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VALIDATING AND IMPROVING THE IMPACT OF COMPLEMENTARY CURRENCY SYSTEMS THROUGH IMPACT ASSESSMENT FRAMEWORKS

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ABSTRACT

Credibility and legitimacy are required to improve the design and implementation of complementary currency systems (CCS) and to engage with public institutions, while depending on sustained support from funders. It is hence necessary to evidence the impact of CCS as effective and efficient tools to reach sustainable development goals. Only around a fourth of the existing studies even touch upon impact evaluation processes. A standardisation of impact evaluation would lead to improve the quantity, quality and comparability of the data collected, as well as to support longitudinal studies and juxtapositions of different types of currencies in their environmental and socio-economic context. After reviewing the literature, this article proposes two complementary approaches to assess the impact of CCS: a prototype of an integral Impact Assessment Matrix based on the goals, objectives and performance indicators, and a tool based on the "Theory of Change" methodology as a common, comprehensive and incremental approach for impact evaluation. Both propositions are currently being applied and further developed by the authors.

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KEYWORDS:

impact, assessment, evaluation, monitoring, standards, measurement, indexing, indicators, performance.

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INTRODUCTION

For over 3 decades, from 1983 until now, up to 4,500 complementary currency, community credit and alternative finance systems have aimed, without commonly accepted proof, for economic integration through reciprocity, redistribution, sharing, solidarity and the protection of regional or local economies (Servet, 2013; Blanc, 2013). These Complementary Currency Systems (CCS) cover a wide range in the diversity of currency types and applied designs, and, more fundamentally, cover a wide range of specific objectives or "raisons d'être" Some focus more on social integration, environmental sustainability or cultural diversity, others more on economic resiliency, crisis mitigation or political autonomy. These economic and monetary innovations to date lack consistent scrutiny in evaluating their viability and genuine evidence of their economic, social, environmental and political impact.

Today, practitioners in the so-called CCS movement, policy makers and academics all exhibit a growing interest in impact evaluations of CCS, particularly concerning community empowerment, social capital, participatory governance, the sociology of their users and local development goals. This is contrasted with a relative lack of historical studies, theoretical frameworks, standards for comparison, data collections and systematic articulations of these monetary innovations in the literature to date. Indeed, most of impact evaluations presented so far had been based on individual descriptive case studies (Blanc, 2013).

The purpose of this paper is to launch a deliberate process of improvement to this situation in order to live up to the growing demand for proof and validation of CCS, as well from users as from funders and policy makers. Here, we propose, in a bipedal approach, two methodologies that aim to accelerate this process: 1) an Impact Assessment Matrix (IAM) prototype which integrates monitoring and evaluation methodologies and 2) a "Theory of Change" framework as an intermediary step towards standardisation in evaluation, impact assessment, reporting and analysis. Our propositions are based on a literature review of impact assessment as presented at the University of Split in July 2012 (Place et al., 2012), further work on the typologies and objectives of CCS were prepared for the UNRISD conference in Geneva in May 2013 (Bindewald et al., 2013), the ISS conference in The Hague in June 2013 (Place et al., 2013), and the action-research done for the Community Currencies in Action project (CCIA).

The contribution of this paper is to present the need and context of impact assessment for CCS (Section 1) analyse the existing impact literature (Section 2) and reviews the objectives of CCS (Section 3), from which a non-exhaustive impact assessment matrix is derived (Section 3). As a second currently piloted approach we describe a "Theory of Change" framework as an immediate and incremental step towards a universally applicable and comparable process for the evaluation of CCSs (Section 4). Both Theory of Change (ToC) and Impact Assessment Matrix (IAM) frameworks will here be presented at a prototyping and proof of concept stage, to prepare wider collaborations, deliberations and applications of impact assessment and processes of standardisations for this adolescent field of innovation.

PURPOSE AND CONTEXT OF EVALUATION STANDARDS FOR CCS

Because of the high diversity of CCS already in use and the constant adaption and innovation in this field, any monitoring and evaluation systems need to be balanced, coherent and comparable across different currency models on one hand, and sufficiently flexible to mirror the specificities of the initiative on the other hand. Consequently, due to the diversity of stakeholders and objectives of CCS, standardisations of indicators need to be designed in a bottom-up approach, taking into account a wide number of specific currency systems before conceptualizing common sets of indicators. To do so we will first analyse the purpose of impact assessment frameworks and then elaborate on appropriate approaches for CCS.

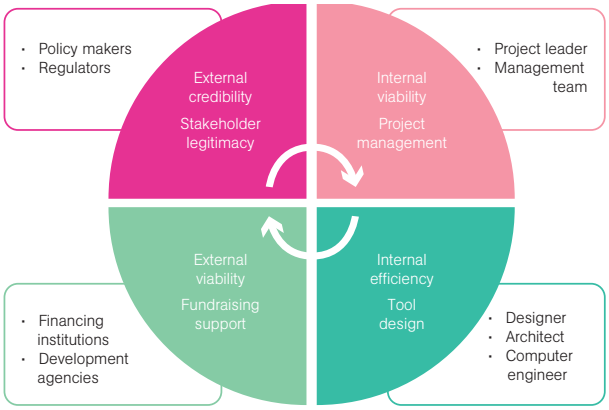
We see four important and interdependent reasons for the deployment of evaluation standards in CCS impact assessment, as represented in Figure 1:

- Internal viability: improving project implementations in regard to operational, structural and organizational aspects
- Internal efficiency: improving uptake by users and reduce overheads and transaction costs
- External viability: attracting funders and support and widen the recognition
- External credibility: proving impact and efficiency to international organizations and the public sector.

Impact assessment and impact reports are necessary to receive financing, especially through impact philanthropy and through donation fundraising (Place, 2010). Those donations often imply a "counter-donation" of qualitative and quantitative information about the impact of the project. Indeed, a study in 2008, based on data from 165 systems in 28 countries, found 74% of CCS being dependent on external financing: only 9% achieve it thanks to internal service taxes and 65% rely on voluntary institutional or individual financing (Demeulenaere, 2008).

Moreover, in a period of crisis, we need, more than never, efficient complementary currencies to bring resiliency to the economic and societal systems, and thus impact assessment becomes essential to improve their performance. Again, for the inception, maintenance and evaluation of these systems, financing is important. A good impact analysis is essential for financing institution to trust the socio-environmental impact returned on their investment.

Figure 1. The need for and purpose of impact assessment and evaluation frameworks (Source NEF, 2014.)

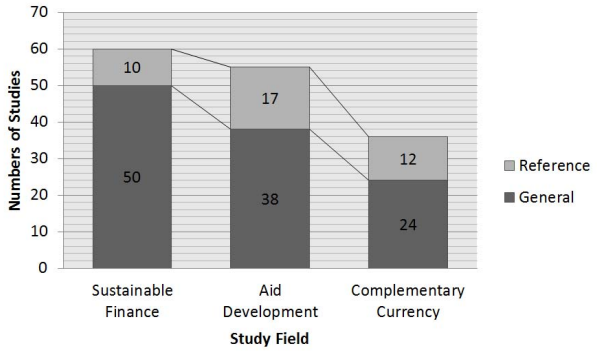


REVIEW OF EXISTING IMPACT ASSESSMENT WORK

In CCS specifically, we should pay particular attention to territorial development on the one side and financing vehicles on the other side. The fields with established evaluation frameworks are international development aid and sustainable finance. In both domains, among various and numerous resources dealing with tools and methodologies, we can already and easily identify some state-of-the-art guidelines, principles, standards and even handbooks which present impact assessment, measurement indicators, monitoring and evaluation systems (Bindewald et al., 2013). Complementary and community currency research is currently in the process of developing into a solid discipline, but even if some research in this field has already existed for a long time, it still remains scarce compared to the work done on development projects and even impact finance. Graph 1 depicts the ratio between reference studies and general material. Reference papers and authors are those that are directly, pertinently and genuinely dealing with impact assessment and can thus be considered as a point of reference about this topic in its field. Only 5 of the 12 reference studies in CCS present quantitative measurement indicators and could be seen as references in the narrower sense, as they deal with indicators, evaluation, impact and social or environmental capital benefits such as process and results (Place, 2012).

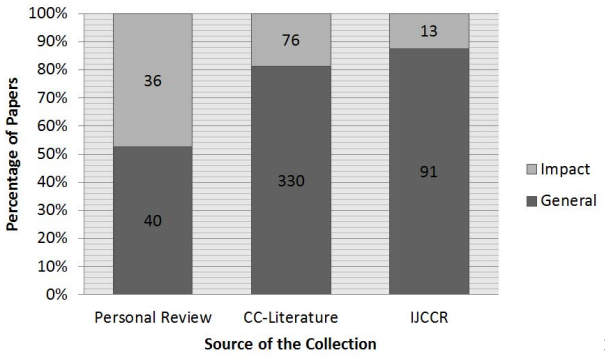
In the field of complementary, local and community currencies, a personal literature review of 36 out of the 76 aforementioned documents, which means 47.37%, are dealing with the topic of impact assessment. Most of the evaluation process and results are based on conceptual models of economic, social and well-being issues with either a qualitative or quantitative approach (Place, 2012).

Graph 1. Number of impact assessment reference versus general material in different fields Source: Place, 2012.



According to the bibliography of community currency research, called CC-Literature, only 76 or 18.7% of all 406 English sources listed there, appear in the keyword search "impact assessment" and related terms. 406 English resources represent 37% of the 1251 total sources in the database. By searching for the key-words: impact, evaluation, measure, rating, audit, indicator, scorecard, assessment, monitoring, performance we can respectively extract 30, 21, 14, 5, 3, 2, 1, 0, 0, 0 sources, a total of 76 sources. Furthermore, most of those reports are descriptive case studies, which do not refer or adhere to any impact evaluation framework (Schroeder et al., 2011; Place, 2012).

Graph 2: number of papers dealing with impact assessment in different CCS databases



CCS models is under debate but the presented studies relay on data and methodologies that are mostly incomparable across the studies and don't allow us to score or rank the different CCS initiatives. Most of these studies are based on qualitative research methods with punctual field surveys or are embedded in certain events like period of crisis, there

[1] Among the 105 papers, published from 1997 to May 2013 in the 17 volumes and 2 special issues, 13 papers are dealing with pertinent impact analysis: Collin C. WILLIAMS in volume 1 of 1997 ; Julie INGLEBY in volume 2 of 1998 ; Samaôn LAACHER in volume 3 of 1999 ; Edgar S. CAHN in volume 5 of 2001 ; Gill SEYFANG in volume 6 of 2002 ; Jeffrey JACOB, Merlin BRINKERHOFF, Emily JOVIC and Gerald WHEATLY in volume 8 of 2004 ; Rolf F.H. SCHROEDER in volume 10 of 2006 ; Christian GELLERI in volume 13 of 2009 ; Stefan MOLNAR in volume 15 of 2011 ; Irene SOTIROPOULOU in volume 15 special issue of 2011 ; Christian THIEL in volume 15 special issue of 2011 ; Ruth NAUGHTON-DOE in volume 15 special issue of 2011 ; Molly SCOTT CATO and Marta SUÁREZ in volume 16 special issue of 2012 (WILLIAMS, 1997 ; INGLEBY, 1998 ; LAACHER, 1999 ; CAHN, 2001 ; SEYFANG, 2002 ; JACOB *et al.*, 2004 ; SCHROEDER, 2006 ; GELLERI, 2009 ; MOLNAR, 2011 ; SOTIROPOULOU, 2011 ; THIEL, 2011 ; NAUGHTON-DOE, 2011 ; SCOTT CATO *et al.*, 2012) .

is little quantitative research and even fewer established performance indicators. Furthermore, the majority of the individual research has been conducted during a short period of 1 or 2 years, and often dates back till before 1993 when the Agenda 21 for sustainable development only emerged from the United Nations to become a major driver for territorial and community development projects. The recent emergence of new complex CCS types, called 4th generation (Blanc, 2013), is also not covered by evaluation research yet. In most cases the research only focuses on one aspect of sustainable development: economic, social or environmental and rarely takes the interactions of these three into account. These differences are depicted in Graph 2.

Among those various empiric analyses, we congratulate the proposition of a matrix of performance indicators made by Instituto Palmas and NESOL-USP in 2013. Nevertheless, this matrix has not been fully implemented and only covers information of a 2 years study without a meta-analysis focusing on impact and its native scope is centred on one specific CCS type and geographical region and thus it will be difficult to transpose its findings to other CCS types and localities.

Two meta-analyses have been recently made one by Gill Seyfang and Noel Longhurst; the other by Kristofer Dittmer both published in 2013, both presenting neutral or negative conclusions about the impact of CCS. The data for these analyses cover research since 1996 and 2011 respectively and integrate the consequence of sustainable development as a major issue for territorial and community development projects like CCS. We appreciate those initiatives and we hope that extensive, in-depth and thorough impact analysis will be done in the future.

OBJECTIVES OF CCS

To establish an appropriate approach and scope for evaluation and impact assessment, it is necessary to firstly focus on objectives and purpose before any other typological differentiation, in order to appropriately evaluate CCS against their own and diverse targets and not against implicit notions of success or ambition which might speak through third party typologies.

As shown in table 1, the various existing attempts at CCS typologies all exhibit some form of differentiation by objectives and thus allude to the impact aspect of CCS. Beyond their complex operational systems and technical designs as alternative financing mechanism, most CCS exhibit genuine strategic objectives linked to a sustainable and ethical vision. That is why recently CCS impact research has started to focus on the intentional objectives of different currencies.

Table 1: objective approach of complementary currency systems according to their typology (Place et al., 2013.)

Margrit Kennedy / Bernard Lietaer (2004)	Social	-	Commercial
Jérôme Blanc (2011)	Community	Territory	Economy
Jens Martignoni (2012)	Others-oriented (serving everyone)	-	Self-oriented (serving individuals)
Gill Seyfang / Noel Longhurst (2012)	Local solidarity	Re-use	Liquidity

Recent reflections about CCS intentional objectives, especially during the 1st International Conference on Community and Complementary Currencies which took place in Lyon in February 2011, revealed that those initiatives aim to frame exchanges differently, try to rethink the role of money in the context of the common good, and creating tools to activate unrealized values. Thus, what exchange do we want to promote, between whom, for what, how, are the main questions of the self-labelled CCS movement. Common motivations and core objectives of such initiatives revolve around strengthening solidarity and sharing in communities, develop local employment and galvanizing the economy.

The first notable reflection about intentional objectives, portrait CCS as tools for scale changes in sustainable local development through a collaborative and cooperative vector, innovative wealth valuation and the preservation of social protective systems[2]. (Cahier d'espérance richesses et monnaies, 2011).

A recent reflection made by Kristofer Dittmer divides CCS by their meso and macro objectives and looking at performance criteria. According to Dittmer's analysis "Local Exchange Systems" allow for alternative flexible libertarian measures of value, "Time Banks" focus on community-building through improving local social networks and reaching the socially excluded, "HOURS" (as in Ithaca Hours) offer alternative livelihoods by supporting primary occupation in the alternative service sector, and "Convertible Local Currencies" incentiving eco-localization by attracting local businesses (Dittmer, 2013). On the same notion of performance criteria, intentional objectives are the focus of another notable reflection made by Monnaie en Débat in 2011, which focuses more on CCS' meso and macro objectives and divide them among different main objectives such as services exchange and mutual aid, economic development, social and solidarity economy (or local economy, social economy, solidarity economy), eco-friendly behaviour development, and hybrid forms (Monnaie en Débat, 2011).

[2] A reflection made by Etienne HAYEM in 2013 also focuses on meta and meso objectives with ecological restoration, social resiliency and economic development in a territorial virtuous economy vision (HAYEM, 2013). In relation to meta objectives, Nicolas BRIET in 2013 focuses on the importance of participative governance and collaborative tools for CCS initiatives in their decision making and governance (BRIET, 2013).

Table 2: goals and objectives for complementary currency systems (Source: Place et al., 2013).

Dimension	Level	Vision/Goal	Mission/Objective
Culture	Meta	Societal acceptance	Recognition, credibility, legitimacy from (inter)- governmental institution
		Community	Tranverse cross-disciplinary integral holistic collective intelligence
	Macro	Inner/ outer sense harmony	Other oriented cooperation & self-oriented competition equilibrium
	Meso	Pluralism, inclusiveness, diversity, creativity	Alternative flexible libertarian measure of value
			Soft skills and hard skills design thinking
	Micro	Innovation, confidence, humility	Open questioning capacity
Governance	Meta	Participatory democracy	Collaborative election decision process: consent sociocracy
	Macro	Citizenship engagement recognition	Effective stakeholder involvement stimulation
	Meso	Independent control	Independent quality control process
	Micro	Monetary creation as common good	Open free code and legality
Economic	Meta	Crisis resilience	Sufficient currency tool constellation: diversity inter-connexion
			Appropriate socio-environmental accountancy scheme
			Efficient externalities internalisation
	Macro	Make exchange possible	Unsatisfied needs meet unused resources
	Meso	Inclusive community-building	Income, employment and activities generation
			Financial inclusion & credit clearing & social inclusion
			Local economic actor liquidity
	Micro	Financial autonomy development	Turnover, sales
			Client loyalty
			Purchasing power
			Value-added
Social	Meta	Link share reciprocity solidarity	Local, time and knowledge exchange
	Macro	Equity and justice	Public debt reduction
			Egalitarian or ethical value hierarchy
			Public services increase
			Social protection preservation
			Non-Speculative economy circulation
	Meso	Needs satisfaction	Informal primary livelihoods activities support
			Voluntary work valuation
			Keep wealth locally
	Micro	Cohesion cooperation sharing vector	Value co-creation process
			SSE network activation
			Consumer-producer link reinforcement
Environment	Meta	Transition and autonomy	Encourage territorial community: conurbation regional development
	Macro	Eco-localization relocation	Incentive to attract local producer and consumer
	Meso	Ecological footprint reduction	Eco-citizen behaviour incentive: consumption reduction, repair, reuse, energy saving, waste recycling, biodiversity rehabilitation, organic agroforestry, water conservation, ethical banking, sustainable investment
	Micro	Responsible consumption motivation	Label network integration: Fair Trade, Organic products, Eco-friendly

Another reflection made by Philippe Derudder and Michel Lepesant in 2011 deals with CCS micro objectives reflected by economics actors such as producers, consumers, stakeholders and institutions (Derudder et al., 2011). Dealing even more with the integration of the stakeholder point of view, some recent reflections made by Maria Nginamau in 2013 and Cédric Chervaz in 2014 look at CCS' micro and meso objectives based on how service design concepts relate to communicative blueprint methodologies (Chervaz, 2014; Nginamau, 2013).

Nevertheless, all different objective approaches currently being conceptualized within the CCS movement aim to reveal its high potential to fulfil sustainable development. Beyond looking at their purpose, this paper argues, that it is important to prove that CCS are a strategic efficient tool to reach these goals, creating a real impact for sustainable development in either sense (Table 2)

AN "IMPACT ASSESSMENT MATRIX" PROPOSITION FOR CCS

An Impact Assessment Matrix deals with reporting against indicators for set goals and objectives measuring the quantitative outputs of an activity and verifying the qualitative outcomes of a project (UPEACE, 2011). It's a systematic method for collecting, analysing, and using information to answer questions about projects, policies and programs, particularly about their effectiveness and efficiency, usually using an indicators dashboard. They can involve both quantitative and qualitative methods of environmental and social research with different background such as economics, politics, cultural, sociology, anthropology, philosophy and psychology domains.

For the work on any Impact Assessment Matrix, we propose to respect the norms for evaluation proposed in the handbook on planning, monitoring and evaluating for development results by the United Nations Development Programme (UNDP, 2009: page 130). Furthermore, to reach such wide objectives as sustainable development, a greener, social and solidarity economy or prosperity without growth, any economic and monetary innovation must integrate a diversity of cross-disciplinary domains in its impact assessment approach. As these are complex cross-disciplinary dimensions, a transverse research approach is a key in the CCS field (Furtado, 2005). And as such we can take our inspiration from the well-structured work made in the development domain and the impact finance sector but shall even overpass them by designing a transverse and integral approach which takes into account more than strictly rational data collection and assessment.

Taking all the above into account, the following prototype Impact Assessment Matrix, shown in table 3, serves as an illustration of what a final dashboard or scorecard for the impact assessment of CCS might encompass, with an explanation of the category headings:

- Dimension: linked with scientific research domains in different background such as ecology (environment), sociology (social), economics (economy), politics (governance), anthropology, philosophy and psychology (culture) to insure a cross disciplinary approach.
- Level: meta, macro, meso or micro.
- Vision goal: as described above.
- Guideline principle: main topic, issue, subject which might be integrated, followed and respected.
- Evaluation objective: as discussed above.
- Typology: bilateral barter (B), multilateral barter (M), mutual credit (U), issued currency (C), hybrid exchange system (I) or relating to any of these types (A).
- Logic model hierarchy: measuring activities (A), outputs (P) or outcomes (C).
- Progress measurement against eco-socio-environmental indicators of different kinds.
- Monitoring and evaluation methodology: data collection and analysis with quantitative or qualitative research methods.
- Cost: estimation of the time, money and human resources needed for data collection: low (1), medium (2), high (3).
- Frequency of the data collection and analysis: daily (D), weekly (W), monthly (M), yearly (Y).

DEPLOYING THE "THEORY OF CHANGE" METHODOLOGY FOR BOTTOM-UP ADVANCEMENT OF EVALUATION IN CCS

For an on-going international EU-Interreg co-funded, cross-sectorial collaboration project (COMMUNITY CURRENCIES IN ACTION, 2012) around the consolidation of complementary currency tools, a framework for the evaluation of complementary and community currencies has been developed and deployed with the project's different CCS pilots (NEF, 2014). The methodology is here proposed as the second, incremental approach towards standardisation and consolidation of impact assessment of CCS.

The chosen framework approach is the well-established "Theory of Change" (ToC) methodology (Anderson, 2005). In general and when applied to CCS, one can distinguish two use cases in which a ToC approach is commonly applied. On the one hand, it serves as a forward-looking project or intervention-planning tool; on the other hand it is an analytical, backwards-looking project description and communication tool. Both scenarios can serve as a building block for evaluation, depending on when in the lifetime a project monitoring and evaluation commences. Often, the tangible outcome of a Theory of Change process is a flow-chart diagram that illustrates what short, medium and

Table 3: prototype of Impact Assessment Matrix – IAM (Source: Place, 2013)

Dimension	Level	Vision Goal	Guideline Principle	Evaluation Objective	Typol Categ	Logic Model	Progress Measurement Indicators	Monitoring & Evaluation Methodology, Data Collection & Analysis	Cost	Frequ
Culture	**Meta**	**Societal Acceptance**	**Societal**	Recognition Credibility Legitimacy from (Inter-) Governmental Institution	A	Outcome	N° institutional support	Management database	3	M
				Tranverse Cross-Disciplinary Integral Holistic Collective Intteligence	A	Outcome	N° scholar expert specialist involved	Management database	2	M
	Macro	**Inner Outer Sense Harmony**	**Altruism**	Other-Oriented Cooperation & Self-Oriented Competition Equilibrium	A	Outcome	% other-oriented vs self-oriented	System database	2	M
	Meso	**Pluralism Inclusivity Diversity**	**Creativity**	Alternative Flexible Libertarian Measure of Value	A	Outcome	Yes / No	Best practice	1	D
				Soft Skills and Hard Skills Design Thinking	A	Outcome	% soft skills vs hard skills	Management database	3	Y
	Micro	**Innovation, Confidence Humility**	**Innovation**	Open Questioning Capacity	A	Outcome	N° yearly improvement	Management database	2	Y
Governance	**Meta**	**Participatory Democracy**	**Democracy**	Collaborative Election Decision Process: Consent Sociocracy Holacracy	A	Output	N° stakeholder involved	Interview	2	Y
					A	Activity	N° administrative person	Management database	1	Y
	Macro	**Citizenship Engagement Recognition**		Effective Stakeholder Involvement Stimulation	A	Output	% participation among users	Management database	1	Y
	Meso	**Independent Control**	**Legal**	Independent Quality Control Process	A	Output	Certification	External auditing	2	Y
	Micro	**Monetary Creation as a Common Good**		National Legislation	A	Output	N° legal text	System database	2	W
			Transparency	Taxation	A	Outcome	%rate (fixed & variable)	External auditing	**1**	W
				Open source system	A	Outcome	Certification	External auditing	**1**	M
				Open banking	A	Outcome	Certification	External auditing	**2**	M
				Free Code and Legality	A	Outcome	% free code	External auditing	**3**	W
Economic	**Meta**	**Crisis Resiliency**	**Resilience**	Market diversity	A	Outcome	N° goods & services category	Classification standards	3	M
					A	Output	N° & % users & producers	System database	3	D
	Macro	**Make Exchange Possible**		Tipping Point Network Scale	U C I	Outcome	N° users & N° business	Minimum Best practices: 500 / 100	2	Y
				Training	A	Output	% trained	Interview	3	M
					A	Output	N° training hours per year	Management database	2	M
	Meso	**Inclusive Community-Building**		Interoperability	C I	Activity	N° systems users	System database	3	M
			Viability	Participation	A	Outcome	N° active members per year	Management database	1	Y
				Friendly user	U C I	Outcome	% agree & strongly agree	Interview	2	Y
				Intelligibility	A	Output	% agree & strongly agree	Interview	1	D
				Team Capacity	A	Activity	N° management team	Management database	3	Y
			Risk	Disaster mitigation	U C I	Output	Backup system Frequency	System database	1	Y
	Micro	**Financial Autonomy Development**		Currency Security features	A	Output	N° security features	Best practices: 3	3	W
				Transaction and Data Safety	A	Activity	N° failure accident	System database	2	W
				Record keeping and statistics	A	Activity	Backup system Frequency	System database	1	W
			Finance	Investment standards	U C I	Output	Certification	External auditing	2	D

				Loan Standards	U C I	Output	Certification	External auditing	3	D
			Accountancy	Accountancy standards	U C I	Output	Certification	External auditing	1	D
				Appropriate Socio-Environmental Accountancy Scheme	U C I	Output	Certification	External auditing	2	M
			Management	Monitoring and Evaluation	A	Output	N° standards & tools used	Best practice	3	M
			Exchange	Demurrage / Interest	A	Outcome	%rate	Best practice	3	W
				Debt levels	A	Outcome	Minimum and maximum	Best practice	2	D
				Discount rate	A	Output	%discount	Best practice	2	W
				Salary bonus	U C I	Output	%bonus	Best practice	1	D
				Exchange rates	A	Activity	%rate	Best practice	2	M
				Backed system	A	Activity	%backing	Best practice	2	D
Social	**Meta**	**Link Share Reciprocity Solidarity**	**Cooperation**	Exchangeability	A	Outcome	N° compensation systems	System database	2	M
				Co-creation	A	Output	N° involved in design	Management database	3	M
				New skills	A	Activity	% agree & strongly agree	Interview	3	Y
	Macro	**Equity and Justice**	**Engagement**	Involvement	A	Outcome	% agree & strongly agree	Interview	1	D
				Inclusion	B M I	Outcome	N° solidarity inclusion	Management database	1	W
				Social service dependence	B M I	Outcome	N° social service dependant	Management database	2	Y
				Cohesion	B M I	Outcome	N° new relationship	Interview	2	D
	Meso	**Needs Satisfaction**	**Well-being**	Increase self-confidence	B M I	Outcome	% agree & strongly agree	Interview	1	Y
				Friendship and Trust	B M I	Outcome	% agree & strongly agree	Interview	2	Y
				Improve quality of life	B M I	Outcome	% agree & strongly agree	Interview	1	D
				Mindfulness and Spirituality	A	Output	% agree & strongly agree	Interview	2	D
			Diversity	Education level repartition	A	Activity	%High & Graduate school	Interview	3	W
	Micro	**Cohesion Cooperation Sharing Vector**	**Mission**	Ethic Charter	A	Activity	Yes / No	Best practice	1	D
				Conducts Code	A	Activity	Yes / No	Best practice	2	W
			Education	Enrolment	A	Outcome	N° children enrolled in school	Interview	3	D
			Poverty	Income increase	B M I	Outcome	%income increase	Interview	2	W
					A	Outcome	N° risen out of acute poverty	Interview	1	W
				Employment	B M I	Outcome	%employment increase	Interview	2	D
					A	Outcome	N° new job created	Interview	3	D
Environment	**Meta**	**Transition and Autonomy**	**Relocation**	Local growth	U C I	Outcome	%GDP local increase per year	Regional database	2	M
					U C I	Outcome	N° profitable enterprise support	Interview	1	Y
					U C I	Outcome	N° new profit & wage generated	Interview	2	Y
	Macro	**Eco-Localization Relocation**		GHG emission	C I	Outcome	%CO2 & CH4 decrease	Regional database	3	M
				Local consumption	U C I	Outcome	%products locally produced	System database	2	M
				Currency exchange	A	Output	%salary exchanged in CCS	Interview	1	M
					A	Output	N° of CCS spent & earned	System database	2	Y
	Meso	**Ecological Footprint Reduction**	**Biodiversity**	Reforestation	C I	Outcome	N° tree plantation	Regional database	3	Y
			Eco-Friendly	Behaviour change	C I	Outcome	% agree & strongly agree	Interview	3	W
				Waste management	C I	Outcome	%recycling increase	Regional database	3	D
				Water management	C I	Outcome	%water consumption decrease	Regional database	2	W
	Micro	**Responsible Consumption Motivation**		Green economy	C I	Outcome	%organic & fair product increase	Regional database	2	D

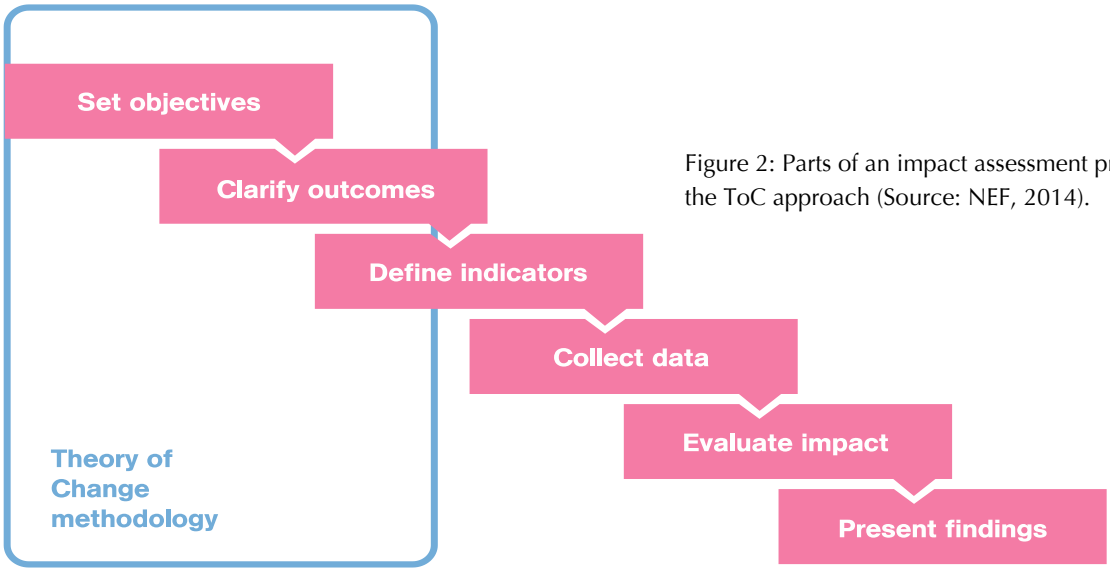


Figure 2: Parts of an impact assessment process covered by the ToC approach (Source: NEF, 2014).

long-term outcomes have been achieved by the intervention or are expected to be achieved respectively. The interactions between these outcomes are mapped in a temporal manner, portraying earlier changes as the preconditions for later and possibly more high-level outcomes/changes.

As part of a full evaluation or impact assessment (Figure 3), the ToC covers the first two parts, allowing for the third part, the determination of appropriate indicators to follow. Through breaking up outcomes into very concrete and manageable components, it becomes easier to find qualitative and quantitative indicators for individual outcomes that are the basis for data collection and finally evaluation (including the discounting of deadweight).

In a ToC, the elements and effects of a project, initiative or intervention are clearly distinguished from each other, which helps the (meta-)communication within a project team and the outwards communication to stakeholders, users and funders. The most important distinction is the one between "activities" and "outcomes". Particularly during the stakeholder workshops, the facilitator's question

Figure 3: Example of a Theory of Change flow chart for CCIA TimeCredit currencies in Wales (Source: NEF, 2014).

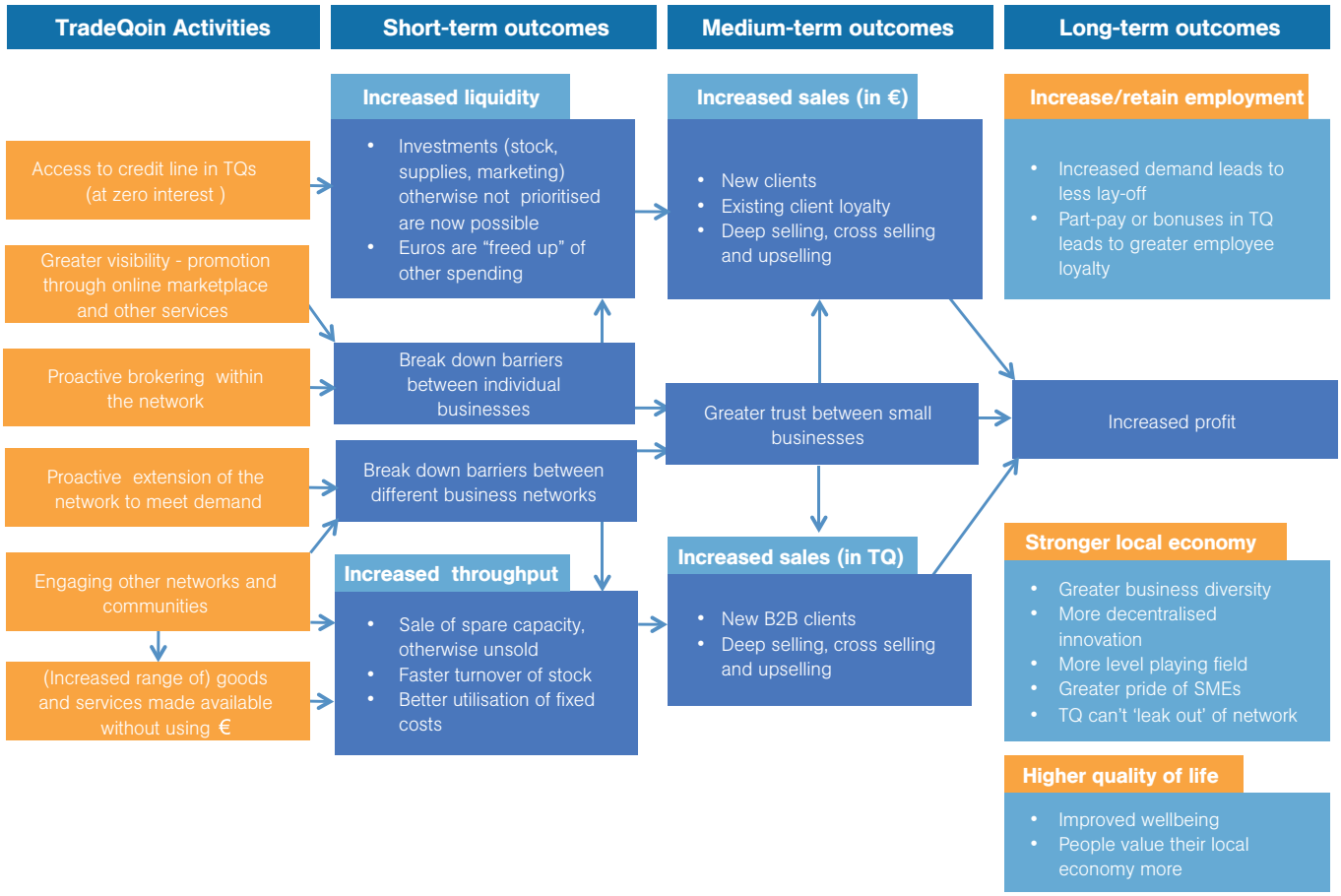
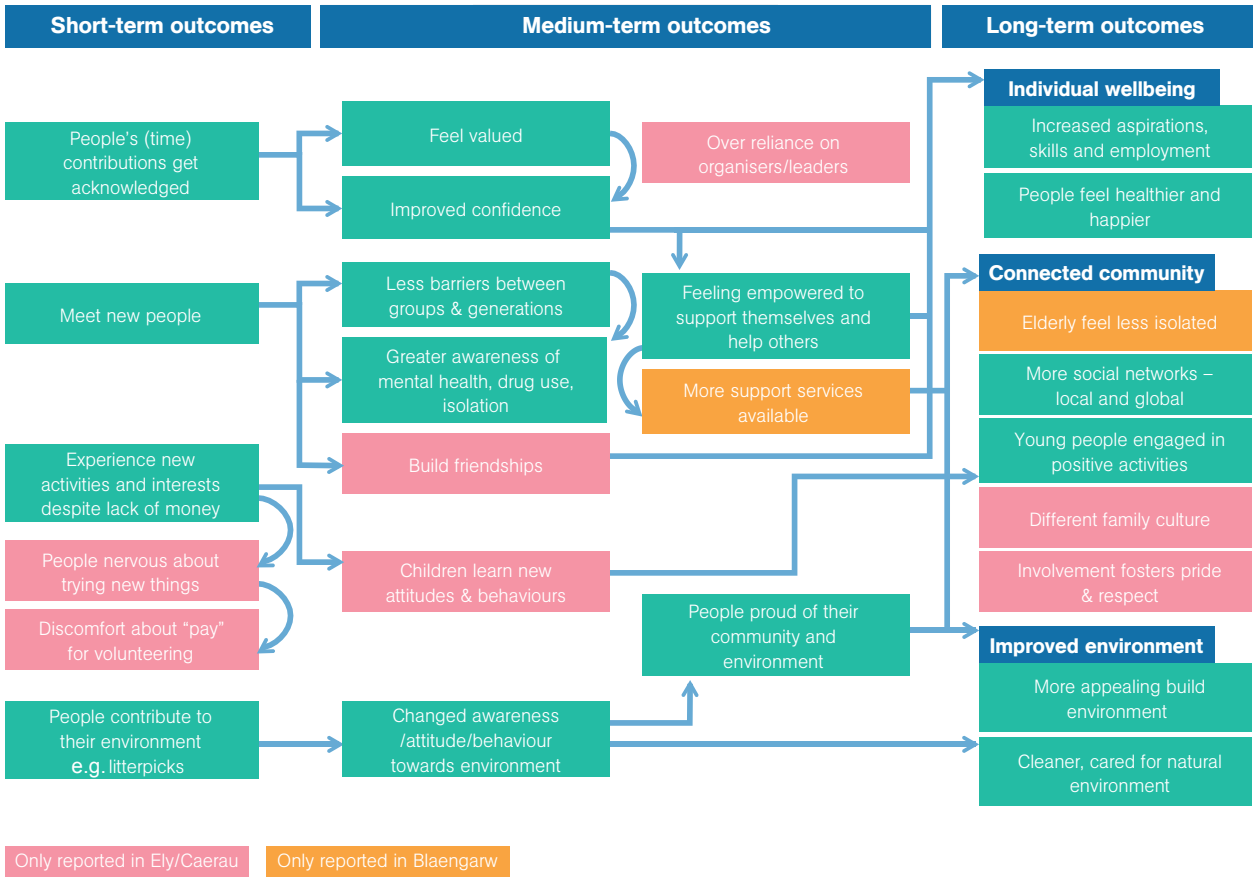


Figure 4: Example of a Theory of Change flow chart for CCIA TradeQoin pilot in the Netherlands (Source: NEF, 2014).



"What is the project (supposed to be) doing?" can be answered with either category. But as a tool for impact assessment the ToC is only concerned with outcomes, or, in other words, the effects of activities on people or the situation they are in. These are the "changes" happen and which this methodology seeks to articulate clearly. To make sure an outcome rather than an activity is articulated, the question "Why does this (the activity) matter?" can be asked iteratively (NEF, 2014).

To validate and adapt it for CCS, ToC workshops were conducted with the CCIA implementation partners and their stakeholders. The results of two of these workshops with different CCS are presented here (Figures 4 & 5).

Each outcome, on the short-, mid. and long-term, depicted in one of the building blocks of the graphic ToCs, can then be targeted in the search for appropriate indicators, which could show that this one outcome has been achieved or not. In addition to determining indicators for a specific evaluation, one of the strong extra advantages of a Theory of Change approach and process is that many unarticulated and even unconscious assumptions can surfaced and get tested for their relevance to the project or intervention (Vogel, 2012). This is of course increasingly important the more different stakeholder groups are involved in a project. And since many CCS initiatives aim to be more inclusive and collaborative than conventional projects, divergent assumptions and individual motivations of different stakeholder(-groups) are a hazard to the success and sustainability of the initiative. In this sense the ToC approach serves the recommendations of Seyfang and Longhurst, who cite "expectation management" to be one of the key success factors for the sustainability of social niche technologies like CCS (Seyfang et al., 2012).

In conclusion, a ToC framework has several benefits beyond the development of the CCS field and the incremental and peer driven development of general indicators and quality standards of impact evaluation:

- It is applicable at all stages of development of a given system or initiative.
- It is supportive of the design, marketing and validation processes of currency initiatives through a focus on the clear articulation of objectives and assumptions.
- It is compatible with different stakeholder situations (grass-root, non-profit, commercial, public).
- It can be an integrated part of an evaluation process or can be a stand-alone result for better communication (towards funders and new stakeholders) and assisting the project development process.
- It is adaptable to self-driven, facilitated or commissioned evaluation efforts.

- It is a pre-requisite for a peer driven development of general evaluation and quality standards (including the above proposed matrix and scorecard approach) of CCS.

We proposed the Theory of Change framework as a first stage for wide spread and consolidated impact assessments of CCS in order to increase the legitimacy, external visibility, and internal viability of such initiatives as an efficient impact tool for sustainable development.

CONCLUSION

In the first section we identified the context and need for more rigorous and coherent impact assessment of CCS. In the second section we show how current literature on CCS does not fully accommodate this need.

Thus, after reviewing the diverse objectives of different CCS in section 3, we provided two prototype approaches for the improvement and spread of impact assessment: 1) an Impact Assessment Matrix, and 2) a practical and incremental approach in that direction through the application of the Theory of Change methodology as piloted in the CCIA project.

Thanks to these impact evaluation and monitoring approaches, we hope to accelerate and enhance the validation of complementary currency systems as strategic and efficient impact tools for sustainable and ethical prosperity. Even in the short term, this is important to make the case to funders and policy makers. Our proposed approaches reflect how they contribute to these broad aims in the distinct spheres of culture, governance, economy, social integration and environment. Solid impact assessment and monitoring would also allow CCS to improve their internal design and implementation in order to reach their impact objectives and consequently advance their performance, legitimacy, scaling-up and replication processes.

A practical yet principle driven approach to standardisations of evaluation and impact assessment could ultimately also enable the establishment of a certification system for "impact currencies", which will allow this field to prove not only its innovativeness and viability but also its genuine transverse and integral impact for territorial and community development.

It is expected that in overlay of the indicators from different currencies a set of general and another set of specific indicators can be derived, with specific sets for different currency models. This will inform the design of future evaluation standards and dashboard systems. From this conceptual and action research driven approach we expect to ultimately derive the impact evaluation standards necessary to validate CCS as appropriate and effective tools for the sustainable development expansion and appraisal.

Both complementary and connected approaches that we presented here aim at this goal, but which of them will be taken up and used by practitioners and researchers remains to be seen. However, the Impact Assessment Matrix and the Theory of Change methodology remain under development by the authors and will hopefully facilitate new collaborations and strategic developments in and for the field of complementary currency systems.

REFERENCE

Anderson, A. (2005) 'The Community Builder's Approach to Theory of Change', (Aspen Institute). Available on-line: www.aspeninstitute.org/sites/default/files/content/docs/rcc/rccsommbuildersapproach.pdf. Accessed 21st August 2014.

Aldridge T. and A. Patterson (2002) 'LETS get real: constraints on the development of local exchange trading schemes'. Area. Vol 34(4) pp.370-381.

Aldridge T., A. Patterson and J. Tooke (2003) 'Trading places: geography and the role of local exchange trading schemes in local sustainable development'. Local environmental sustainability. Pp.169-194.

Blanc, J. (2014) 'Classifying CCS: Community, complementary and local currencies types and generations'. In International Conference on Community and Complementary Currencies 1, 16th and 17th of February 2011, Lyon. Available on-line: http://www.monnaiesendebat.org/spip.php?Rubrique18. Accessed 21st August 2014.

Blanc J. (2013) 'Community and complementary currencies, practices and research: state of the art'. In UNRISD International Symposium on Potential and Limits of the Social and Solidarity Economy – Special Session on Alternative Finance and Complementary Currencies, 6th, 7th and 8th of May 2013. (Geneva: International Labour Organization).

Bindewald, L., M. Nginamau, and C. Place (2013) 'Validating complementary and community currencies as an efficient tool for social and solidarity economy networking and development: the deployment of theory of change approach and evaluation standards for their impact assessment'. In International Symposium on Potential and Limits of the Social and Solidarity Economy – Special Session on Alternative Finance and Complementary Currencies, 6th, 7th and 8th of May 2013. (Geneva: International Labour Organization). Available on-line: http://www.unrisd.org/sseconf > accessed 21st August 2014.

Brenes, E. (2014) 'Complementary currencies for sustainable local economies in Central America'. Journal of Community Currency Research. Vol 15(D) pp.32-38.

Briet, N. (2013) 'L'émergence des monnaies complémentaires en Rhône Alpes et Suisse – co-créons une finance durable et equitable'. In 4ème RENCONTRES ÉCO-CITOYENNES DU TIOCAN, 29th, 30th, and 31st of March 2013. (Thoiry, France).

Brink, P., L. Mazza, T. Badura, M. Kettunen and S, Withana (2014) 'Nature and its role in the transition to a green economy'. (Institute for European Environmental Policy) Available on-line: http://www.teebweb.org/wp-content/uploads/2012/10/Green-Economy-Report.pdf . Accessed 21st August 2014.

Cahier d'espérance Richesses et Monnaies (2014) 'Cahier d'espérance pour un autre regard sur la richesse et la monnaie. In États Généraux de l'économie Sociale et Solidaire, 17th, 18th and 19th of

June 2011. (Paris). Available on-line: http://cahier.collectif-richesses.org. Accessed 21st August 2014.

Cahn, E. (2001) On LETS and Time Dollars. International Journal of Community Currency Research 5.

Chervaz, C. (2014) 'La monnaie comme service: diverses approches et élaboration d'un design de service pour une monnaie complémentaire' Unpublished Master dissertation (Geneva Business School of Administration).

Chien, M. (2010) 'From sustainability to human rights: a case study on Endesa/Endesa Brasil.' (United Nations Global Compact). Available on-line: http://www.unglobalcompact.org/case_story/373. Accessed 21st August 2014.

Collom, Ed. (2014) 'Key indicators of time bank participation: using transaction data for evaluation'. International Journal of Community Currency Research. Vol 16(A) pp.18-26.

CCIA, Community Currencies in Action, Available on-line: www.communitycurrenciesinaction.eu. Accessed 21st August 2014.

Derudder, P. and M. LEPESANT (2011) 'Monnaie locale complémentaire éditorial'. Available on-line: http://monnaie-locale-complementaire.net/category/fondamentaux. Accessed 21st August 2014.

Demeulenaere, S. (2007) 'Yearly report of the worldwide database of complementary currency systems'. International Journal of Community Currency Research. Vol 12 pp.2-19.

Demontalivet, V. and O. Chaussavoine (2013) Myrecyclestuff

Dittmer, K. (2014) 'Local currencies for purposive degrowth? A quality check of some proposals for changing money-as-usual'. Journal of Cleaner Production. Vol 54 pp. 3-13

Fare, M. (2011) 'Les conditions monétaires d'un développement local soutenable: des systèmes d'échange complémentaire aux monnaies subsidiaires' Unpublished Doctoral thesis, (Université Lumière Lyon 2).

Furtado, J. I. dos Remedios (1005) 'Multiple approaches towards sustainable development'. (Los Banos: IRRI).

Gelleri, C. (2009) 'Chiemgauer regiomoney: theory and practice of a local currency'. International Journal of Community Currency Research. Vol 13 pp.61-75.

Graugaard, J. D. (2012) 'A tool for building community resilience? A case study of the Lewes Pound'. Local Environment: The International Journal of Justice and Sustainability. Vol 17(2).

Hayem, E. (2013) 'Une monnaie pour relier les acteurs de l'économie symbiotique et developer une économie vertueuses sur les territoires'. (Paris: Zoupic, le propre de l'om) Available on-line: http://www.zoupic.com/2013/05/30/une-monnaie-pour-relier-les-acteurs-de-leconomie-symbiotique-et-developper-une-economie-vertueuse-sur-les-territoires. Accessed 21st August 2014.

Ingleby, J. (1998) 'Local economic trading systems: potentials for new communities of meaning: a brief exploration of eight lets systems, with a focus on decision making'. International Journal of Community Currency Research. Vol 2.

INSTITUTO PALMAS - NESOL-USP (2013) 'Banco Palmas 15 anos: resistindo e inovando', (São Paulo: A9 Editora)

Jacob, J., M. Brinkerhoff, E. Jovic and G. Wheatley (2004) 'The social and cultural capital of community currency: an Ithaca Hours case study survey'. International Journal of Community Currency Research. Vol 8 pp.42-56.

Kokabu, M., O. Katai, T. Shiose and H. Kawakami (2004) 'Design concept of community currency based on fuzzy network analysis'. In 8th Asia Pacific Symposium on Intelligent and Evolutionary Systems, (Cairns, Australia), pp.107-116, Available on-line <http://www.ormita.com/pdf/library/communitycurrencydesign.pdf >. Accessed 21st August 2014.

Louette, A. (2008) Sustainability compendium: social and environmental responsibility management tools, (São Paulo: Antakarana Cultura Arte Ciência). Available on-line: http://www.compendiosustentabilidade.com.br. Accessed 21st August 2014.

Louette, A. (2009) Sustainability indicators of nations: a contribution to dialogue, (São Paulo: Antakarana Cultura Arte Ciência/ Willis Harman House). Available on-line: http://www.compendiosustentabilidade.com.br. Accessed 21st August 2014.

Monnaie en Débat. (2011) 'Faire mouvement'. In: Rencontre Internationale des acteurs des monnaies sociales et complémentaires, 18th of February 2011. Lyon. Available on-line: http://www.monnaiesendebat.org/. Accessed 21st August 2014.

Molnar, S. (2011) 'Time is of the essence: the challenges and achievements of a Swedish time banking initiative'. International Journal of Community Currency Research. Vol 15(A), pp.13-22.

Naughton-Doe, R. (2011) 'Time banking in social housing: a toolkit for co-production in public services'. International Journal of Community Currency Research. Special issue, Vol 15(D) pp.17-21

NEF (New Economics Foundation) (2014) 'No Small Change. Evaluating the success of your community currency project'. Available on-line: http://www.neweconomics.org/publications/entry/no-small-change. Accessed 21st August 2014.

Nginamau, M. (2013) 'Étude de faisabilité de l'implémentation d'une monnaie sociale complémentaire au sein d'un réseau de l'économie sociale et solidaire' Unpublished Master dissertation (Geneva Business School of Administration).

Ozanne, L. (2010) 'Learning to exchange time: benefits and obstacles to time banking'. International Journal of Community Currency Research. Vol 14(A) pp.1-16.

P2P FOUNDATION (2013) Complementary currency definition. Available on-line: http://p2pfoundation.net/Complementary_Currencies. Accessed August 2014.

Park, S. (2011) 'Reinventing financial services for a digital currency'. In LIFT Conference, 4th of February 2011, Geneva. Available on-line: http://www.parkparadigm.com/. Accessed 21st August 2014.

Place C. and L. Bindewald (2013) 'Validating and improving the impact of complementary currency systems'. In 2nd International Conference on Complementary Currency Systems: Multiple moneys and development - making payments in diverse economies, 19th, 20th, 21st, 22nd, and 23rd of June 2013, The Hague. Available on <

http://www.iss.nl/research/conferences_and_seminars/previous_iss_conferences_and_seminars/complementary_currency_systems/#Papers > Accessed 21st August 2014.

Place, C. (2010) 'Moedas sociais e filantropía: o impact to investimento social privado para o desenvolvimento de alternativas?'. Revista Benchmarking. Vol 5 pp. 46-48. Available on-line: http://www.maisprojetos.com.br/benchbrasil/revista/. Accessed 21st August 2014.

Place, C. (2012) 'Impact assessment of economic and monetary innovations for their financing and improvement: why is it necessary for social transformation projects management?'. In TESLA International Social Transformation Conference – Energy Currency Energy as the Fundamental Measure of price, cost and value, 10th, 11th and 12th of July 2012, Split. Available on-line: http://teslaconference.com/documents/PLACE%20Christophe.pdf. Accessed 21st August 2014.

Ruddick, W. and L. Mariani. (2013) 'Complementary currencies strengthening the Social and Solidarity Economy: case studies from Kenya'. In UNRISD International Symposium on Potential and Limits of the Social and Solidarity Economy – Special Session on Alternative Finance and Complementary Currencies, 6th, 7th and 8th of May 2013. (Geneva: International Labour Organization). Available on-line: http://www.unrisd.org/sseconf. Consulted the 21st of August 2014.

Ruddick, W. (2911) 'Eco-pesa: an evaluation of a complementary currency programme in Kenya's informal settlements'. International Journal of Community Currency Research 15 (A) 1-12,

Scott Cato, M. and M. Suárez (2012) 'Stroud pound: a local currency to map, measure and strengthen the local economy'. International Journal of Community Currency Research. Special issue, Vol 16(D) pp.106-115.

Schroeder, R., Y. Miyazaki and M. Fare (2011) 'Community currency research: an analysis of the literature'. International Journal of Community Currency Research. Vol 15(A) pp.31-41.

Schroeder, R. (2006) 'Community exchange and trading systems in Germany'. International Journal of Community Currency Research. Vol 10 pp.24-42.

Servet, J.-M. (2013) 'Monnaie complémentaire versus microcredit solidaire et tontines: contribution compare à un développement solidaire local'. In UNRISD International Symposium on Potential and Limits of the Social and Solidarity Economy – Special Session on Alternative Finance and Complementary Currencies, 6th, 7th and 8th of May 2013. (Geneva: International Labour Organization). Available on-line: http://www.unrisd.org/sseconf. Accessed 21st August 2014.

Seyfang, G. and N. Longhurst, (2013) 'Growing green money? Mapping community currencies for sustainable development'. Ecological Economics. Vol 86 pp. 65-77.

Seyfang, G. and N. Longhurst (2012) 'Grassroots innovation for sustainability: a niche analysis of community currencies'. Science, Society and Sustainability Research Group, Norwich

Seyfang, G. (2002) 'Tackling social exclusion with community currencies: learning from LETS to Time Banks'. International Journal of Community Currency Research. Vol 6.

Seyfang, G. (2001) 'Spending time, building communities: evaluating time banks and mutual volunteering as a tool for tackling social exclusion'. Voluntary Action. Vol 4(1).

Seyfang, G. (1997) 'Examining local currency systems: a social audit approach'. International Journal of Community Currency Research. Vol 1.

Silva Junior, J. (2008) 'Avaliação de impactos e de imagem: Banco Palmas – 10 anos', (Universidade Federal do Ceará). Available on-line: http://www.banquepalmas.fr/IMG/pdf/Rapport_Jeova_Evaluation_BP.pdf. Accessed 21st August 2014

Solis, B. (2011) 'Engage: the complete guide for brands and business to build, cultivate, and measure success in the new web', (New York: John Wiley & Sons).

Sotiropoulou, I. (2011) 'Alternative exchange systems in contemporary Greece'. International Journal of Community Currency Research. Special issue Vol 15(D) pp.27-31

Thiel, C. (2011) 'Complementary currencies in Germany: the Regiogeld system'. International Journal of Community Currency Research. Special issue 15(D) pp.17-21.

UNDP (United Nations Development Programme) (2009) Handbook on Planning, Monitoring and Evaluating for Development Results. Available on-line: http://web.undp.org/evaluation/handbook/index.html. Accessed 21st August 2014

UPEACE (University for Peace mandated United Nations – Center of Executive Education) (2011). 'Entrepreneurship, Innovation and Social Change: Measuring Impact and Evaluation'. Available on-line http://centre.upeace.org/courses/entrepreneurship-innovation-and-social-change/. Accessed 21st August 2014

Vogel, I. (2012) 'Review of the use of "Theory of Change" in international development'. UK department of International Development. Available on-line: https://www.gov.uk/government/news/dfid-research-review-of-the-use-of-theory-of-change-in-international-development. Accessed 21st August 2014

Walker, D. (2009) 'The impact of community currency systems on gender relations in rural northeast Thailand: a hybrid social audit – gender analysis approach'. International Journal of Community Currency Research. Vol 13 pp.36-60.

Wheatley, G. (2004) 'Complementary currency and quality of life: social and economic capital effects on subjective well-being'. International Journal of Community Currency Research. Vol. 8.

Wheatley, G., C. Younie, H. Alajlan and E. Macfarlane (2011) 'Calgary dollars: economic and social capital benefits'. International Journal of Community Currency Research. Vol 15(A) pp.84-89.

Williams, C. (1997) 'Local exchange and trading systems (LETS) in Australia: a new tool for community development?'. International Journal of Community Currency Research. Vol 1.