

STEWARDSHIP

Principle of Stewardship

By Christopher Wood for The Economic Monitor, Autumn 2006

In the 1960's something changed and we began to emerge from a dream. Man traveled into space and for the first time saw Planet Earth vividly suspended in the emptiness of space. Silent Spring, Rachael Carson's classic, was published and we awoke to the fact that there was such a thing as the environment and, moreover, we lived in it. In the early '70's James Lovelock and Lynn Margulis coined the term "Gaia Hypothesis" and Barry Commoner formulated his Four Laws of Ecology in The Closing Circle.

It is now clear that the Planet is a finite entity, that everything in it and on it is connected to everything else and that as its temperature rises through global warming so this indicates, as it does for each of us, that the body is not well. It is becoming increasingly polluted without the opportunity to repair and rejuvenate itself.

Planet Earth presently supports a population of some 6 billions. International agencies have estimated that this could rise to 8 billions by 2030. In simple terms the land element of the planet is divided 1/3rd forest, 1/3rd agriculture and pasture and 1/3rd given over to deserts, mountains, ice, buildings and infrastructure.

Growth in food production to meet population growth thus far has come from two principal sources. First, an increase in the area under cultivation or pasture and, second, by the impact of technology.

The increase in the supply of land for cultivation and pasture has involved bringing more marginal land into production with the consequent effect of reduced forest cover. Marginal land requires both irrigation and chemical fertilizers. Bad farming practices have led to desertification, salinization, soil erosion and eutrophication. We may well have reached the point of diminishing returns where marginal land is concerned. Reduced forest cover impacts the

capacity of the planet to respire. Carbon sequestration is impaired, carbon dioxide concentrations increase and global warming results. There are many other detrimental effects some of which are identified and understood and some that are almost certainly not yet apparent.

Technology has had its impact in two principal ways. Manufacture and application techniques of fertilizers, herbicides and pesticides have developed rapidly and generated significant growth in yields. Genetic engineering has played a key role with the development of disease resistant and more productive plants. The impact of technology is not wholly benign.

Absent means of making the land more productive we are left with genetic engineering as a major tool to increase the food supply. Doubtless it will meet some of the need but this is an area where a whole raft of complex issues begins to emerge. Not the least of which are grounded in ethics, public relations and intellectual property rights, to cite but a few.

The world's oceans represent a partially explored and developed source of food. Aquaculture may offer great potential but the development of this resource should only take place against the background of a proper understanding of the environmental effects of intensively raising fish and other stocks.

In simple societies the distance between food source and table is short – food is grown locally. In the complex societies that exist today the distances may be vast. Enormous amounts of fossil fuels are consumed in preparing, packaging and transporting what we eat. The fertilizers, herbicides and pesticides also require energy for production and have to be manufactured, transported and applied. Fossil fuels are laid down over vast time scales; essentially they represent stored solar energy, our solar capital account. That account is being depleted at an alarming rate and is not being replenished. This is unsustainable.

Notwithstanding the fact that countless millions are presently starving there is a view that the planet produces enough food to feed all. It is postulated that the issue is one of distribution not production; the

needy people and the surplus food are not in the same place. Without entering into this debate what is becoming very clear is that modern food production practices are unsustainable given the current level of population. Further, it is not at all apparent where the food is going to come from to feed an additional 2 billion people. Reliance upon human ingenuity and technology to bridge the gap to food security for all may well be a completely inadequate and irresponsible strategy.

Planet Earth is a finite resource. That the industrialization of agriculture has got us this far is no cause for comfort. Any policy that is informed by the notion that we can organize nature to fit an idea of what an economy or a society ought to be rather than the reverse is manifest folly.

Planet Earth is a gift. It occupies a generous and hospitable location in space warmed by the fire of a nearby star. It is stable and supports life in myriad forms. Left to itself it produces food all on its own. Its crust contains a wealth of elements available to be used wisely by those who inhabit this unique place.

Since the gift of Planet Earth is freely given this places obligations upon the recipients, the planet's population. This may be understood in many ways but essentially, this unique asset is held in trust for the generations to come. In view of this an overarching principle is required that will inform the use of the planet's resources to ensure that starvation becomes a thing of the past.

Food security for all requires the intelligent use of the planet's non-renewable resources and efforts to develop systems that rely upon sustainable sources of energy. To be able to live on a sustainable basis current consumption must equate to current income. Sustainable current income is principally available in the form of sunlight and this ultimately drives everything.

One principle that will light the way forward is that of stewardship. This is not a new concept and has existed since pre-recorded history. Indeed one of the earliest references to stewardship appears in Chapter 15 of Genesis in the Old Testament wherein Abram says to

the Lord that Eliezer of Damascus is the steward of his house. All that has to change is that the concept be scaled up to envisage the asset being held in trust as no less than Planet Earth.

Of what does stewardship consist? There are a number of aspects. First, outright ownership is not transferred to the beneficiary but only the right to use and occupation. This is tempered by the obligation not to lay waste to the asset and to care for it and nourish it such that it is, if possible, in better condition when surrendered to the owner at the termination of the period of use. Only by so doing will the planet be enabled to meet the needs of ensuing generations. There are some subtler aspects as well. They involve an obligation to account to the owner of the asset for one's use of the same. One way to understand the principle is the need to seek to manage the asset, the Planet, in a way in which the owner, the Creator would have managed it had the appointment of the steward, collectively the planet's population, not taken place.

A few moments reflection reveals that absent the interference of man, life in the animal and plant kingdoms proceeds, over time, in harmony and balance. Accordingly, the ability to read the "Book of Nature" reveals how this harmony and balance are achieved. Certain precepts may be discerned and they may be described as natural or universal principles or laws. They are likely to be few in number and have as their essential factor a great simplicity. There are three that can guide us.

First, there is the principle of harmlessness. In the natural world there is generally a peaceful co-existence. To the extent that activity is informed by excessive self-interest so it creates harm and the peaceful co-existence is disturbed.

Second, there is the principle of causality. Every action has its effect that, in turn, flows naturally from its cause. Effects may be unexpected but that is beside the point.

Third is the principle of rhythm. Everything runs in cycles; they may be long or short but they are always in evidence. Whether they be of the scale of the rotation of the planets, birth to death, the

biogeochemical cycles such as Carbon or Nitrogen, the natural cycle of waters or plants from seed through fruit or the drawing of breath and exhalation, they exist. The planet is characterized by a vast matrix of complex interrelated cycles endlessly repeating.

Doubtless there are other precepts bearing on the subject but these three, if properly understood and applied, would go some considerable way to addressing the present imbalances.

Examples are legion of the effects of not understanding or ignoring these precepts. To give but three examples. Cows fed the offal of other livestock in the interests of efficiency have developed BSE. Interception of river flows and the demands of irrigation have reduced the Aral Sea to a fraction of its former size. The industrialization of agriculture has led to monoculture with a host of effects including those as disparate as destruction of soil structure and loss of rural employment. These are far-reaching and unforeseen, but not necessarily unforeseeable, effects of actions undertaken, perhaps with the best of motives in mind. They serve as lessons from which we must learn if increasing levels of deprivation and suffering are to be avoided.

Everyone on the planet can take these precepts to heart and allow them to inform the decisions taken in the course of daily life. However, for bigger changes to occur governments need to take the initiative and by so doing shape the course of events. In that regard some potential strategies suggest themselves.

1. Seek to reduce the distance food travels from farm to table. This will conserve energy, promote local food production, generate local employment and result in a fresher and purer product. Government could move to promote local agricultural enterprises by way of incentives in the area of farm employment and direct support for sustainable farming practices.
2. Promote the idea that there are certain elements that should not be the subject of proprietary interests, essentially expand the notion of common wealth. This already exists in respect of Outer Space, Antarctica and the High Seas. To the extent that this notion is

expanded to include such things as the air we breathe, the water we drink and the sunlight we absorb so they can come to be understood as Global Commons.

3. Promote the notion that when evaluating a potential enterprise the cost/benefit analysis should bring in to account the costs of all elements of consumption. This will require the development of a new field of econometrics for which data sources will be required. Such externalities include the opportunity costs of alternative forms of energy, the social costs of population migration from rural to urban areas, loss of local or vernacular knowledge and loss of natural capital to name but a few.

The problem of hunger is numbingly complex. As this brief paper has sought to show, central to the issue are matters of enormous breadth and depth. It is likely that a sustainable solution will continue to evade us as long as we believe the answer lies in the application of yet more science and technology. In fact what is required is a shift in the mindset from one of narrow self-interest to one where the longer term is in view and the principle of stewardship is universally adopted.

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