

Windmills Of The Mind

Mervyn Claxton

I decided to wait until all the comments on my paper [Port of Spain Declaration: A Critical Analysis](#) were posted before making a global response. Four comments were received – those by Norman and Yash in this exchange and two others - by Wendy Lee and Margaret Gill – (Wendy's contribution is posted on the website, Margaret's is not) in two separate, parallel e-mail exchanges. Notwithstanding the several important points made by Norman and Yash (which I discuss below), it is my opinion that only Wendy's and Margaret's contribution grasped the essential issue involved – sustainable development.

Wendy posed the crucially important question "How can we get decision-makers to absorb and act on the information that is so readily available about sustainable development **IMPERATIVES**, including critical ecological requirements, instead of pursuing the same old false, unjust and unsustainable models?" Margaret identified another key aspect (one that I explored in the paper) – how do we inform and educate the Caricom public on that essential issue. Although she did not go into details, it is obvious that, like myself, Margaret, felt that an informed public – informed not only about the damaging effect of current government policies but also about the existence of feasible alternatives - would be empowered to do something about it. Both followed their comments with specific proposals of actions that should be taken.

What I liked about both comments is that, ignoring the side issues, they honed in on the essential one and, having done so, they proposed specific actions to deal with the problem. I feel that too many (the vast majority) contributions to discussions on public issues of importance never get around to proposing feasible action to counteract the situation criticized or feasible alternative proposals to the government policies denounced. As a result, the discussions are sterile, they produce nothing and nothing is changed. Our governments can therefore ignore our criticisms and calmly proceed on the same course. They have taken our measure. Who can blame them? That is why I undertook the exercise of exploring and proposing alternative sustainable development policies in my paper. Unfortunately, that probably made the paper too long for most people to want to read it. But important complex issues cannot be properly analyzed in a couple of pages. Modern life, with its sound bites and its television dramas which deal with/solve complex human issues/problems within the hour (including the 15 minutes or so of commercials) have had a serious effect on our attention span.

I appreciate several of the points in Norman's and Yash's comments: the Northern view that comes through in the Declaration, the importance of knowledge construction, the role of power in establishing mental constructs (the last two of those points I shall elaborate on later, with particular reference to our own situation in Caricom); the distinction between "diplomatic reality" and "existential reality"; the point that we must be engaged in the drafting of diplomatic texts, even if they do not have the force of law; and, most importantly, the capacity of an individual, a single country, or a small NGO like the South Centre to change the course of history. Neither used that phrase, but what I brought out in my paper re two initiatives by the Centre; Malta's initiative on the Law of the Sea, and that of a lone jurist who, singlehandedly, was responsible for getting the UN to adopt the 1948 Convention on Genocide, are all actions which, to a greater or a lesser extent, changed the course of history. I underlined, in my paper, that human capacity to change the course of things because I have detected a very disturbing undercurrent of helplessness and powerlessness in attitudes, thinking, discussions and even proposals (which tend to be too unambitious) in countries of the South, including Caricom countries.

That Northern view has always pervaded thinking in the South, even at the highest levels. I attended the Third Non-Aligned Summit Conference, in Zambia (September 1970) as a member of the T&T delegation and was astonished at the response to Julius Nyerere's suggestion that the Non-Aligned Movement should establish a full-fledged secretariat of its own, which would deal exclusively with non-aligned issues and the concerns of countries belonging to the movement. The general reaction to Nyerere's suggestion was that such a secretariat would be duplicating the work of UN agencies and that there were a sufficient number of international organizations in existence already. That latter argument was one which the major powers had loudly been proclaiming since the middle sixties, when the large number of newly-independent countries joining the UN system robbed the North (and its allies) of its automatic majority.

To hear supposedly politically savvy leaders naively reiterate that hoary Northern argument, apparently believing that the Northern-dominated UN system had Third World (the term used at that time) interests at heart, was a very sobering reminder to me of the power of (collective) self-delusion. Because of the alphabetical seating order, our delegation found itself seated between Tanzania on one side and Singapore on the other. Both Nyerere and Lee Kuan Yew were seated no more than a few feet away from me. I cannot remember which leaders spoke against Nyerere's proposal but I distinctly remember that none of them – not a single one - spoke out in support of it. I looked at Nyerere to see if I could catch a glimpse of his reaction at hearing the politically naïve argument that won the day. His face was impassive. He was, no doubt, just as astounded as I but was too much of a statesman to show it. The North leads our elites and leaders, in the South, by our collective nose and we seem blissfully unaware of it.

I link that episode (and the insight I got from it) to Yash's comment on the reluctance or refusal of governments in the South to provide the South Centre with sufficient funds to render the Centre independent of donor funds so that it could continue, and expand, the excellent work it does. In my paper, I discussed the great merit of the two-volume guide on patents which was commissioned and published by the Centre last year. Perhaps, like the leaders at the Non-Aligned Conference, our governments in the South probably think that the work of the Centre duplicates that of all the magnificently altruistic Northern NGOs which are doing so much to help us out of the goodness of their heart, which renders the South Centre redundant, not to mention such well-meaning international institutions like the World Bank and the array of UN system organizations. Perhaps my hands-on knowledge of those organizations (I have participated, as a delegate in the annual/biennial policy-making conferences of all but a couple of them) and the experience I have gained from my interactions with countries from the South has made me much too cynical, but I really do not think that the "solution" for the Centre's financial problems implied by Yash: "We need more media and parliamentary coverage of the work of the Centre" will be effective.

The problem is not lack of publicity but the mindset of our elites and political leaders, which all the publicity in the world about the good work the Centre is doing will not change. Vandana Shiva has coined a gaphic term for that type of mindset: "Monocultures of the Mind", the title of her book on the subject (published 1993). Shiva's book was about how environmentally destructive monoculture (an agricultural system designed for a temperate climate) is when it is applied in tropical countries. It is one of the many unsustainable practices I examined in my paper; In her introduction to the book, Shiva states; "Monocultures first inhabit the mind before they are transferred to the ground....They are improverished systems, both qualitatively and quantatively.....The expansion of monocultures has more to do with politics and power than with enriching and enhancing systems of biological production." I say amen to that.

Even when concerned voices in the North speak out against the cynical politics of power which the North plays at our expense, the mindset of our leaders and elites prevent them from taking such warnings seriously. The British Parliament's Select Committee on International Development condemned the EPA negotiations as unfair and detrimental to the Caribbean and ACP countries. That and other similarly condemnatory statements featured in the Committee's report which was posted on the UK Parliament's website, where I accessed it. Notwithstanding, important personalities in the Caribbean continued to proclaim the benefits for Caricom of the EPA. The real obstacle is that mindset. **The windmills we should be tilting against are the windmills of the mind.**

The reason the Declaration was not signed by all the leaders present was all about Cuba's

exclusion. It had nothing at all to do with its policy content, which was accepted by all countries with only one country, Bolivia, who protested only ONE policy recommendation that on biofuels. If any other country felt that any of the policy recommendations in the Declaration was harmful it, too, would have made reservations. Thus, it is reasonable to assume that our regional leaders consider that the policies proposed in the Declaration are beneficial, effective, relevant and useful. I find that most alarming.

Norman's principal point is that the Declaration itself does not really matter since it is not legally binding. I did not take that factor into consideration because, by definition, Declarations never have any legal force. Even international treaties with legal force do not constrain signatory countries to observe them if they decide that any provision in them is inconvenient. The U.S. signed the United Nations Convention against Torture (1987) in 1988 and ratified it in 1994 but that did not prevent the country from not only torturing prisoners at Guantanamo but also justifying it. Israel signed and ratified the Fourth Geneva Convention on Rules of War (1949) in December 1949. Article 49(6) of the Convention forbids the implantation of civilian settlers: "The Occupying Power shall not deport or transfer parts of its own civilian population into the territory it occupies." But that not only did not prevent Israel from doing exactly that but also in justifying it. So that is why I do not accord much importance to whether an international agreement is legally binding or not, and as Norman points out, I do have considerable international experience in that respect. Such "legally-binding" agreements do have a certain moral force which, I admit, tends to make countries hesitate before violating them. But when push comes to shove they do so without any compunction. The sanctions for not observing such agreements are never sufficiently deterrent to make sovereign states observe them. There are only two exceptions. Treaties on nuclear weapons between great powers and economic treaties between blocs of near-equal economic strength. Why? Because retaliatory action is a very powerful deterrent.

Declarations like the POS one are declarations of intent - policy documents which, at the national level could be assimilated to political party electoral policy platforms. The latter don't any legal force. Some of the policies proposed will be voted into law by the party who wins power, and others will be quietly dropped. What is important is that the political party is presenting, in its electoral platform, a combination of policies which its leaders consider desirable for the country, and policies they think will seduce the public and make it vote for them. Applying that reasoning to the Declaration, one must conclude that the leaders, whose officials have agreed on the policies contained, consider them desirable for their respective countries and will probably implement, in due course, several or most of those policies at the national level. That is what I find alarming.

Norman's argument about the non-legally binding character of the POS Declaration not meriting any action on our part, would logically imply that we should wait until one or more of the policies contained in it are adopted by the parliament of a Caricom country (as they surely will) before it is necessary to act, or rather react. If we wait until that happens the government(s) would be entitled to question our motives. We kept quiet when the Declaration was proclaimed, we did not seize the opportunity offered the academic community and civil society to make a critical contribution at the regional 2010 meeting (because the decisions taken there would not be legally binding) and when the government(s) introduce measures into the law of the land, we suddenly decide to oppose them.

The government(s) could then argue (unanswerably) that the fact that the policies "adopted" in the declaration had attracted no criticism at all when it was published meant that, at the time, the policies must surely have been considered satisfactory by those now criticizing them. Consequently, the government(s) could claim that the belated criticism is opportunistic, cynical, or politically partisan – calculated to boost the opposition's electoral chances by trying to put the government in a bad light. The uninformed public – uninformed because, since the Declaration lacked legal force we did not think it necessary to launch a public debate on the unacceptable policies it promulgated (which Margaret suggested/implied in her proposal should be done) to inform the public of the issues involved - would probably be persuaded by the government(s) argument. People would not understand why we kept silent all that time if we were really convinced that the policies put forward were so bad. If that were to occur, we would lose credibility and our capacity to influence public policy, or to mobilize public opinion, in the future might well be compromised.

What I have said above responds, partially, to two points Yash made. Whether our leaders were "posturing" or not is not important in my opinion. Politicians and political leaders posture to show off their competence, their knowledge of the issues and problems of the day, and their ability to solve them. They don't posture to display their ignorance of the issues and the nature of the problems their countries face, nor how mistaken or misguided are the solutions they envisage or how irrelevant, ineffective, and detrimental to their people and country are the policies and actions they propose to adopt. They dress up themselves/their policies in their Sunday best, so to speak. Politicians do not posture by making themselves look bad. They posture by making themselves look good. What that implies is that our leaders and the senior officials who drafted the Declaration were genuinely convinced that the Declaration made them look good; that they were on the ball, that they had their citizens interests at heart; that they were displaying their perfect grasp of the situation; and that they had effective solutions for the problems. That is why I find the Declaration so very alarming, despite its non-legally binding character.

The second point is that we must take the Declaration seriously and challenge it because the big powers make selective use of such declarations to support their own positions. There is an even more important reason than that for publicly challenging such declarations, in my opinion, Left unchallenged, such fundamentally flawed, often detrimental, declarations assume a certain legitimacy in the public mind. If a government which has subscribed to such a declaration is criticized domestically for proposing/implementing a national policy or policies that are considered ineffective, irrelevant, or inimical to the country, and if the policy or policies happen to be among those that had been "approved" in the declaration, the latter could be cited by the government as "proof" that the policy/policies must be beneficial to the country because the entire region had "approved", or recommended, them as a desirable solution for the problem(s) addressed.

I, myself, consider the Declaration a godsend. Regional leaders condemned themselves with their own words by subscribing to it. But for the Declaration, Caribbean/Latin American citizens and groups, concerned at existing unsustainable development actions, would have been forced to deduce/guess the policy imperatives that inform and underpin such development actions, drawing inferences from a range of disparate actions which are almost never placed in a coherent policy framework. But the regional leaders have facilitated our task immensely by doing that for us themselves, thus providing us with valuable ammunition to use against them. With a few exceptions, the Declaration reads like a statement of policies which should NOT be adopted because they would promote unsustainable rather than sustainable development.

As I argued above, it would be dangerous to simply ignore the Declaration. It is necessary to oppose it, not by mere denunciation but by cogent, reasoned argument which puts Caricom governments on the defensive by publicly challenging them to justify the policies in it. We should publicize the astounding anomalies in the Declaration, many of which I detailed in my paper e.g. concentrating on carbon emissions and ignoring the more important and more dangerous (for us) nitrous oxide emissions and, also proposing mechanisms for carbon trading which we do not need since, as underindustrialized countries, we could not possibly exceed any carbon emission allowances we might have under the Kyoto Protocol.

We should mount a public debate which exposes the harmfulness, ineffectiveness, and irrelevance etc of the policies in the Declaration. If we neglect to do so we will be playing into the government(s) hands or, worse, letting our people down. That is why I urged a public debate, one from which would hopefully emerge a cogent, persuasive alternative programme(s)/proposal(s) which the Caribbean academic community and civil society could submit for consideration at the 2010 meeting. My reaction to the rejoicing of many at

the people's (temporary?) victory on the La Brea aluminium smelter plant was that we need to act as well as react. We need to propose viable alternatives for those people (workers in the area) whose hopes of getting employment at the smelter were dashed etc. As I said in the introduction to my paper, I believe that criticisms on public policy issues should be complemented with feasible alternative proposals. That is the way we must go if we want to mobilize public support.

With all due respect to the views Norman and Yash expressed in their comments, I consider Aid and EPA's to be side issues. They are not the problem, they are merely its symptoms. Countries accept, and even seek, AID & EPA's not because they want to, but because they feel, rightly or wrongly, that they have to. The only way our countries in the South will be weaned away from AID and its offshoot, EPAs is with development that is successful enough to enable them to provide for their people's needs and if that development is of a type that is sustainable in the long term. Why is it that, of all former colonies, Singapore is the only one that needs no Aid or EPA's whatsoever. Because Singapore has elaborated its own self-sustaining alternative development model which has astonished the world by its spectacular success. Singapore has absolutely no natural resources, except its people – no bauxite or petroleum, no agriculturally fertile land, no white sand beaches. When it gained its independence in the same year T&T got its own, a UN team of development experts who undertook a mission, at the Singapore's government's request, to advise it on development policy, reported that Singapore could not survive as a country on its own because it was not economically viable. The rest is history. I examined the reasons for Singapore's success (and drew lessons from it) in one of my culture and development articles posted on Norman's website. Why can we in Caricom not do the same? Because of the mindset of our leaders and elites who can't or won't rid themselves of the monocultures of their mind.

But we, concerned citizens, intellectuals, academics, civil society organizations etc must also share some of the blame. We don't see the forest for the trees. In the North, unlike the South where we react to, rather than pre-empt problems, there are people in Think Tanks doing long-term strategic planning for decades or generations ahead, while we in Caricom wait until legislation on important issues, such as global warming and sustainable development policies, is adopted before re-acting. Those long-term strategy folks in the US must be feeling very smug at seeing our intellectuals bogged down on side-issues like Aid and EPAs which pose no threat to them, while sidelining the much more important issue of developing an appropriate, sustainable development model of our own – one that would permit us to escape the poisonous AID embrace. The North, particularly the US, is happy to see our attention steered away from the real problem – sustainable development – because the US does not want to see other Cubas emerge. Cuba is a threat to US hegemony because it is a living example that another type of development, one that fosters the self-confidence which would allow to us to stop cultivating monocultures of the

mind, is available/possible. On that very point, all should read (preferably before continuing) Philip Fornaci' article "Cuba and Change We Can Believe In"

<http://www.globalresearch.ca/index.php?context=va&aid=13886>, for which I thank John Maxwell who drew my attention to it. Fornaci, who was an anti-Cuba American (because he had believed American anti-Cuban propaganda) before his visit to the country was not only converted to the Cuban cause by his visit but he also realized why the US fears the country so much. His article spells that out.

We in Caricom need a "Revolution of consciousness", the phrase that Laurie Guevara-Stone used to describe the awakening that preceded Cuba's achievement in his article (posted on Norman's website), "[Sustainable Development in Cuba: A Note](#)", 18 March 2009. Some specialists consider Cuba's agroecological revolution represents the largest conversion from conventional agriculture to organic or semi-organic agriculture ever accomplished.

What about Norman's thesis on knowledge and power? We should be making every effort to produce and disseminate the type of knowledge (I gave examples in my paper) that will help empower the people who have no power. By doing so we would upset the applecart (it should be mango cart, but we are not there yet) of establishment and Northern power structures which thrive on keeping people in ignorance. But what do we do? We allow those Northern and establishment forces to determine the parameters of the discourse on sustainable development; control its content; decide on its objectives (more of the same); elaborate the policies; fine-tune the (unsustainable) programme(s), and set the implementation agenda (e.g. the regional review meeting in 2010) for carrying them out.

What do we do when all that is taking place before our collective nose – in public, not in secret? We sit back and tell ourselves that none of it is important because the officially announced policies are not (yet) legally binding! At the same time, we wildly flail our arms on peripheral issues like Aid and the EPA. Those folks in politically powerful American think tanks planning how to continue American hegemony in the region throughout the 21st century; must surely be laughing up their sleeves at us. And they have every reason to do so.

In his paper, "[Power Imbalances and Development Knowledge](#)" (September, 2007), Norman states perceptively: "Power imbalances in knowledge are expressed in Northern dominance in knowledge construction, reproduction and dissemination. We are using 'knowledge' here to mean the constructs, assumptions, and beliefs by which people understand and interpret the world around them. In systems of domination, knowledge

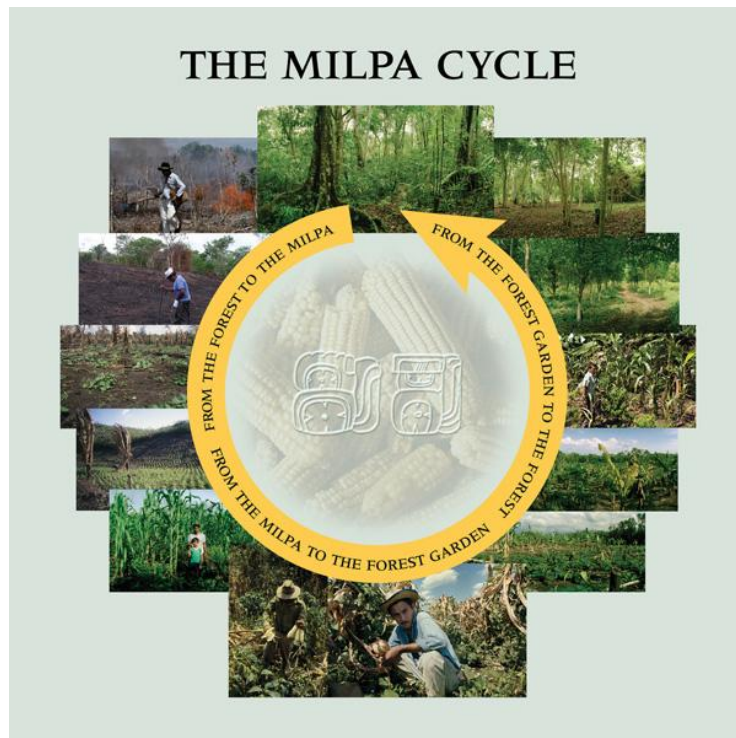
serves the function of justifying hierarchical relations. It is codified as ideology, as economic or social theory..." I wholeheartedly agree with Norman's statement and that is precisely why I am amazed that, with that perception, we are still willing to permit that "Northern dominance in knowledge construction" to continue unopposed. That Northern dominance is patent throughout the entire Declaration.

The draft declaration was completed as far back as July 2008. Unless all that took place in absolute secrecy (which is possible but highly unlikely) we should have entered, or begun, the debate on issues of sustainable development upstream. In doing so we would have been able to bring to the knowledge of the politicians, and the senior officials engaged in preparing the draft, key issues and information of which they might not been aware. With our superior academic or professional knowledge of the issues (judging from the Declaration's content the officials who drafted it seemed totally unaware of recent research findings on the issues involved), we would have been able to influence the content and direction of the discussions on the policies chosen and on the objectives to be attained. Alas, we did not do so. It is never too late, however, and since the unsustainable policies advocated in the Declaration have not yet passed into national law it is quite possible that we can still derail them by widely publicizing the policies in the Declaration and explaining to the Caricom public their dangerous consequences for our countries and peoples – through call-in radio programmes as Margaret helpfully suggested, and by making public the existence of alternative policies which have proven their environmental efficiency, as Wendy suggested.

I will end this rather long response by dealing with the issue of local knowledge. Here again, we have words of wisdom from Norman. Here is what he says about the subject in his paper I cited above. In it Norman emphasized the need to turn knowledge hierarchies "on their head" so that local actors, including actors at the community level, become the principal sources of knowledge for development purposes as well as the prime movers of development. "...we propose that local knowledge (should be) the critical resource in development policy making, and that local actors should be the primary agents of diagnosis and prescription." I agree completely with that statement also. Indeed, Norman and I share the same analysis on so many important public issues.

The recently resuscitated ancient milpa system of agricultural exploitation, which spectacularly reversed the process of environmental degradation in the Mexican state of Oaxaca, is local knowledge of which a Northern expert has stated that it *"is one of the most successful human inventions ever created."* That local knowledge system (and several others I mentioned in my paper, such as the "waru-waru" and "chinampa" systems) are stunning examples of the accuracy of Norman's analysis. I would have expected that they would have been mentioned, trumpeted, and widely publicised as examples of best

practices which we should be applying in our countries. The opposite is the case. It has not caused a single ripple. Yet, many of us continue to express great concern about Haiti's plight. None seems to have realized that those ingenious, extraordinarily effective local knowledge environment- protective and restorative systems might help solve some of Haiti's problems.



Source: <http://www.mayaforestgardeners.org/images/MilpaCycle-600.jpg>

Here is the suggestion I made in my paper on how we could help Haiti:

"An essential pre-condition for increasing agricultural production is to restore soil fertility by rehabilitating degraded lands (43% of the total land area) and by improving the physical environment. Caricom civil society groups could assist Haitians, in that respect, by identifying and selecting appropriate agroecological techniques and best practices in the LAC region, which have proven their effectiveness in areas relevant to Haitian needs, and acting as a conduit for the transfer of that knowledge to Haitian peasant organizations and the civil society groups supporting them. Several of those techniques and practices are described in this paper but there are many others."

The discussion/debate in Caricom civil society on how best to help Haiti is centered on signing petitions addressed to Northern authorities (re reparations), sending food and other assistance to the Haitian people, collecting funds for them, and even sending

missions (like the recent trade union one) to see and report on the situation. Apart from the last one cited, the usefulness of which escapes me, such endeavours are a healthy sign of our concern for the Haitian people but they are only short term measures. I, myself, would much prefer to concentrate not merely on helping the Haitian people cope with the present situation (though that is necessary) but rather on helping them to help themselves – to empower them, which is not only the only way to wean them off such aid but also the only way to foster sustainable development.

In view of the high degree of environmental degradation in Haiti, it would seem to me that one of the most effective ways to help Haitians help themselves is to finance a representative group of Haitians to enable them to visit Oxaca state to acquaint themselves with the milpa system and how it has successfully restored fertility to the most degraded land area in Mexico, re-started highly productive food production with methods that are protective of the environment and which need no expensive, environmentally destructive inputs such as chemical pesticides and fertilizer, and which provide a livelihood for the region's farmers. If any, most, or all of the features of that system are transferable, which the similarity of physical conditions would suggest is likely, the Haitian farmers could not only apply that system on their return to Haiti but also demonstrate to other Haitian farmers how to do so. Some the other highly effective land regeneration and food productive systems, which I described in the paper, could also be copied/transferred to Haiti, if possible. That is the way to promote "grassroots" development, which almost everyone agrees is the most effective form of development and self-empowerment. I, for one, will be willing to make a financial contribution to such an endeavour if it is seriously undertaken.

The LAC region is replete with local knowledge that has outstanding development potential. If we (the privileged few who happen to learn of the existence of such knowledge) fail to share it with others in the region who can profit from it to improve their situation, by widely publicising it, no one in the North will do so. They will take our local knowledge, exploit its possibilities to the limit, patent it (like the neem biopesticide), and then turn around and charge us for its use. This is what they did with the local knowledge of the contraceptive properties of a particular variety of yam which indigenous Mexican women used to control births. As I mentioned in the paper, an American researcher stumbled upon it by chance and synthesized the active element in the yam to produce the birth control pill. What is most astonishing, is that the region's elites refuse to recognize or accept the great development potential of such important local knowledge. Witness the Mexican President's silence in POS on the milpa system, the reintroduction of which in Oxaca state won the person responsible for it an international environment prize last year. I described in my paper how, a few years ago, during a lunch in Rio to which Brazil's minister of culture had invited me and a senior world bank director (there were only three of us) I had tried, apparently in vain, to persuade him of the great development potential of

the local knowledge possessed by his country's Amazonian peoples.

On the same subject, I also mentioned in my paper, the amazing anti-cancer properties of the sour sop plant (graviola), which was recently "discovered" by American medical researchers. They "discovered" that extracts from the soursop plant effectively target and kill malignant cells in twelve types of cancer, including colon, breast, prostate, lung, and pancreatic cancer; and that compounds from

the plant are up to 10,000 times more effective than the chemotherapeutic drug, Adriamycin, in slowing the growth of cancer cells. I am virtually certain that that "discovery" was based on the use to which indigenous peoples in the

Amazonian region put the sour sop. More details on the miracle of our own common garden sour sop plant can be found at: <http://www.rain-tree.com/graviola.htm>; and <http://kureru.wordpress.com/2009/02/25/secret-of-the-miraculous-graviola-tree/>



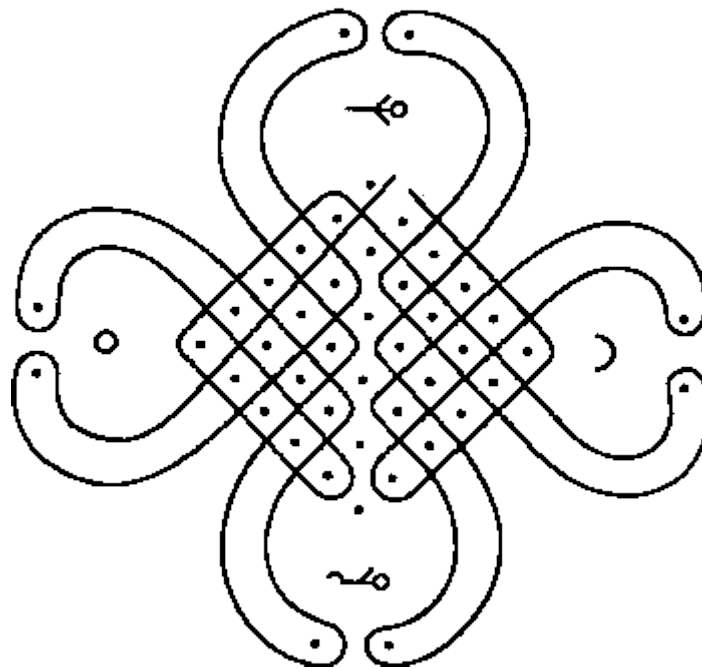
Sour Sop (Graviola)

<http://www.rain-tree.com/graviola.htm>

Two experiences in Mozambique a decade ago convinced me of the development and self-empowering potential of local knowledge. An archaeologist attached to Mozambique's national museum in Maputo, recounted to me how he had excavated 2,000 years old pottery artefacts in the North of the country with the assistance of local villagers who earned a living by making pottery for sale. The villagers recognized that the artefacts they helped excavate, which had been made by their distant ancestors, were much superior in technique and finish than that those they made themselves. Analytically comparing their own products with those excavated, the local craftsmen were able to estimate the temperature, the type of material, and the techniques their ancestors utilized, on the basis of which they conducted experiments on their own which resulted in a considerable improvement in the quality of their own pottery products. Moreover, the discovery of the rich decorative motifs on the ancient pottery led the local craftsmen to begin decorating their own products which were previously undecorated. The archaeologist also told me that the discovery of ancient iron artefacts in another part of the country stimulated similar experiments in iron technology by local villagers.

The second enlightening experience was my meeting, and getting to know of the work of, a professor at the local university (a Mozambiquan of Portuguese ancestry) whose research revealed that many African artefacts embody important mathematical concepts.

The professor developed a research methodology to identify those concepts and he demonstrated how they could be used to teach mathematics to African students. The professor (Paulus Gerdes) has published the results of his research in a number of books, several of which I now own. I had several long discussions with Gerdes, whose research is based on the premise that the means by which we comprehend, interpret, and explain reality are all shaped by our culture, and that that is how mathematical knowledge is produced to explain number, logic, and spatial configurations. The effect of that cultural process is that mathematical knowledge is encoded in the various aspects of our material culture. Gerdes' research has revealed that many African objects used in daily life embody mathematical concepts and a mathematical knowledge of forms, shapes, and symmetries. They reveal knowledge of the properties and relations of circles, angles, rectangles, squares, regular pentagons and hexagons, cones, pyramids and cylinders. Furthermore, the research showed that the form such objects take is seldom arbitrary and that it often represents the optimal solution of a particular production problem.



'The Beginning of the World' - Sona Sand Drawing

Source: <http://www.tacomacc.edu/home/jkellerm/Ethnomath/Sona.htm>

Gerdes discovered that many African decorative designs display a rotational symmetry of 90° and he demonstrates how those designs can be used to teach the theorem of Pythagoras and lead students to discover proofs for it. Demonstrating the strong geometric component in *sona* sand drawings of the Chokwe people (Angola, Zambia, and Congo), he describes how they could be utilized to teach various mathematical concepts at all levels of the education system – from primary to university. Gerdes also analysed several

of the ingenious algorithms invented by the Chokwe for their sand drawings, some of which, he claims, defy the imagination of modern mathematicians.

He demonstrated how hexagonal basket-weaving patterns can be utilized to illustrate finite designs and he established connections between the geometry of those designs and molecular chemistry; how circular mats from Mozambique can be used to calculate the volume and surface area of a cylinder; how pyramidal baskets from Tanzania and Senegal can be used to calculate the area of circles; and how traditional sand drawings from Angola and the Congo can be used to teach algorithms and arithmetical progressions. Fully aware of how knowledge is used (or restricted) to control power, I am not surprised that such innovative research, with its tremendous development potential, is completely ignored by all existing international aid programmes to promote development in Africa. I have personally intervened with Unesco, the World Bank, and UNDP to persuade them to make use of that knowledge in their development programmes – all in vain. They are simply not interested. Or perhaps they are afraid of how it could empower Africans, who might use it to do away with their "Aid".

I had been sent by Unesco to Mozambique, at the government's request, to advise it on a plan to promote national development by drawing upon the country's cultural resources. In my report, I informed the government that professor's Gerdes' work was the most impressive I had come across in my entire work on the subject and that, if it is suitably exploited by Mozambique or other African countries, it could help lay the foundations for a technological society which could propel the country to the first rank. To the best of my knowledge, my recommendations have not been implemented. At the time of my consultant mission, some 50% of Mozambique's national budget was provided by Aid from the North, which made it beholden to the World Bank and co. Those in the North who manipulate us in the South, like dolls in a puppet show, would be strongly opposed to any effort by Mozambique in that direction.

I shall end this long comment on the comments made on my paper with the three last paragraphs of an article I have just completed and which was posted last Friday on Norman's website. The three-paragraph conclusion is very relevant to several of the issues discussed in my comment on [Women Culture and Society \(II\): From The Renaissance to the French Revolution](#).

Most of the article from which the three paragraphs are taken describes and examines how a group of socially and politically powerless aristocratic women in 17th and 18th-century France escaped their subordinate, helpless condition and, through the skilful use of their intellectual knowledge they changed the course of French intellectual history;

through their skilful use of soft power, they became the dominant force in the hitherto male-dominated French society, which they transformed almost beyond recognition. Notwithstanding their lack of the vote, they also wielded immense political power behind the scenes. The immense behind-the-scenes power which one of those very gifted, determined women, Madame de Staël, wielded was openly recognized by Napoleon in a statement he made during his exile in St. Helena following his defeat at Waterloo: "*There are only three powers left in Europe – Russia, England, and Madame de Staël.*"

The following is the excerpt from the article:

"The achievement of the 17th- and 18th-century French salonnieres is one of the most outstanding in the entire history of mankind. At the beginning of the 17th century, upper-class women in Europe lived a cloistered life, remaining mere appendages of their husbands, imprisoned in their domestic roles, excluded from playing even the smallest role in social or public affairs, and forced to bear mute witness to their menfolk setting the (boisterous, masculine) tone, laying down the gender-differentiated moral rules, and determining the canons, for society. Making full use of their immense talent, their great determination, and their creative imagination, a group of aristocratic French women transformed the perceived inabilities of their sex into a powerful force which, eventually, broke down the barriers which the society had erected around them, and seized the freedom that had been denied to them for so long. Where no opportunities had existed before, those talented women succeeded in creating new, hitherto unimagined, opportunities which they used to create a new social institution - the salon - where intellectuals, artists, and politicians gathered to exchange ideas, and where new philosophical concepts were hatched and nurtured. They used those created opportunities to set the social and the political agenda of the period, determine the parameters of the debate on public issues, help develop a new language with which to clothe the ideas generated by that debate, mould and structure the content of the debate, and create a new form of discourse for discussing public issues. The conclusion by some that the salon changed the course of intellectual history appears to be well founded.

When they began their epoch-making endeavour, the famous playwright, Molière, ridiculed them in his play, Les Précieuses ridicules ("Affected Young Ladies"), or "Silly Young Things" as a modern-day male chauvinist might call them. When the power, which they had so skillfully seized for themselves by their own efforts was at its apogee, the great Napoleon considered one of those "silly young things", Madame de Staël, so powerful a figure that he equated her power with that of the two greatest European powers of the time – Russia and England. The outstanding achievements of the French salonnieres provide an inspiring example, not only for 21st-century women who complain of gender inequality, although they possess incomparably greater possibilities for transforming their own situation than the salonnieres did, but also one for the disempowered and the powerless peoples of the South. Indeed, it is an example, par excellence, for the intellectuals, the

elites, and the political leaders of the entire South.

The achievement of the salonnières demonstrated beyond any doubt that powerlessness and disempowerment are mental conditions which manifest themselves in socio-economic form. We are not doomed to forever hold out our begging bowls to the North for their Aid; we are not doomed to continually pay intellectual fealty to all the concepts that emerge from the North; we are not doomed to accept the parameters of the development debate the North has set; we are not doomed to remain helpless, with our arms crossed and our heads bowed, bemoaning our fate. To do any or all of those things is an act of choice. When we, in the South, wake up and recognize that essential fact, then and only then will we be able to discard the "ready-made" development model we borrowed from the North, and design, for our individual countries/regions, an appropriate, "made-to-measure" model of development which will be sustainable both in ecological and in economically productive terms."

June 21, 2009