

*"Faced with today's food and energy crisis, how can society improve its well-being?"*

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As I engaged this subject, in trepidation of squeezing my path to redefined prosperity into 1000 words, I realised that my motives for expression were evolving away from the prize fund and prestige. What mattered now were not economic interests, or impressing people, but gaining new insight, and creatively compromising my thoughts into solutions. I believe a similar shift is required from society on a global stage, for us to arrive at a state of balanced well being. I'd like to continue my reliance on analogies with a personal bias towards my agricultural background.

In a world where a new crisis strikes with predictable frequency, solutions are debated, inevitable trade offs quantified, history lessons sculpted, (in a desperate need for cause and effect) our forecast models computed, and our future policies 'refined'. Here, I will endeavour to explain how measurements of well being can be drawn from outside the economic realm.

On the surface, volatility appears to be nobody's friend. Yet it has the potential to teach us valuable lessons on how to modify existing frameworks. We witness volatility in the information we process, as well as in many walks of everyday life; psychologically, clinically, climatically, and of course as a consequence financially. It's a viscous, interconnected symptom resulting from fragmented, dysfunctional modes of living.

As I write, speculators are placing bets on global food security. Farmers hoard produce in the hope and expectation of a price rocketing 'significant global event'. Rigid contracts result in unprecedented waste and unnecessary processing. On a recent tour of a meat processing factory supplying a large multiple retailer, 30 tonne artic wagons were loaded at only 5% capacity, as the retailer had refused to modify its Management Information Systems in the face of waning demand for organic produce.

We "cannot feed the world organically" because all aspects of our farming system are out of balance. I'm currently creating a nutrient management plan for our farm, yet I'm more than aware that my methods of quantitative isolation will always fall short of nature's complexity and interdependence. It's rather similar to scientific studies which never seem show conclusive benefit for vitamin supplements.

Intensive, monocultural production is agriculture's problem, not inefficiencies or obsolescence. But my personal willingness to inspire change is met by various inertias; such as respect for family tradition and the need for social acceptance.

Even with ever changing end markets for commodities, we must look beyond renewables as vehicles for continued energy- affluent living. For as long as renewables only augment our total supply, the laws of energy degradation and "limits to growth" will continue to evade us, and we will persist in making overly optimistic projections about what is possible.

Is 'molecular pharming' a solution? Can the development of food crops which yield in previously inhospitable climates contribute to our vision of global well being? Modifying biological and nutritional properties may help reach goals, but we have no quantifiable risk to offset potential benefits. Therefore development in this area should be extremely cautious, and solely concerned with producing public goods.

Furthermore, let us express our understanding of the inverse relationship between food refinement and its corresponding nutritional value by fiscally punishing food refinement. The proceeds could be used to subsidize localised production of unrefined, bulkier foods. This would be part of a wider strategy in re-evaluating the definition of yield beyond crude productivity. This would initially involve scientifically apportioning externalities of cost throughout the food chain. At a husbandry stage, this could include input sustainability, and a natural resource context (e.g. tillage strategy for soil management). At a processing stage, energy used in refinement and packaging could detract from redefined yield. At a retailing stage, a tax on resources consumed for distribution, marketing and storage would provide incentives for more sustainable production systems. Eventually, the needs of one element of a system would be met by the yields of another element. This multifunctionality and interdependence should be the catalyst for sustainable food production and energy use. The creative use of biological resources should then become the highest of art forms, with the ultimate aim being for the energy needs of a system to be provided by that system.

Rather than depleting assets, sustainable farming systems tend to have a beneficial effect on natural, social and human capital. As such systems look to nature, technologies should be locally specific. The farmer who refuses to embrace technology lacking sophistication and customisation is often harshly portrayed as a laggard, and overly traditional. Far from being a backward step, traditions integrate social meanings, and often support unique, intimate, ecological literacy. The global consolidation of languages has devalued traditional diversity, and encouraged homogenous thinking. This hampers our appreciation for unfamiliar cultures, which fail to stretch beyond curiosity and museum value. Instead, we need to grant political influence to those who are aware that we are structurally coupled with the environment. Then we may escape this dogma of global gardening. Otherwise, the 'dualism' between us and nature leads to enclaved thinking, convincing us that 'curative' technologies are preferable to redesigning a holistic model of wellbeing. In the eyes of positivist science and mechanistic reductionism, common lands were abandoned as unproductive systems. Yet now we redefine marginalised commoners as poachers, smugglers and criminals.

We need to perceive wellbeing as the external influences which manifest the human state of health. Farming for health explores the therapeutic potential of the human-nature interaction. It is fully integrated, adaptable, and can help meet clinical goals. Can we extend the role of farmers to become carers, healers, trainers and teachers? By doing so we are in fact re-establishing the roles of farmers who existed when "agri"-culture was embedded within the fabric of society.

Healing gardens have consistently aided people with mental health issues and learning difficulties. The UK's Growing Together, Finland's Riding Therapy and Norway's Green Care programmes are all examples of farming for health which expose a greater segment of society to the issues of holistic wellbeing. Let us accommodate this into our healthcare models, and afford credibility to an area which struggles to fit a typical medical research template.

Let us redefine social control to something discerning, dynamic and decentralised. No longer should market forces influence the distribution of income, access to livelihood, or the way the environment is treated. We should extend our resources to others once we are happy with a system that fulfils our basic needs. For so long as we balance individual

rights with collective responsibility, trust can substitute what we refer to economically as transactions costs, and well being can flourish.