed draft *Mineral Development Policy* must be assessed, and within which the deeper question must be asked whether a pro-active mining policy, with all its known ecological and health impacts, is compatible with the country’s deepest held values and principles. The decisions made today will have far reaching implications for us, for its unsurpassed natural assets, and indeed for the world.

By the way, what does NEC have to say on the *policy*?

Only tough choices and tough decisions will testify our conviction and sincerity in GNH!

As I set solemnly in the Kuenrey of Tashichhodzong on March 18 praying for Japan and our Japanese friends, I hoped for a different world order that is determined by the intrinsic values of interdependence, impermanence and wisdom. Was I idealizing? May be?

Neten Zangmo, a concerned trustee,
c/o Anti-Corruption Commission,

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