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Balancing the Scales: Reduction of inequities through the use of solar box cookers

Presented by Bill Sperber of the Pillsbury Company on April 7, 1990 at the Solar Box Cookers International Annual Meeting.

Many of the world's people are confronted by staggering inequities in matters of health, environmental quality, economics and personal and political freedoms. **The inequities tend to be interrelated**; consequently many people are forced to live in abject poverty.

Inequities

Health: The general **un**availability of health care and family planning services in the third world has **exacerbated many chronic health conditions**. Several billion people suffer regular bouts of **diarrheal** illness because of the lack of clean water. Many suffer **respiratory** and **eye** ailments because of the extremely smoky cooking conditions which are equivalent to smoking 10-20 packs of cigarettes per day. A great deal of **malnutrition** is caused by the lack of food, the under-cooking of food (because of the shortage of fuel) and the practice of single pot cooking which means that **separate weaning foods cannot be prepared**. As a result, 14 million **young children** die each year and the life expectancy in many countries is less than 50 years.

Environment: Unequal distribution of **energy** sources is causing environmental degradation in the third world. Even though the third world consumes little energy compared to the first world, **90% of its energy is used for cooking food**. Already, 1/4 of humanity is affected by a fuel **wood** shortage; by the year 2000 the shortage will affect at least 2.4 billion people (UN/FAO estimate). The ensuing **deforestation** causes soil erosion, water pollution, a **loss of soil fertility**, and **ultimately, desertification**. Sub-Saharan Africa is a graphic example of this process.

Economics: Many of the third world's people are trapped in a **vicious economic cycle of poverty** because of their low income and **lack of land ownership**. Many families are forced to spend more on cooking fuel than they are able to spend on food. Third world **governments are unable** to assist their poor citizens because of the high interest rates attached to their foreign debts accumulated in the past decade.

Freedom: The poor of the world are further impoverished because of a **lack of personal and political freedoms**. In our terms, they endure **a subhuman existence**. Many people suffer at the hands of oppressive governments and are victimized by the prevailing (male) attitudes and cultural practices. Almost universally, the poor of the world, and **especially the women**, are enslaved to the processes of fuel collection and cooking. Very few are literate; most receive less than a third-grade education.

Solutions

Gloomy as the above situation may seem, there is hope for the poor of the world. **There must be hope, or else humanity will perish**. Many of the more fortunate people in the world are developing **programs and strategies to balance the scales and reduce the inequities** which separate humans.

We have learned in the past 14 years that a simple cooking device, **the Solar Box Cooker (SBC)**, **can ameliorate each of the inequities cited above**. SBCs can serve as a focal point to catalyze the attainment of many objectives in international development programs.

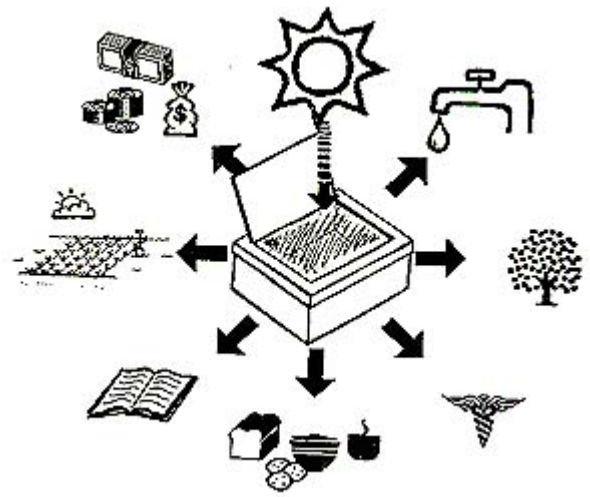
Health: The SBC can improve health in the third world in numerous ways. It can be used **to pasteurize water**, by heating it to 65°C (150°F), thereby reducing the incidence of diarrheal illnesses. The SBC is **smokeless**, its use will reduce the incidence of respiratory and eye ailments. It can even be used **to disinfect medical instruments**, as such it could be of significant benefit in many poor areas; it **can even destroy the AIDS virus**. Importantly, several pots of food can be cooked simultaneously, permitting **separate preparation of weaning foods**. All foods can be thoroughly cooked, thereby aiding digestion and enhancing nutrient absorption. Breadstuffs can be baked in an SBC, yielding **foods which have some degree of stability**.

Environment: Use of the SBC will **reduce dependence on fuel wood and charcoal**. **Reduced rates of deforestation** will yield reduced **rates of soil erosion**. In many villages there is a complete lack of fuel wood and the people have resorted to burning dried animal dung or crop residues. These practices deprive the soil of much of its potential fertility. Use of the SBC **minimizes the burning of dung and crop residues**, thereby permitting those materials to be used as natural fertilizers.

Economics: Much of the **expense** of fuel wood, charcoal or kerosene can be eliminated through the use of an SBC. The SBC also requires a low capital outlay; it can be built for about \$20, an amount equivalent to one or two weeks of cooking fuel purchases. The SBC should be a **useful tool to stimulate economic development in poor areas**. It is ideally suited to low-technology cottage industries. Because of its relatively low cost, **revolving loan funds** could help spread the SBCs quickly.

Freedom: For many, the SBC is **a significant labor-saving device** since less time would need to be spent in accumulating and transporting fuel wood or dung. A project leader in Guatemala said, **The Solar Box Cooker can liberate women from millennia of slavery**. **The saved time can be used for education, better family care, and food production**. In turn, greater economic and political freedoms will follow.

We are living and participating in a very strange system. Humanity has one foot stepping towards the stars, while the other is mired in **a sinking sea of poverty**. **The distance between humanity's two feet is growing**. We can help **reverse** the process by teaching several billion people in the Third World how to build and use solar box cookers.



Remarks on the logic of this article: logic of inversion to reverse

dr marika bouchon

From <http://solarcooking.org/balance.htm>

<The general **un**availability of health care and family planning services in the third world has **exacerbated many chronic health conditions**.>

This article is a wonderful summary of sort of low-cost action that can be taken to actually help 'little' people: we *have* the capacity to do such things. However, there is something unsettling about the logic of the reasoning.

In the same way as 'a lack of aspirin' cannot logically be considered the 'cause' of headaches, just because some 'health system' care and family planning can reduce the incidence of some chronic health conditions and compensate for the physiological struggle they express, does not mean that the "**lack of**" intervention by the organised societal system is their source.

A more basic view: The deployment of 'Human Pressure' (ecologic including from population pressure, economic, and emotional: the fear that drives survival behaviours and angry/violent defence) leads to over-extension (re-deployments) of physical and physiological resources (planet and body) and to systemic low-grade chronic syndromes (of 'sickness' rather than 'health' conditions), to specific diseases, and ultimately to generalised high-grade chronic-acute diseases that result invariably in organ dysfunction and eventual failure (particularly: **liver, heart/circulation, lungs, kidneys, and 'peripheral' damage including skin problems, sensory: eyes and ears, teeth, and brain hypoxia**) or even the generalised system failure that kills rapidly.

Many of the **systemic low-grade chronic syndromes of 'sickness'** are 'subclinical' at various degrees and 'silent' (not detected by medicine), and therefore not treated nor recognised. Their characteristics are very similar to those of high-grade emergency conditions, with topographic differences and 'dose related' effects due to stress hormones, or inversions of 'too high/too low' (which are and related to topologic properties). They affect most often: **digestion, circulation, breathing, kidneys** [in vertical interaction with the **hypothalamic osmostat** that governs the onset of strain- triggered states of need: thresholds], **and brain oxygenation, brain function** (with the major feature of hypothalamus derived **emotional lability** and **behavioural** consequences and hence a fundamental difficulty in social 'adaptation to stress' that *can never* be resolved by pushing even harder for 'positive stress' to 'balance' or 'sublimate' the 'negative stress', **as well as brain-mind development** (with consequences for both socialisation and cognitive functions of memory, short-term and for complicated detail, and complex task / specialised skill refinement – both required to 'survive' in society through 'earning a living'). These lifelong consequences are habitually attributed to a 'too sensitive brain' or attributed to all sorts of de-valued human character and behaviour failures, without any understanding or even ever trying to understand (little research; doctors saying "*it's all in your head*" and meaning your "*imbalanced*" psyche or at best imbalanced hormones or neurotransmitters). The symptoms of their progressive development are, in the confessions of all western medical literature, "*not well understood*".

The same **logic inverts** the *observed* "lack of personal and political freedom" [and physical] of enslaved women and dying young children, into the *rationalisations* of "subhuman existence" and "lack of power" of "the poor of the world" . These, for the third world, used to be attributed to their subhuman evolutionary status, now it is their "lack of development". For individuals in the advanced industrialised countries, is often attributed to their "bad choices/decisions" or "weak" character/intelligence, or "lack of power", social, economic, political. None of these, even if raised, *ever* make up for the freedom and health lost in loosing access to a simple life in human-friendly environments and lands that are not turned into wastelands or plagued with the exclusive nature of 'economic value' of 'land ownership' and expenses toward 'land lords'.

<We are living and participating in a very strange system. Humanity has one foot stepping towards the stars, while the other is mired in a **sinking sea of poverty**. The **distance between humanity's two feet is growing**. We can help **reverse** the process by teaching several billion people in the Third World how to build and use solar box cookers.>

This paragraph denotes a puzzling about how this 'very strange system' works.

It demonstrates the use of a vocabulary that is found in the 'hidden core culture', a 'naxial' vocabulary ('sinking sea', 'distance between 2 feet' that 'separates' humans, 'reverse') that has an intrinsic geometry.

Unfortunately, the core strategy of 'reversing' is the source of our over-extended re-deployments, due to topologic properties of this geometry of directional 'process' or 'change'. This 'very strange system' works according to simple topologic properties that automatically bring properties that are named 'sub-', 'lost', 'forgotten', 'beiled', 'hidden' [etc.] or 'latent', 'potential', 'possibility' [etc.], properties of sinking, horizontal separation and vertical inter-action, and properties of inversion or reversal that do not actually 'undo' but reinforce. Understanding how this works brings the ability to detect baseline assumptions geometrically, numerically, or linguistically, and to 'see' the topologic properties of the basic options that are auto-limiting for deployment (preventing over-extension, re-deployment), and which are being systematically ignored, and even repressed and suppressed because of the way we interpret them in perspectives always ruled by deployment and 'raising' something. Here are some examples.

Why try yet again to turn the solar cooker into 'economic development'??? This will only reinforce the 'economic cycle' that produces 'poverty'. It is sufficient to reduce economic dependence and not produce a new poverty for those who do not manage to 'earn a living' in this economic colonisation of a free energy source but simply reduce their use of other resources.

Why plan yet again re-deploy the reduced labour as a 'saved time' to be 'used' and 'spent' on 'education, food production, better family health care'. Why not simply allow again a less strained life that plunders less a planet recovering the ability to feed us better without the need for human intervention, food 'production' and formal education required to develop high cultures and technologies. Why not allow again the spontaneous learning that occurs in simply doing things in daily life (as opposed to systematised curricula delivered in box-building classrooms) and finding out curiously about what we are interested in, including reading, writing, counting, when the brain has 'raised' its intellectual capacities.

Why not allow the time to live at ease and deploy only what is needed.

For example, one lost access is that to foraging for watery foods.

Incidentally, these are the kinds of food that help in weaning an infant without requiring any cooking or sterilisation and in stopping the hypothalamic osmostat strain, without requiring the stabilisation of preserving foods, if they are available in the immediate environment. A crucial remark is that they are also forgotten in eco-friendly attempts at restoring lands that thrive without human intervention and can produce food fit for humans. This 'forgetting' and these lost foods are so because of topologic properties of our system of deployment and over-extension (re-deployments) of survival tactics, a system that is the baseline of all cultures, technologies and civilised lifestyles and civilising practices. They could be grown in gardens, neighbourhoods, 'natural reserve' woodlands.

To get back to the beginning of the logic, using this basic action of enabling people to build their own solar cooker at little cost and use it at no running cost, to turn it into an opportunity for economic development is falling into the same logical trap. Just because high-development (technological or in trade for economic 'benefit') can reduce poverty and population pressures, does not mean that the "lack of economic development" is the source of poverty, disease, and inequities, etc. So, encouraging economic development derived from the basic action of enabling access to solar cookers, is participating in the same 'very strange system' of over-extension that will only re-create the problems in a different forms, as they have over the length of our civilised history.

Why impose on the recipients of the solar cooker a view according to our learned belief that 'developments' are the Great Solution? Why translate their need into the ways we perceive and express it?

Why not simply provide access to the solar cooker and allow people to *know what to do with it, according to their own way?*