

oikos Ph.D. summer academy 2005
“Sustainability Management and Innovation”

**Sustainability Innovations and Local Currency Systems: Bridging
the Green and Brown Agendas**

This is a work in progress. Please do not cite without permission of the author.

Jun Daito, PhD Research Student
The Development Planning Unit (DPU)
University College London (UCL)
9 Endsleigh Gardens, London, WC1H 0ED, United Kingdom
ucfta15@ucl.ac.uk

Abstract

Lessons learnt from Argentinean experience, Local Currency Movement is gaining currency in different countries not as a tool of pure survival strategy but as an innovative tool of wider survival strategy in terms of challenging sustainable development and enhancing quality of life within the context of the South. But it does not appear, from the viewpoint of Systems Theory, to be strong enough to function as negative feedback to regulate capitalism and consumerism deeply ingrained within the Western development paradigms. This paper critically assesses the scope and potential of local currencies from an environmental perspective. Local Currency Systems allow more effective and efficient use of local resources for production and in turn, reduce the outflow of money and resources, and encourage local trade and self-reliance. In this sense, they contribute to sustainability by reducing ecological footprint and transforming production patterns, markets and societies more environmentally sound. This paper also highlights the link among LCSs, ecological citizenship, and ecological sustainability. Recognising the need for a broader view of approaches towards typology of local currencies, I shall do the discourse analysis as conceptual framework by asking a series of research questions. The four discourses are classified – Survival Strategy, Problem Solving, Economic and Ecological Democracy, and Permaculture Community – and Economic and Ecological Democracy is mainly focused by arguing (i) what role local currencies could serve in bridging the Green and Brown agendas; and (ii) what alternative political-economic order they are seeking to construct. The paper will end with presentation of research methodology and plan of future fieldwork conducted in Brazil and Papua New Guinea.

1. GENERAL PROBLEM

Known as community currency systems, monnaies parallèles, moneda sociale, 〇〇〇〇 (Chiiki-Tsuuka), the general study attempts to examine the current Local Currency Movement (LCM) based on Michael Ende's thought: "Money at the root of all modern ills? The present currency system [is] responsible for poverty, inequality, war, environmental degradation and, most importantly, spiritual decay."¹ This can be an alternative way of looking at world development to the mainstream economics dealing with the issue as a matter of mode of production where money is one factor.

Instead of currencies produced by commercial institutions or governments, Local Currency Systems (LCSs) are a community-based network (by 'community' we mean both communities of place and communities of interest) where an original currency, an account book, or a cheque is locally produced as a means of exchange for goods and/or services among members at the levels of individuals, groups, local communities, and SMEs (small and medium enterprises). (Allen et al. 2002:130; DeMeulenaere 2003) LCSs are nothing really new in history, but previous local currencies have existed temporarily for reasons of recovery of the official market economy or the ban by national authority whose primacy was threatened by LCSs.

In recent years, thousands of local currencies in various forms have nevertheless *gained currency* all over the world. These experiences have also indicated that LCSs are not only applicable in the North, but also it could be equally effective for the South as a form of grass-roots socio-political response to globalisation. The research problem consists of two-fold. First needs to unravel LCSs at the micro level. While local currencies are considered to originate in a specific historical context as a survival strategy, they may shift their emphasis into an important way, bridging from emergency relief to long-term development (Daito 2005) as well as bridging the Green and Brown agendas (Allen et al. 2002), to potentially outline the overall logic of the development policy, which facilitates alternative development agendas to hold together into a coherent model (Biel 2004). Considering that those micro-experiments are still small and embryonic, however, their future remains the frontiers. The other side deals with the macro-view of LCM. While the recent mushroom emergence of alternative monetary regimes over the world can be said as spontaneous creation of order, from the viewpoint of Systems Theory, it does not appear to be strong enough to function as negative feedback loops to regulate capitalism and consumerism deeply ingrained within the Western development paradigms.

2. SURVIVAL STRATEGY?: THE ARGENTINEAN BARTER NETWORK

One of the most successful local currencies in the South is Red de Trueque (RT), Barter Network in Argentina. RT was created in 1995 by urban ecologists of PAR (Programa de Autosuficiencia Regional) to provide a lifeline for so-called "the new poor" (Minujín et al. 1995, in, Powell 2002a:6) under the circumstances of severe structural unemployment and financial instability. Ultra-rapid proliferation of RT has been reported by the mass media, for instance, "up to 20% of the population were involved in trading in barter clubs" (BBC4 2002, in, Pearson 2003:214).

* Many thanks to my supervisors Adriana Allen and Robert Biel from University College London and David Ip from the University of Queensland for helpful comments, and to Japan International Cooperation Agency (JICA) for funding my research.
¹ Michael Ende on the Money-go-Round, <http://www.grsj.org/colum/colum/ende.html>
Also Hornborg 2001:66

When PAR attempted to unify local currencies called “créditos” to create countrywide market network towards sustainable alternatives, there happened a theoretical and operational conflict (Powell 2002a; Hirota 2003) from the group RTS (Red de Trueque Solidario) valuing the primacy of intimate social relations within geographically local contexts. RT has struggled lack of transparency within centralised management in danger of losing its reliable reputation. Recent Argentinean economic recovery has discouraged many people to continue RT. Some people regard RT as Survival Strategy and go back to a job under the official market economy. Other people do not want to be exploited in a job and start different types of jobs in monetised economy such as cooperatives, fair trade, artisans, self-employed, or other micro-enterprises (Gomez 2005a). After the huge increase and fall, still, Georgina Gomez (ibid.) has confirmed a few hundreds barter networks, around twenty of which include more than 300 members per each. Present RT members are working at the centre of their local markets with a human face in fields of agriculture, fishery, artefacts, eco-tourism and other small businesses (ibid.).

This study casts radical doubt on the assumptions in RT. Naming survival strategy is not so appropriate any more, for (i) members are now, even after economic recovery, joining RT not because of situation in need but because of different reasons related with quality of life; (ii) RT does not necessarily target poor people; (iii) RT has existed for 10 years; and (iv) the complexity of the barter networks as a mature economic system surmounts a survival strategy² (Gomez 2005b, 2005c). In order to reconsider the meaning of money and explore the potentials of a long-term transnational LCM from the viewpoint of the two-fold general problem mentioned in the beginning, – and this is my main point here – it is essential to make sense of the link between local currencies and the environmental critiques. We need to look back the two original objectives of RT: “to create a socio-economic model which reflected ecological principles and to alleviate the social and economic difficulties which neighbours in Bernal, a municipality of Buenos Aires, were facing in their everyday lives” (Covas et al. 2001, in, Powell 2002a:7). LCM, generally speaking, has so far appealed to the Brown agenda, accepting economic development for alleviating poverty in commitments to global justice, whereas the Green agenda, protecting the environment for future generations, has seldom been discussed explicitly. The reasoning is dodgy, if LCM ignores the environmental consideration because “[s]ocial justice and ecological sustainability do not necessarily go together” (Fitzpatrick 1998:5).

3. POST-ARGENTINEAN LOCAL CURRENCIES _____

Lessons learnt from Argentinean experience and other cases in the South help new local currencies in different countries not as a tool of pure survival strategy but as a tool of wider survival strategy in terms of challenging sustainable development and enhancing quality of life within the context of the South. The study will present new research findings and reviews comparative experience of two types of local currencies: postmodern barter network in Brazil and traditional shell currency Tambu in Papua New Guinea (P.N.G.).

LCM has been developing fast in Brazil since 1998, with the benefit of learning from mistakes of Argentina. Powell estimates that “if Argentinean growth patterns were replicated, there could be as many as five million *prosumadores* in Brazil alone by 2007” (2002a:47). The Argentinean case is not simply transferable. Suffering from economic crisis and eroded

² Inefficiency of the simple barter in terms of finding suitable partners for any exchange has been facilitated by RT management and human networks, and, in extreme case, the e-barter system of the WIR Bank, Switzerland (Studer 2000).

political legitimacy, Brazil makes efforts to avoid the critical mass of new poor and the novel monetary regimes. The present experiments in Brazil attempts a holistic approach into poverty alleviation and sustainable development, more focusing on the real poor and/or “the excluded” (Carmen 2000) rather than new poor. “New projects emerged in Rio de Janeiro...and in Porto Alegre, Canoas, Viamao, Rio Grande and Alvorada, thanks to the Rio Grande do Sul government’s Solidarity-based People’s Economy programme. Other initiatives launched by various social promotion NGOs in places including Florianopolis, Curitiba, Ponta Grossa, Teresopolis, Fortaleza and Vitoria da Conquista spread the movement across many of the country’s regions”. (Primavera 2004)

The shell currency called Tambu has been used by Tolai people of the Duke of York Islands and Gazelle Peninsula in the Province of East New Britain, P.N.G. It has been pending process of approval as complementary currency by Local Level Government (LLG) since 1999. In addition to ritual ceremonies, all commodities and public purpose such as tuition of public school, tax, and license, accept payment by Tambu. Tambu and the national paper currency Kina are exchangeable. People of Tolai society strongly believe in Tambu because of cultural and spiritual identity. Equally, according to Fukada (2004:3), people are attracted by the following practical elements of Tambu: project towards officialisation of Tambu by LLG; the better exchange rate of Tambu for Kina because of slump of Kina; increasing scarcity value of Tambu due to the relation between the amount of Tambu and the population growth; and the revaluation of “special-purpose money” (Polanyi et al. 1957:266).

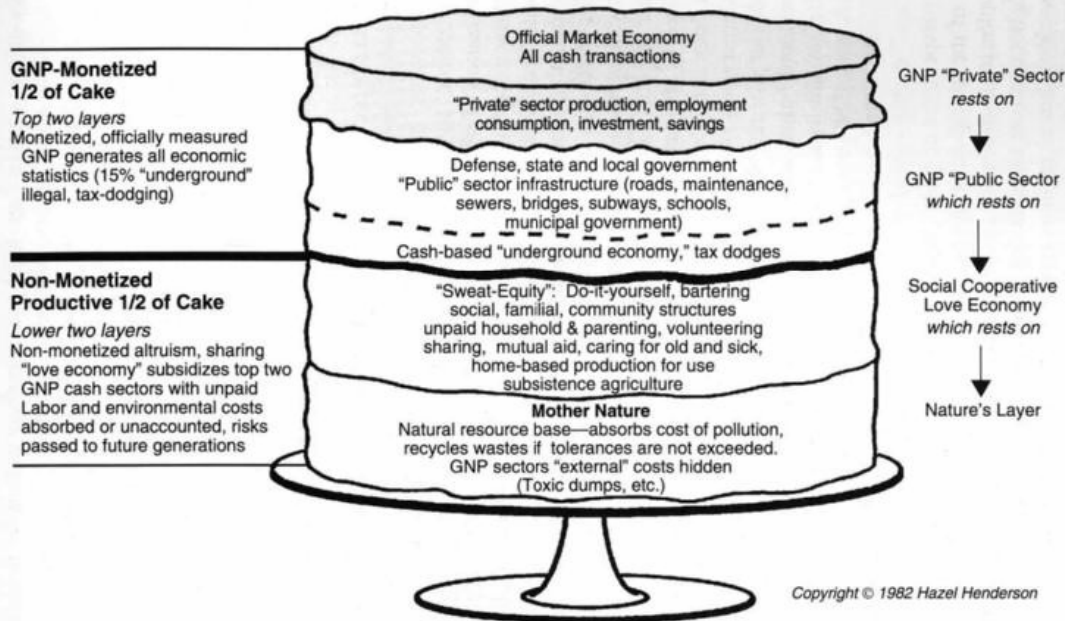
4. THE CAKE BRIEF: LOCAL CURRENCIES RECONSIDERED ———

Monetary issues do not present themselves to us in well-defined boxes. In classical economics, money is defined as “a good, any a good, any good whatsoever, irrespective of its physical nature or further properties, which is generally accepted by people in exchange for other goods” (Pen 1965:126). Contemporary definition of money by a LETS creator Michael Linton³ is “an information system we use to deploy human effort” (Greco 1994). Money has several functions such as a medium of exchange, a standard of value, a unit of account, a store of value, a standard of deferred payment, and a speculation tool. Local currencies have attracted a wide variety of perspectives to be included as their alternative development agendas (Powell 2002b), including associationalism (Giddens 1998; Shorthose 2000), beyond-employment (Offe et al. 1992), post-consumersim (Helleiner 2002; Seyfang 2004), feminism (van Staveren 1998; Elson 1999; Wichterich 2000; Seyfang et al. 2000), ecological economics (Soddy 1926; Daly et al. 2004), relocalisation (Meeker-Lowry 1996; Hines 2000; Starr 2000; Allen et al. 2002; Curtis 2003), and commons (Maruyama 1988, 1990, 1995).

My theoretical point of departure is that rather than examining whether in a narrow sense local currencies are environmentally sound or trying to understand environmental impacts of local currencies to advocate them, we do better to unpack them by means of broader theoretical viewpoints listed above within different contexts between the North and the South. The clue of the two-fold general problem lies in the following Cake baked by Hazel Henderson (1982) in Figure 1. This ecological-economics flavoured Cake is in favour of local currencies.

³ LETS is the abbreviation of Local Exchange Trading System(s), established in British Columbia, Canada in 1983. While LETS has been spread around the world, there exist, on occasions, different abbreviations for LETS such as E meaning Employment and S meaning Scheme(s) respectively.

Figure 1. Total Productive System of an Industrial Society (Layer Cake with Icing)



On one hand, based on the argument of ecological economics, the Cake analogy is challenging the model of growth and increased welfare through trickle down in a sense of unfeasibility to simply expand the size of Cake because of “The Limits to Growth” (Meadows et al. 1972; Trainer 1996). The recipe of Cake includes the issue of capital accumulation and environmental throughput in the following Marx formulas.

Pure barter economy,	$C_1 - C_2$	--- (I)	C_1, C_2 : Commodity
Simple commodity economy,	$C_1 - M - C_2$	--- (II)	M: Money
Capitalist economy,	$M \rightarrow C \rightarrow (M+\Delta M)$	--- (III)	ΔM : Interest

The question lies on ΔM . Formula (III) can be described in more details as follows:

$$M \rightarrow C \begin{matrix} \swarrow \text{LP} \\ \searrow \text{MP} \end{matrix} \dots P \dots C' \rightarrow M+\Delta M \rightarrow \dots \rightarrow (M+\Delta M)+\Delta M \quad \text{--- (IV)}$$

(C': Commodity, M': Money, LP: Labour-power, MP: Means of production, P: Production)

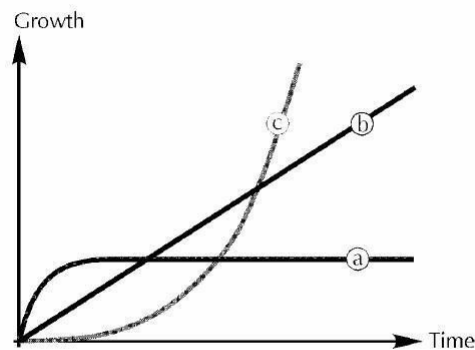
Formula (IV) can be seen as if industrial growth were generative and self-productive through the process of production. According to Marx’s theory, ΔM is only created by labour-power (LP) (Bottomore 1991). It never appears in Formula (IV), however, that fuels and raw materials, included in the means of production (MP), are destined to transform into commodities C’ at the cost of the negative entropy in the form of waste or pollution⁴. There exists an intrinsic link between physical destruction of the environment and the global process of capital accumulation. Formula (IV) implies that the lower two layers of the Cake in Figure 1 are systematically exploited to subsidise the official market economy.

Neo-liberalism, the dominant economic ideology all over the world, assumes that the pattern of accumulation that mathematics call exponential growth is possible forever, though M. King Hubbert suggests that exponential growth be “a transient phenomenon in human history” (1976). As Margrit Kennedy (1995) illustrates in Figure 2, we need to mind the gap between the physical growth in nature and the present exponential growth and reconsider the shift of the monetary system from Curve □ to Curve □ since the close of the gold window by the

⁴ Lecture by Robert Biel prepared for Y01 Sustainable Development Problematic, Development Planning Unit, University College London.

then U.S. President Nixon in 1971. She also points out that we pay interest not only if we borrow money but also every time we use money to pay in our daily life. The present monetary system tends to “lock in” (Seyfang 2004:1)

Basic Types of Growth Patterns



- a natural curve
- b linear curve
- c exponential curve

Figure 2

Source: <http://www.margritkennedy.de/english/M.Kennedy-English.pdf>

people into particular patterns of consumption, which subsidises the dissipative productive system of an industrial society, particularly in this age of globalisation where the culture of consumption and marketing is penetrating almost every corner of the world. In addition to the individual dilemma, it also tends to “lock in” consumers into “the prisoner’s dilemma” (Dawes 1973, 1975 in Ostrom 1990:3) leading to “the tragedy of the commons” (Hardin 1968), constraining our ability to avert the looming environmental crises. Local currencies will facilitate “the logic of collective action” (Olson 1965). An empirical analysis of LETS UK by Dominic Glover (1997, 1999) suggests the link between participation in LETS and environmental resistance driven by the spontaneous behaviour of the middle class without particular theoretical insights or a coherent political strategy. LCM can be seen as “an incipient Polanyian countermovement against the process of globalisation” (Polanyi, 1944; Glover 1997; Mittelman 1998, in, Glover 1999:76).

On the other hand, the Cake analogy in Figure 1 implies that Social Cooperative Love Economy is potentially endowed with autonomy if Lower two layers are redefined by LCSs. Traditional society only consists of these two layers maintaining “a steady-state economy” (Daly 1992:17). The attention also goes towards Cash-based underground economy. Some local currencies seek to what extent this layer under the systematic exploitation by Official Market Economy is included as sustainable layers and exercises legitimacy over the resolution of the slices of the Cake to alleviate poverty suggested by “the Limits to Growth” (Meadows et al. 1972). Taking the whole Cake into consideration, the mainstream sustainable development, as proposed by the Brundtland Commission (WCED 1987:43), feels itself as the dilemma between the Green agenda and the Brown agenda. However, the Green and Brown agendas can get along together consistently in some local currency cases with particular reference to the context of the South, for the Green agenda of LCM/LCS redefines environmental conflicts against the top two layers of the Cake and exercises legitimacy over the resolution to socio-economic and environmental conflicts.

Direct contribution to the green economy served by LCSs is to “build ‘green’ social networks and community capacity” (Seyfang 2001:982) rewarding car-sharing, consumption patterns to reduce, reuse, repair, and recycle goods as well as sometimes refusing goods from external markets harming the local community. According to Sean Kelly (1995), Ithaca HOURS encourage the purchase of locally-produced goods, which avoids unnecessary transportation pollution and chemical preservations; local production from local resource does not need to exploit as many natural resources to receive the same value-added; it changes production patterns through consumers. LCSs allow more effective and efficient use of local resources for production and in turn, reduce the outflow of money and resources, and encourage local trade and self-reliance. In this sense, they contribute to ecological sustainability by reducing ecological footprint and transforming markets and societies more environmentally sound. Indeed it is a matter of ecological footprint whether local production and consumption system is good for the environment, and hence whether national currency or local currency does not matter (Yoshida 2004, 2005a). This study, nonetheless, highlights a different angle of money concealing sophisticated reality: everyone’s everyday’s sustainable decision-making and greener practices as implications for environmental political action and social change towards “ecological citizenship” (Dobson 2003). Local currencies are measurable evidence to reveal and visualise environmental injustice through ecological footprinting methodology (Seyfang 2004). Local currencies and environmental protection share a challenge for governance.

According to the empirical study in the case of LETS UK conducted by John Barry and John Proops (1998), “although there is no single aspects of LETS that can be described as predominantly ‘green’ it was felt that ecological awareness can unconsciously be achieved”. As Glover (1999) also mentions, ecological sustainability is less likely to be the primary reason for local currency users. But the gap of user motives between the subjective elements and the objective ones does not necessarily devastate consequences of assuring ecological sustainability, for instance, “alternative agriculture during crisis” in Cuba (Rosset 1996). Hence it is important to pursue a methodological question how to illustrate the driving forces for actions of consumption and choices and crystallise the link among LCSs, ecological citizenship, and ecological sustainability by following Dieter Steiner’s “human ecological triangle” (1993:57).

5. RESEARCH QUESTION AND HYPOTHESIS _____

As different alternative development agendas listed before analyse, there is no single definition of local currencies. In fact, they have been variously defined and put into practice within the framework of the micro-experiments, though there appears to exist certain patterns. In this sense, a discourse approach is effective for the conceptual analysis of local currencies. Money begins itself within the context of environmental resistance against the dominant economic and social ideology of global neoliberalism in industrial society in Marx Formula (III). Recognising the need for a broader view of approaches towards typology of local currencies, I shall do the discourse analysis by deploying and integrating the four scenarios in the age of “the future of money” devised by Bernard Lietaer (2001) and classification of environmental discourse established by John Dryzek (1997). In addition to a pure survival strategy, there are three other discernible approaches to LCM/LCS. This study is going to argue the following research questions in order to see why and how these discourses have developed:

I. The composition of LCM/LCS

- whether it is alternative or complementary to capitalism
- assumptions about natural relationships within the framework of the Cake analogy

- whether it is a revival of traditional system or an innovative system

II. The causes of LCM/LCS

- whether it is spontaneous emergence or global resource managerialism
- agents and their motives within the context of collective action

III. The consequences of LCM/LCS

- whether it is a temporary fad or a long-enduring movement
- whether it is likely to lead to ecologically meaningful policies or not

The four approaches are identified by asking these research questions and are summarised in Table 3 as my conceptual hypothesis.

Table 3. A matrix of Local Currencies Discourse Analysis

	Weak sustainability←		→Strong sustainability	
	Short-term	Long-enduring		
Discourse approach	Survival Strategy	Problem Solving	Economic and Ecological Democracy	Permaculture Community
Basic entities recognised	Petty capitalism	Perfecting capitalism	Proxy-capitalism	Post-capitalism
Main assumptions	Cash-based underground economy Layer and Social Cooperative Love Economy Layer	All layers of the Cake Subordination of nature Economic growth, environmental protection, distributive justice, and long-term sustainability go together	Cash-based underground economy Layer, Social Cooperative Love Economy Layer, and Nature's Layer Subordination of nature Environmental protection and well-being go together	Social Cooperative Love Economy Layer and Nature's Layer Steady-state Equal relationship between human and nature
Agents and their motives	The marginalised Spontaneous movement Self-governing Supply-oriented Selling-for-money Working-for-money Highly individualistic priorities	Middle class, SMEs Planned movement Resource Managerialism Mix of material self-interest and multiple conceptions of public interest Slightly higher individualistic priorities	Poor, New Poor, The marginalised New Politics Hybrid of self-governing and resource managerialism Mix of material self-interest and multiple conceptions of public interest Slightly lower individualistic priorities	Community, Individuals with non-consumerist values New Consciousness Self-governing Demand-oriented Reciprocity Autonomy Low Individualistic priorities
Means and institutions	Pure Barter	Innovation	Hybrid of traditional system and contemporary innovative system	Revival of traditional system of exchange in modernisation context
Policy views	Emergency money	Secondary money	Democratic money	Green Money, Money-less exchange
Sample	Wörgl stamp scrip	WIR Bank	Local currencies in the South?	Ithaca HOURS

The term sustainability has two very different meanings, environmental sustainability and so-called regime sustainability. This study explicitly distinguishes the two, though they are closely related each other. Referring to Turner (1993), from the viewpoint of environmental sustainability, McManus defines 'weak sustainability' as "infinite substitution of human-produced capital for natural capital" and 'strong sustainability' as "emphasis on bioethics and non-sustainability of natural capital by human-produced capital" (1996:56). The current micro-experiments will steadily give a birth to new local currencies in various countries, which do not start from Survival Strategy but can be formed as the emerging longer-term movement of new monetary regime towards social and environmental sustainability, but the relationship between social sustainability and environmental sustainability is not necessarily in a parallel direction.

Popularised in the case of the Argentinean RT, Survival Strategy is concerned about the political, economic, or environmental collapse and local currencies play a role in connecting people with the resource to simply survive. It is supply-driven and highly individualistic on the grounds of income and employment, for the only things people can do to survive after crisis are selling their belongings or working for money. In fact, economic crises have been the origin of local currencies in many cases throughout history such as UK Labour Notes currency (1832-1834), Wörgl stamp scrip (1929-1934) and US Depression scrip (1932-1933). Those resulted in transient movement and weak environmental sustainability.

Problem Solving is defined by taking the whole Cake without distinctive layers and "the political-economic *status quo* as given but in need of adjustment" (Dryzek 1997:13). The Swiss WIR Economic Circle Cooperative (Wirtschaftsring-Genossenschaft) was established in 1934 after the paroxysm of the Great Depression to use the local currency WIR among SMEs. Being a hybrid of mutual credit and fiat currency, the WIR system is complementary, and not alternative, to the national currency (Valentini 2000). 1 WIR is pegged to 1CHF and payment must be made in both WIR/CHF for the reasons that the WIR Bank has to pay salary by CHF for its employees and Government's concerns about taxes (Hirota 2003; Wüthrich 2004:1-2). Under the incompatible circumstances of profit led society with negative interest such as demurrage fee charged initially under the free-money theory of Silvio Gesell (1918), the core shared norms of self-help as well as stimulation of sustainability management and innovation has changed homo economicus into the present WIR accounts with no interest. An empirical analysis of the relationship between corporate barter and macroeconomic stability by James Stodder (1998, 2000), finds (i) the WIR system's contribution to the stabilisation of the Swiss national economy; and (ii) counter-cyclical correlation between growth of the WIR system and Swiss GDP, between the number of WIR accountholders and unemployment, and between growth of the WIR turnover and unemployment respectively. Stodder concludes with the question "why this counter-cyclicity occurs" (2000). Equally, there remains the vital question as to why the WIR system has been survived for over 70 years. Is it because of "perfecting capitalism"? (Powell 2002a) Or because of "alternative to globalisation"? (Wüthrich 2004) Also is this likely to lead to environmentally sustainable policies? Since payment is made in both WIR/CHF and the WIR system is perfecting capitalism, the WIR system can achieve social sustainability under the condition that the system itself does not necessarily guarantee environmental sustainability. As formulas of Marx analysis shows, on one hand, perfecting capitalism does not solve "second contradiction of capitalism"⁵ (Allen 2005). The feature of mutual credit within the WIR system, on the other hand, ensures to use local resources and, in principle, the WIR currency is not available for purchasing raw materials outside Switzerland. It is necessary to examine environmental sustainability of the WIR operation and production mode of member SMEs by means of ecological footprint methodology to clarify

⁵ the domination of nature by humans, in which the combined power of capitalist relations and forces of production impairs the conditions on which they depend for their existence

the self-help mechanism whether it functions as defence of the wealth against the global and bigger power as well as prevention of exploiting and wasting the natural resource outside the system. It is possible to achieve environmental sustainability only if this system intentionally and innovatively targets environmental projects or eco-businesses like eco-bank.

The main focus of the study is a quest for the discourse of Economic and Ecological Democracy. It critically assesses the scope and potential of local currency systems as an institutional alternative for environmental change by arguing (i) what role they could serve in bridging the Green and Brown agendas; and (ii) what alternative political-economic order they are seeking to construct. LCSs have deep theoretical and practical implications for supporting people devastated by chronic physical, political, economic, and environmental insecurity, for instance, Post-disaster Reconstruction Community Currency (Rodgers 2005), through mobilisation of social capital and reconsolidation of local communities to aim at responding to emergencies and fostering sustainable development (Daito 2005). In relation to fostering development, the dilemma of local currency advocates is “how to prevent the exit from collective citizenship?” (Streeck 1992:516; Powell 2002b) In Thailand, for example, “the (relatively) wealthy farmer who produces eggs for export who refuses to accept community currency for a much-needed commodity” (Powell 2002b). As “Small is Beautiful” (Schumacher 1973) implies, micro-experiments work well in the initial honeymoon period with full community participation and environmental sustainability. But when people reach a certain level of economic comfort, they do not question the materialism or change people’s consumption behaviour. This is where the community will have to make its own decision to determine the next direction of its own development, neither Survival Strategy, Problem Solving, nor Permaculture Community, and this is where empowerment may work best to allow them to make its own informed decisions. Both cases in Brazil and P.N.G. are in the movement towards officialisation of usage. Although Government considers contemporary barter network/traditional currency as “complementary” currency, the focus here is whether substantially local currencies become “complementary” to national currencies. This means proxy-capitalism within the context of Economic and Ecological Democracy.

Permaculture Community resists the unwelcome consequences of global capitalist society and local currencies are alternative to capitalism in order to achieve well-being rather than growth. Paul Glover started Ithaca HOURS in 1991, each of which was equivalent to ten US dollars, with the first group of 30 people at GreenStar Co-op, supported by E. F. Schumacher Society whose theoretical base is “Small is beautiful” (Schumacher 1973). At that time, the small town Ithaca in New York State suffered from “people who [were] fully employed, but whose income [was] so low that they still remain[ed] eligible for food stamps” (Lietaer 2001:192). There is strong sustainability in both monetary and environmental aspects. In addition to Kelly (1995) mentioned before, Noboru Yoshida (2004, 2005b) has conducted quantitative analysis of Ithaca HOURS to demonstrate (i) the positive effects of local production for local consumption by Ithaca HOURS; and (ii) the positive effects of local production for local consumption on reducing transportation-derived environmental load. In relative terms, how to evaluate Yoshida’s quantitative research findings remains another discussion. In absolute terms, however, users include some artisans and farmers whose eco-friendly house is built by themselves and whose living is based on only Ithaca HOURS without U.S. dollars. This clearly expresses blueprint of local currencies serving as alternative capitalism if people pursue well-being in symbiosis with nature rather than economic prosperity. Although another empirical study is needed, sustainability of the system implies shift “from individualism to person-in-community” (Daly et al. 1994) for environmental political action and social change.

6. RESEARCH METHODOLOGY ---

Overall, the research is inductive and exploratory. The study includes elements of action research and global resource managerialism (Goldman 1997) rather than anthropological approach. Starting from the micro- and macro-dimensions of the general problem, a series of theoretical questions employ an environmental perspective to yield a typology of LCM/LCSs including four discourses. All prior research into local currencies within the context of alternative development agendas is examined to determine its relevance to the environmental perspective. This typology will lay the groundwork for analysis of LCM/LCSs in a discursive manner, and will be more promising to define what local currencies are.

The comparative case study between Brazil and P.N.G. is employed in order to explore the discourse Economic and Ecological Democracy. The nature of postmodern barter network and traditional currency perhaps belongs to Problem Solving and Permaculture Community respectively. Brazilian case will look into how both advocates and members position the Green and Brown agendas, whether they are contradictory like Problem Solving or they marry like Economic and Ecological Democracy. Since issuance of Tumbu in P.N.G. is physically limited because of the amount of shell and socio-politically and socio-culturally affected, Tumbu will restructure capitalist economy and commodity society from not only economic perspectives but also from cultural and environmental perspectives.

As mentioned before, the methodological question lies in designing data collection methods concerning the objective elements of user motivation as ecological citizenship, which is the key driving force of the discourse Economic and Ecological Democracy. After preliminary research, each case study will choose two communities (four communities in total) as sample. The research consists of qualitative and quantitative analysis by conducting semi-structured interviews and a questionnaire survey to community users, co-ordinators, advocates, and government authority. Qualitative analysis will identify why users are motivated to participate in local currencies concerning how they perceive money, exchange, and consumption within their social and environmental contexts. Based on data collected through interviews and a questionnaire, research will also estimate the quantitative economic effects on the official market economy by the input-output structure of the LCSs and introduce ecological footprinting calculation to measure their impacts on economy and ecology. As Yoshida (2004, 2005b) attempts in the case of Ithaca HOURS, the research will clarify the mechanism of money flow of local currencies and annual trend of the number of goods and services circulated by them, and employs input-output structure at the local government level to calculate what proportion of economic activity is provided by local currencies. The ecological footprint is a measure of the environmental load discharged by a given population, calculating the land area to sustain current levels of resource consumption and waste discharge (Wackernagel 1996:5) within five major categories, food, housing, transportation, consumer goods, and services (ibid.:67). The research will compare the ecological footprint between local currency users and non-users estimated from locally specific data to national average consumption.

The comparative case study will consider the cognitive question about money. In the South, many cases exist of dollarisation or multiple currency usage throughout history, as either an official or unofficial form, due to “a rational response of people” (Bogeti 2000: 179) to secure their assets in the face of their unstable national currency, and informal dollarisation is a spontaneous incidence. Traditional currencies are commodity-backed and symbolically represent exchange in cultural context rather than monetary and commercial exchanges. According to Milton Friedman, however, both examples of stone money of States leading to the banking panic of 1933 illustrate “how important appearance or illusion or “myth”, given

unquestioned belief, becomes in monetary matters” (1992:7). Among the driving forces not only money but also consumption and exchange are reviewed by both socio-economic and socio-cultural aspects such as attitudes, values, emotions, risk perceptions, identities, habits, and routines. The Commons approach (Maruyama 1988, 1990, 1995) is useful. The national currency Kina has broken up the traditional currency Tambu during modernisation and globalisation. But Tambu has not disappeared completely within Tolai society, and local currency movement is going to reactivate Tambu as commons property regimes (CPRs). Politicisation of the barter network has similar effects as CPRs. Complicated mechanism of CPRs has been analysed by academics and Arun Agrawal attempts to synthesise its facilitating conditions as a check list (2001:1659), which will help to compare the both cases.

Finally, the research also attempts to capture the role of local currencies as “a tool of restructuring public space to create a sustainable society” (Harada 2003) by means of visual presentation based on field observation of life in sample areas. It will exhibit some similarities which both cases share such as viability of localised markets and conviviality of community-based network and their impacts on life and society.

7. CONCLUSION

My hypotheses still anticipate that Economic and Ecological Democracy can be discovered at the juncture of elements of local currencies in Brazil and P.N.G.; and a common shared spiritual denominator of the local community as well as sustainability innovations can be found, which will answer Michael Ende’s primary concern cited in the beginning of this paper. We are looking for job/money and acquiring more consumer goods without necessarily having a good conception or understanding of how money works, and this is where the evils of money are most evident. Given the present state of widening gap between the North and the South, and how the environment in the South to be exploited in the name of global economic development, it is both urgent and timely to explore alternative ways for local communities to establish socially just and environmentally sound and sustainable strategies to approach development that makes a difference in the face of intensified globalisation. It is also important for both the North and the South to learn from the experiences of one another and to reflect on the current state of development. The research findings will help to illustrate possible ways in favour of a South-centred strategy to promote environmentally sustainable development and affect lifestyles of the North towards global environmental change. Although LCM has ever focused on the Brown agendas within the context of pure survival strategy against globalisation, the Green agendas can steer the movement as a political tool for a more sustained transnational movement towards wider survival strategy. LCSs are “not a blanket cure-all for sustainability” (Seyfang 2004:12), but they are an innovative way of steering society “from efficiency through competition to efficiency through cooperation” (Allen et al 2002) as well as forming human security in such an unstable and unsustainable modern world.

References

- Agrawal, A. (2001) ‘Common Property Institutions and Sustainable Governance of Resources’, pp. 1649-1672, *World Development*, vol. 29, no. 10
- Allen, A. et al. (2002) *Sustainable Urbanisation: Bridging the Green and Brown Agendas*. London: The Development Planning Unit.

- Allen, A. (2005) 'Bringing Political Ecology into Focus', Lecture note prepared for Module Y03 Urban and Regional Political Ecology, The Development Planning Unit, University College London.
- Barry, J. et al. (1998) 'Local Employment and Trading Systems: Linking Citizenship and Sustainability?', Global Environmental Change Programme Briefings 18.
- BBC4. Cry for Argentina. September 24, 2002, Documentary Film.
- Biel, R. (2004) 'Debates on Development', Lecture note prepared for the Introductory Workshop, The Development Planning Unit, University College London.
- Blaikie, N. (1993) *Approaches to Social Enquiry*. Cambridge: Polity Press.
- Bottomore, T. ed. (1991) *A Dictionary of Marxist Thought*. Oxford: Blackwell.
- Boyle, D. ed. (2002) *The Money Changers: Currency Reform from Aristotle to E-Cash*. London: Earthscan.
- Bozeti, Z. (2000) 'Official Dollarization: Current Experiences and Issues', pp. 179-213, *Cato Journal*, vol. 20, no. 2
- Carmen, R. (2000) 'A Future for the Excluded? Learning from Brazil', *Development*, vol. 43, no. 4
- Covas, H. et al. (2001) *La nueva relación de los gobiernos locales: El rol de la red del trueque*. Buenos Aires: PAR.
- Curtis, F. (2003) 'Eco-localism and Sustainability', pp. 83-102, *Ecological Economics*, vol. 46
- Daito, J. (2005) 'Bridging Emergency Relief and Long-Term Development? Local Currency Movement from An Aid-Dynamics Perspective', paper presented at the Third Annual Students for Development Conference, University of Oxford, June 21, 2005.
- Daly, H. E. (1992) *Steady-State Economics*, Second Edition. London: Earthscan.
- Daly, H. E. et al. (1994) *For the Common Good: Redirecting the Economy toward Community, the Environment, and a Sustainable Future*, Second Edition. Boston: Beacon Press.
- Daly, H. E. et al. (2004) *Ecological Economics*. London, Island Press.
- Dawes, R. M. (1973) 'The Commons Dilemma Game: An N-Person Mixed-Motive Game with a Dominating Strategy for Defection', pp. 1-12, *ORI Research Bulletin* 13.
- Dawes, R. M. (1975) 'Formal Models of Dilemmas in Social Decision Making', pp. 87-108, in Kaplan, M. F. et al. eds. *Human Judgement and Decision Processes: Formal and Mathematical Approaches*. New York: Academic Press.
- DeMeulenaere, S. (2003) *Introduction to Community Exchange Systems*. http://www.appropriate-economics.org/materials/Community_Exchange_Systems_screen.pdf
- Dobson, A. (2003) *Citizenship and the Environment*. Oxford: Oxford University Press.
- Dryzek, J. S. (1997) *The Politics of the Earth: Environmental Discourses*. Oxford: Oxford University Press.
- Elson, D. (1999) 'Socializing Markets, Not Market Socialism', in Panitch, L. et al. eds. *Socialist Register 2000: necessary and unnecessary utopias*. London: Merlin.
- Fitzpatrick, T. (1998) 'The Implications of Ecological Thought for Social Welfare', pp. 5-26, *Critical Social Policy*, vol. 18, no. 1.
- Friedman, M. (1992) *Money Mischief: Episodes in Monetary History*. London: Harcourt Brace Jovanovich.

Fukada, J. (2002) — Tolai tambu — Monetary Theory in Anthropology: the case of traditional currency Tambu at Tolai Society in the East New Britain Province. Hitotsubashi University Master's thesis, Tokyo.

Fukada, J. (2004) — Two Trends in Shell Currencies: Today's Situation of Traditional Currency Tambu in Tolai Society, Papua New Guinea, paper presented at the Annual Conference of Japanese Society of Cultural Anthropology, June 6, 2004.

Gesell, S. (1918) *The Natural Economic Order*, Third Edition.
<http://www.systemfehler.de/en/neo/> <accessed on June 13, 2005>

Giddens, A. (1998) *The Third Way: The Renewal of Social Democracy*. Cambridge: Polity Press.

Glover, D. (1997) 'Globalisation at the micro level: small-scale and community-based responses to global change', paper presented at the first annual post-graduate conference organised by the Centre for the Study of Globalisation and Regionalisation, Warwick University, December 1997

Glover, D. (1999) 'Defending Communities: Local Exchange Trading Systems from an Environmental Perspective', pp. 75-82, *IDS Bulletin*, vol. 30, no. 3.

Goldman, M. (1997) "'Customs in Common": The Epistemic World of the Commons Scholars', pp. 1-37, *Theory and Society*, vol. 26, no. 1

Gomez, G. M. (2005a) 'Re: [ijccr] Argentina's Red de Trueque', in [ijccr@yahoo.com], (April 10, 2005).

Gomez, G. M. (2005b) 'Re: [ijccr] Argentina's Red de Trueque', personal e-mail to J. Daito (April 12, 2005).

Gomez, G. M. (2005c) 'Re: [ijccr] Argentina's Red de Trueque', personal e-mail to J. Daito (April 25, 2005).

Greco, T. H. Jr. (1994) *New Money For Healthy Communities*. Tucson.

Harada, D. (2003) *Community Currencies: A Tool of Restructuring Public Space To Create A Sustainable Society*. The Matsushita Institute of Government and Management.
<http://www.mskj.or.jp/getsurei/harada0301.html> <accessed on June 13, 2005>

Hardin, G. (1968) 'The Tragedy of the Commons', pp. 1243-1248, *Science*, vol. 162.

Helleiner, E. (2002) 'Think Globally, Transact Locally: The Local-Currency movement and Green Political Economy', pp. 255-273, in, Princen, T. et al. eds. *Confronting Consumption*. London: The MIT Press.

Hines, C. (2000) *Localization: A Global Manifesto*. London: Earthscan.

Hirota, M. Y. (2003) *Miguel's Philosophical Garden*. <http://www3.plara.or.jp/mig/index-uk.html> <accessed on June 13, 2005>

Hornborg, A. (2001) *The Power of the Machine: Global Inequalities of Economy, Technology, and Environment*. Oxford: Altamira Press.

Hubbert, M. K. (1976) 'Exponential Growth as a Transient Phenomenon in Human History', in, Daly, H. et al. eds. (1993) *Valuing the Earth*. Cambridge: MIT Press.

Ithaca HOURS <http://www.ithacahours.com> <accessed on June 13, 2005>

Kawamura, A. et al. (2000) *Ende's Last Message*. Tokyo: NHK.

Kelly, S. (1995) 'Why HOURS are ECOLOGY Money', in, Ithaca HOURS Online. <http://www.ithacahours.com> <accessed on June 13, 2005>

Kennedy, M. (1995) *Interest and Inflation Free Money*. Philadelphia: New Society Publishers.

Lietaer, B. (2001) *The Future of Money: A New Way to Create Wealth, Work, and A Wiser World*. London: Century.

Maruyama, M. (1988) 'Local Currency as a Convivial Tool: A Study of Money Users from the Point of View of Sustainable Economy' pp. 53-78, *Kokusaigaku-Kenkyu* vol. 3 (436 *Meijigakuinronso* vol.436).

Maruyama, M. (1990) 'Reexamination of Discourse of Local Currency' pp. 43-53, *Kokusaigaku-Kenkyu* vol. 6 (464 *Meijigakuinronso* vol. 464).

Maruyama, M. (1995) 'Economic Cycle and Local Currency Systems: Seeking for Currency as Commons' pp. 221-252, in, Murota, T. et al. *Economics of Circulation*. Tokyo: Gakuyo-Shobo.

McManus, P. (1996) 'Contested Terrains: Politics, Stories and Discourses of Sustainability', pp. 48-73, in, *Environmental Politics*, vol. 5, no. 1

Meadows, D. H. et al. (1972) *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. London: Earth Island.

Meeker-Lowry, S. (1996) 'Community Money: The Potential of Local Currency', pp.456-59, in, Mander, J. et al. eds. *The Case Against the Global Economy*. San Francisco: Sierra Club Books.

Minujín, A. et al. (1995) *La nueva pobreza en Argentina*. Buenos Aires: Planeta.

Mittelman, J. H. (1998) 'Globalisation and environmental resistance politics', pp. 847-872, *Third World Quarterly*, vol. 19, no. 5

Offe, C. et al. (1992) *Beyond Employment: Time, Work and the Informal Economy*. Cambridge: Polity Press.

Olson, M. (1965) *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge: Harvard University Press.

Ostrom, E. (1990) *Governing the Commons: the Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Pearson, R. (2003) 'Argentina's Barter Network: New Currency for New Times?', pp. 214-230, *Bulletin of Latin American Research*, vol. 22, no. 2

Pen, J. (1965) *Modern Economics*. Harmondsworth: Penguin

Pirotte, C. et al. eds. (1999) *Responding to Emergencies and Fostering Development: the Dilemmas of Humanitarian Aid*. London: Zed Books.

Polanyi, K. (1944) *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon

Polanyi, K. et al. eds. (1957) *Trade and Market in the Early Empires*. London: Collier-Macmillan.

Powell, J. (2002a) 'Petty Capitalism, Perfecting Capitalism or Post-capitalism? Lessons from the Argentinean Barter Network', *ISS Working Paper*, vol. 357

Powell, J. (2002b) 'Community Currencies: Alternative Development at the Conjunction of Feminism and Associationalism', *International Journal of Community Currency Research*, vol. 6

- Primavera, H. (2004) National Meeting of Solidarity-based Barter Groups in Brazil: Towards A Better Future <http://money.socioeco.org/en/primavera.php> <accessed on June 13, 2005>
- Rogers, J. (2005) Post-Disaster Reconstruction Community Currency <http://cctsunami.org/tiki-index.php?page=PostDisReconCurrency> <accessed on June 13, 2005>
- Rosset, P. M. (1996) 'Cuba: Alternative Agriculture During Crisis', pp. 64-74, World Resources Institute (Washington DC) September 1996.
- Schumacher, E. F. (1973) *Small is Beautiful: Economics as if People Mattered*. London: Blond & Briggs.
- Seyfang, G. et al. (2000) 'Time for Change: International Experience in Community Currencies', pp. 56-60, *Development*, vol. 43 no. 4
- Seyfang, G. (2001) 'Community Currencies: Small Change for a Green Economy', pp. 975-996, *Environment and Planning A*, vol. 33
- Seyfang, G. (2004) 'Bartering for a Better Future? Community Currencies and Sustainable Consumption', CSERGE Working Paper EDM 04-10.
- Shorthose, J. (2000) 'Micro-experiments in alternatives', pp. 191-208, *Capital & Class*, vol. 72
- Soddy, F. (1926) *Wealth, Virtual Wealth and Debt: The Solution to the Economic Paradox*. London: George Allen&Unwin.
- Starr, A. (2000) *Naming the Enemy: Anti-corporate movements confront globalization*. London: Zed Books.
- Steiner, D. (1993) 'Human Ecology As Transdisciplinary Science, and Science As Part of Human Ecology', pp. 47-76, in, Steiner, D. et al. eds. *Human Ecology: Fragments of Anti-fragmentary Views of the World*. London: Routledge.
- Stodder, J. (1998) 'Corporate Barter and Economic Stabilisation', *International Journal of Community Currency Research*, vol. 2
- Stodder, J. (2000) *Reciprocal Exchange Networks: Implications for Macroeconomic Stability*. <http://www.rh.edu/~stodder/RecX.htm> <accessed on June 13, 2005>
- Streeck, W. (1992) 'Inclusion and Secession: Questions on the Boundaries of Associative Democracy', pp. 513-520, *Politics and Society*, vol. 20, no. 4
- Studer, T. (2000) 'Le Système WIR dans l'Optique d'un Scientifique Américain', in, *WIR Plus*, the October 2000 edition.
- Trainer, T. (1996) *Towards A Sustainable Economy: The Need for Fundamental Change*. Oxford: Jon Carpenter.
- Turner, R. K. (1993) 'Sustainability: Principles and Practice', pp. 3-36, in, Turner, K. K. ed., *Sustainable Environmental Economics and Management: Principles and Practice*. London: Belhaven Press.
- Valentini, E. (2000) *Switzerland's WIR System and Barter Worldwide*. http://www.appropriate-economics.org/materials/wir_and_barter.pdf <accessed on June 13, 2005>
- van Staveren, I. (1998) 'Robinson Crusoe and Silas Mariner or Two Stories on the Gendered Monetary Economy' Brussels: WIDE.
- Wackernagel, M. et al. (1996) *Our Ecological Footprint: Reducing Human Impact on the Earth*. Philadelphia: New Society Publishers.

Wichterich, C. (2000) *The Globalized Woman: Reports from a Future of Inequality*. London: Zed Books.

WIR Bank Portal. (2005) <http://www.wir.ch> <accessed on June 13, 2005>

World Commission on Environment and Development (1987) *Our Common Future* (the Brundtland Report). Oxford: Oxford University Press.

Wüthrich, W. (2004) 'Alternativen zur Globalisierung: Genossenschaftsprinzip und Komplementärwährung', *Zeit-Fragen* 30. 2004

Yoshida, N. (2004) 'Analysis on Effects of A Community Currency "Ithaca HOURS" on A Local Economy', pp. 313-318, *Journal of Environmental Information Science*, vol. 18

Yoshida, N. (2005a) 'Ithaca HOURS', personal e-mail to J. Daito (May 6, 2005).

Yoshida, N. (2005b forthcoming) —Analysis on Effects of Local Production for Local Consumption on Reducing Transportation-Derived Environmental Load – A Case Study of A Community Currency "Ithaca HOURS" –