Published in proceedings of 2nd International Conference on Complementary Currency Systems , 2013, Hague, Netherlands, 19-23 june,which should be cited to refer to this work

PLACE C.. BINDEWALD L.. Validating and Improving the Impact of Complementary Currency Systems: impact assessment frameworks for sustainable development. In: CCS-2013 2nd INTERNATIONAL CONFERENCE ON COMPLEMENATARY CURRENCY SYSTEMS: MULTIPLE MONEYS AND DEVELOPMENT: MAKING PAYMENTS IN DEVERSE ECONOMIES. From 19th to 23rd of June 2013. The Hague. Conference proceedings. The Hague: International Institute of Social Studies of Erasmus University Rotterdam, 2013.

2nd INTERNATIONAL CONFERENCE ON COMPLEMENTARY CURRENCY SYSTEMS

Multiple moneys and development: making payments in diverse economies

ISS is The International Institute of Social Studies of Erasmus University Rotterdam

International Institute of Social Studies in The Hague
Part of Erasmus University Rotterdam

VALIDATING AND IMPROVING THE IMPACT OF COMPLEMENTARY CURRENCY SYSTEMS:

impact assessment frameworks for sustainable development

PLACE Christophe
HEG-Geneva School of Business Administration, Campus Batelle, Bâtiment F, 7, route de Drize, 1227 Carouge, Switzerland.
BINDEWALD Leander
New Economics Foundation, 3 Jonathan Street, London SE11 5NH, United Kingdom.

Corresponding author: christophe.place@hesge.ch

19-23 June 2013
International Institute of Social Studies, Kortenaerkade 12, 2518 AX Den Haag, Netherlands.

ABSTRACT

To bring the credibility and legitimacy required when engaging with public institutions, depending on sustained support from funders and last but not least in order to improve the design and implementation of complementary currency systems (CCS), it is necessary to evidence their impact and validate them as effective and efficient tools to reach sustainable development goals. Recent analysis of their typology, intentional objectives and sporadic impact evaluations didn't generate enough basic data and understanding to deliver this evidence, especially because of the lack of comprehensive impact analysis research. Only around a fourth of CCS studies even touch upon impact evaluation processes. A standardisation of impact evaluation in this field is necessary to improve not only the quantity, quality and comparability of the data collected, but also to support longitudinal studies, juxtapositions of different types of currencies in their environmental and socio-economic context. The final aim is to allow a genuine comparison and indexing of the specific impacts of a wide range of currency designs and implementations. This paper, after reviewing the pertinent studies in this and related fields, proposes two complementary connected approaches to achieve this goal in the near future: a prototype of an integral Impact Assessment Matrix based on the goals, objectives and performance indicators as a guideline for the development of evaluation standards and, secondly, the "Theory of Change" methodology as a common, comprehensive and incremental approach for impact evaluation in this innovative field. Both propositions are currently being applied and further developed by the authors. This paper seeks to open a discussion within the discipline of CCS and related fields of research to progress in fulfilling the identified needs for validation and improvement of the impact of CCS.

Keywords: *impact, assessment, evaluation, monitoring, standards, measurement, indexing, indicators, performance*.

TABLE OF CONTENTS

INTRODUCTION **3**

1. TYPOLOGIES AND OBJECTIVES OF CCS **4**

1.1. Typology of CCS *4*
1.2. Objectives of CCS *5*

2. PURPOSE AND CONTEXT OF EVALUATION STANDARDS FOR CCS **7**

2.1. Review of existing impact assessment work in CCS and related fields *7*
2.2. "Impact Assessment Matrix" proposition for CCS *10*

3. A BOTTOM-UP EVALUATION FRAMEWORK UNDER DEVELOPMENT **14**

3.1. Deploying the "Theory of Change" approach for CCS evaluation *14*
3.2. Benefits of the "Theory of Change" approach for Evaluation standards in CCS *16*

CONCLUSION **17**

ACKNOWLEDGEMENT **17**

ANNEXE **18**

Annexe 1: results and conclusion of some impact assessment process in CCS field *18*
Annexe 2: selection of impact assessment methodologies in sustainable finance *22*
Annexe 3: Example of a Theory of Change flow chart for CCIA TimeCredit currencies in Wales *23*

REFERENCE **24**

INTRODUCTION

For over 3 decades, from 1983 to 2012, up to 4'500 complementary currency, community credit and alternative finance systems claimed to have achieved, without commonly accepted proof, economic integration through reciprocity, redistribution, sharing, solidarity and the protection of regional or local economies (SERVET, 2013 ; BLANC, 2013). Those Complementary Currency Systems (CCS) cover a wide range in their 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. The ontology of these economic and monetary innovations to date falls short of scrutinizing their viability and rarely looks for genuine evidence of their economic, social, environmental and political impact.

Thankfully, for some years, practitioners, policy makers and academics in the so-called CCS movement have shown a growing interest in impact evaluation, 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. Indeed, most of impact evaluations presented so far had been based on individual empiric 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, an Impact Assessment Matrix (IAM) prototype which integrates monitoring and evaluation methodologies and 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 processes and frameworks in the related fields of impact investment and development presented at the University of Split in July 2012[1], further work on the typologies and objectives of CCS prepared for the UNRISD conference in Geneva in May 2013[2] and the action-research done for the Community Currencies in Action project[3].

The contribution of this paper[4] is to firstly review the evolution of typologies in the field and summarise their reported intentional objectives in order to map the field of inquiry. Secondly, to analyse the existing impact assessment processes in this and related fields in order to describe a non-exhaustive impact assessment matrix. And thirdly we describe a malleable methodological framework based on the "Theory of Change" approach as an immediate and incremental step towards a universally applicable and comparable process for the evaluation of CCSs. 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.

[1] Conference proceedings presented at the University of Split in July 2012 during the Tesla Conference – Impact assessment of economic and monetary innovations for their financing and improvement: why is it necessary for social transformation projects management? Available on < www.teslaconference.com/materials.html >. Consulted the 30th of May 2013.

[2] International symposium on Potential and Limits of Social and Solidarity Economy – Special session on alternative finance and complementary currencies, working paper: 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. < www.unrisd.org/unrisd/website/events.nsf/%28httpAuxPages%29/69C2EE8E0C8A0849C1257B5F00300E40?OpenDocument&category=Conference+Presentations+and+Papers >. Consulted the 30th of May 2013.

[3] Community Currencies in Action is a project part-funded by the EU's ERDF Interreg IVb program, see < www.ccia.eu >. Consulted the 30th of May 2013.

[4] More background information about this and following points, including annexes on pertinent existing impact assessment frameworks and literature can be found in a longer version of this paper available upon request from the corresponding author.

1. TYPOLOGIES AND OBJECTIVES OF CCS

Alternative finance, credit clearing, community and complementary currencies, in a recent study counting 3'418 past and present instances around the world, are often, depending on author and channel, called different names, such as creative, innovative, pioneering, cutting-edge, vanguard, modern, impact currencies in order to differentiate them from the conventional, traditional, customary, standard, ordinary etc. money (KENNEDY *et alii*, 2004 ; SEYFANG *et alii*, 2012). This latter, conventional money is here considered as one specific kind of currency with its own modalities, not to be further illustrated in this paper.

For over 15 years, during various scientific symposium, academic publication, field experimentation, practitioners' workshop, and research projects, the self-proclaimed CCS movement has generated different categorizations and typologies, also in regard to the objective and implementations of CCS[5].

To establish an appropriate approach and scope to evaluation and impact assessments, it is necessary to firstly study these typologies and objectives in order to understand how CCS are framed by their proponents, users and onlookers.

1.1. Typology of CCS

When we look at the miscellaneous knowledge base around these monetary innovations, we find various "labels"[6] describing CCS models (SCHROEDER, 2011). Over the past 9 years, some propositions of typology, categorization and classification have been made, most notably and duly noted by Siglinde BODE in 2004, Margrit KENNEDY and Bernard LIETAER in 2004, Jérôme BLANC in 2011, Jens MARTIGNONI in 2012 and Gill SEYFANG and Noel LONGHURST in 2012. Each of them has their specificities and provides valuable help to better understand the functioning and purpose of those CCS initiatives overall, yet none has proven to deliver an exhaustive and satisfactory typology for both theory and practice. Indeed, some typologies focus more on their operational implementation and design aspects but others also integrate their objectives, purpose and vision aspects and a focus on impact.

The first classification proposition considered here, made by Siglinde BODE in 2004, is mainly based on a business approach where money is a medium of exchange between businesses (B) and customers (C) and it provides a clear comprehension of their operating systems[7] but not necessarily their specific objectives, purpose and vision (BODE, 2004).

A second classification proposition from the same year, made by Margrit KENNEDY and Bernard LIETAER incorporates, aspects of purpose, differentiated by political, commercial or social, with different functional aspects (KENNEDY *et alii*, 2004)[8]. Building on this distinction between social or commercial purpose of CCS type, a third classification proposition, made by Jens MARTIGNONI in 2012, further elaborates on the dimension or principle of purpose by sorting between self-oriented, serving individuals, and others-oriented, serving everyone (MARTIGNONI, 2012)[9].

A fourth classification proposition, made by Jérôme BLANC in 2011, distinguishes the purpose of CCS-types as defining, protecting, strengthening, stimulating, and orientating a community, a territory, or the general economy (BLANC, 2011)[10]. Not directly dividing CCS between their community, territory and economy purposes, a fifth classification proposition[11], made by Gill SEYFANG and Noel LONGHURST in 2012, present CCS as interventions to strengthen local solidarity, offer additional liquidity or incentive re-use out of environmental motiviatoins, dividing currencies along the lines of established triple bottom line framework of the social, environmental and economic sphere (SEYFANG *et alii*, 2012).

In conclusion, the above classifications or typologies of CCS initiatives, except the one of BODE which mainly focuses on operational aspect of CCS, can be synthesized with a focus on objectives as follows:

---

[5] Spanning a range often broader then the here considered. Recent studies are comparing the efficiency of a barter market, non-monetary systems, in relation with a regular markets and monetary systems (DEMONTALIVET *et alii*, 2013).

[6] For example but far from complete: Banco Palmas, Bancos del Tiempo, Barter Systems, Bia Kud Chum, Constant, Double Triangle Scheme, Earth Day Money, Eco-Money, Free Money, Friendly Favors, Fureai Kippu, Green Dollars, Hansatsu, Hours, Jardin d'Echange Universel, Labour Note, Local Exchange Trading System, Q-project, Regiogeld, Scrip Currency, Système d'Échange Local, Seniorengenossenschaften, Talente, Tauschringe, Tianguis Tlaloc, Time Bank, Transition Currencies, Trueque, Wära, WAT, WIR, et cetera (SCHROEDER, 2011).

[7] In addition with this proposal analyses "service-backed" as a CCS type where currencies are issued against a promise to give service whereas currency-baked is a CCS type where currencies are exchanged for conventional money which is deposited in an account as backing for any later repayment.

[8] This classification is more specific and detailed and aims to establish a scheme for classifying all forms of currency. So many mixed criteria create a very complex classification system but this typology provides a clue on either legal tender, commercial or social purpose and on their function such as means of payment, measure of value, or medium of exchange, store of value

[9] This classification is based on basic currency concept (purpose and trust) and more technical currency design aspects (creation and circulation). Thus it presents a combined, objective and operational approach to CCS types.

[10] This classification gives an historic developmental overview of CCS generations and not only assumes an operational approach but also an objectives approach.

[11] This classification categorizes CCS in four principal types simplifying the complexity of multiple local practices and objectives: service credits which aim to social inclusion and cohesion; mutual exchange which aim to offer additional liquidity, access to interest-free credit and encourage import subsitution; local currencies which aim to increase local economy and support local businesses; and barter markets which aim to develop solidarity economy or incentive re-use for environmental purposes.

Table 1: objective approach of complementary currency systems according to their typology

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

In order to be compliant with the requirements and perspectives of funders and policy makers, a comprehensive CCS typology must also integrate initiatives with pronounced commercial purposes like loyalty programmes, vounchers, coupons and bonus points, social network or social media currencies, and business-to-business barter or trade exchange currencies (KIM *et alii*, 2010 ; SOLIS, 2011 ; SLATER, 2011 ; VIRTUAL CURRENCY PLATFORMS, 2013 ; MINISTÈRE DU REDRESSEMENT PRODUCTIF, 2013 ; PARK, 2011 ; BROCK, 2011 ; EUROPEAN CENTRAL BANK, 2012).

These CCS might only operate under a for-profit objective, serving individuals, self-oriented in a business-as-usual way of thinking yet fill a role in crisis mitigation and resilience through contributing to the diversity and plurality of currency systems (LIETEAR *et alii*, 2010 ; ULANOWICZ *et alii*, 2009 ; STODDER, 2009). Currency is only ever a tool, a means or device which can be used for any objective, end or vision. But how to distinguish and validate which CCS will meet social or sustainable development goals, or satisfy the prosperity without growth paradigm?

The various typology schemes looked at here mostly integrate the objectives approach of CCS initiatives and thus allude to the impact aspect of those tools. Beyond their complex operational systems and technical designs as alternative financing mechanism, those tools mostly exhibit genuine strategic objectives linked to a sustainable and ethical vision. That's why, recently, CCS research has started to focus on this intentional objectives approach.

1.2. Objectives of CCS

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 focuses on CCS meta objectives[12] for scale changes in sustainable local development through a collaborative and cooperative vector, innovative wealth valuation and the preservation of social protective systems, and the development of ethical currency constellation by integrating public actors into the currency design and issuance process as proposed by some practitioners[13] (CAHIER D'ÉSPÉRANCE RICHESSES ET MONNAIES, 2011).

A recent reflection made by Kristofer DITTMER divides CCS by their meso and macro objectives[14] 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"[15] 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[16] 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).

Another reflection made by Philippe DERUDDER and Michel LEPESANT in 2011 deals with CCS micro objectives[17] reflected by economics' actors such as producers, consumers, stakeholders and institutions (DERUDDER *et alii*, 2011). Dealing even more with the integration of the stakeholder point of view, a recent reflection made by Maria NGINAMAU in

[12] Those objectives mainly focus on economic and governance dimensions, as for example a sustainable and non-speculative worldwide complementary currency, an acceptance of non-profit wealth such as voluntary work, and partnership co-creation and stakeholder recognition in a common development project.

[13] A similar way of thinking, a reflection made by Etienne HAYEM in 2013 also focus on meta and meso objectives with ecological restoration, social resiliency and economic development through symbiotic economics with economics actors who generate positive externalities thanks to a corporate or business to business barter sharing a same territorial virtuous economy vision (HAYEM, 2013). Still in relation with meta objectives, Nicolas BRIET in 2013 focus on the importance of participative governance and collaborative tool for CCS initiatives in their election and decision making process such as consent, sociocracy based on open source information architecture to go beyond the current centralized and closed code of our conventional monetary systems. This objective mainly focuses on governance dimension, beyond political and democratic aspect, by making equivalence, transparency and participation values concrete (BRIET, 2013).

[14] Those objectives mainly focus on social and environmental dimensions such as social inclusion and alternative livehoods.

[15] HOURS is a name being derived from the first and still most successful instance of that model, the Ithaca Hours, NY.

[16] Those objectives mainly focus on economic, social and environmental dimensions such as encourage time and knowledge exchange, develop business to business economic exchange, relocate exchange, support income and employment generating activities, satisfy population needs, recognize eco-responsible practise, boost eco-citizen behaviour.

[17] Those objectives mainly focus on economic, social and environmental dimensions such as client loyalty, sustainable purchasing power, local products promotion, keep wealth circulation locally, re-appropriation of money use, financial inclusion, eco-citizen behaviour incentive, eco-responsible label network integration.

2013 proposes CCS' micro and meso objectives[18] to be linked with key success factors in implementations of business networks through operational, structural and organizational aspects (NGINAMAU, 2013).

In addition to the perspectives aforementioned, both hard skills and soft skills are necessary to manage a strategic CCS implementation project, and psychological and educational support seems to be important in order to raise the leadership capacities of CCS project managers and thus create successful systems (SELIGMAN, 2011 ; GOLEMAN *et alii*, 2008).

In summary, CCS objectives deal with the integration of economic actors, legal and governance frameworks and specific objectives of strategic development on the social, environmental, economic, territorial and community-level. We here propose that CCS objectives can be divided between the governance dimension including collaborative, participative and democratic citizenship engagement, the economic dimension such as economic stabilisation or resilience and crisis mitigation, the social dimension such as stakeholder value co-creation, network cohesion and catering to the needs of populations affected by demographic change, and the environmental dimension such as ecological footprint reduction and autonomous and local community reinforcement.

Table 2: goals and objectives for complementary currency systems

Dimension	Level	Vision/Goal	Mission/Objective
Culture	Meta	Societal Acceptance	Recognition Credibility Legitimacy from (Inter-)Governmental Institution
			Tranverse Cross-Disciplinary Integral Holistic Collective Intteligence
	Macro	Inner Outer Sense Harmony	Other-Oriented Cooperation & Self-Oriented Competition Equilibrium
	Meso	Pluralism Inclusivity 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 a Common Good	Open Free Code and Legality
Economic	Meta	Crisis Resiliency	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 Generating
			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 Consummer
	Meso	Ecological Footprint Reduction	Eco-Citizen Behavior 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…

Nevertheless, all different objective approaches currently being conceptualized within the CCS movement, all 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.

[18] Those objectives mainly focus on economic, social and governance dimensions such as financial autonomy development, effective stakeholders and volunteer engagement, strengthening social cohesion among the network, recognition, credibility and legitimacy for public power support.

2. 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, by 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 existing impact assessment indicators and process frameworks in related fields to then elaborate on appropriate approaches for CCS.

We see four important reasons for the deployment of evaluation standards for the impact assessment of CCS:

- Internal viability by improving project implementations in regard to operational, structural and organizational aspects: to incentive confidence amongst the management team and leaders in their pursuit of impact goals.
- Internal efficiency by improving the currency design: to motivate adherence and uptake by users and reduce overheads and transaction costs.
- External visibility for sustainable finance and development aid agencies, attracting funders and support: to widen the recognition of these tools by financing institutions through providing comprehensive and validated impact reports and reporting on performance indicators.
- External credibility by proving impact and efficiency to international organizations and the public sector: to strengthen positive policy integration by merits of delivering social, economic and environmental transformations for territorial and community development.

Table 3: interdependence between CCS improvement and impact assessment

Side	Stage	Description	Monitoring & Evaluation	Target
Internal Side	Project Management Internal Viability	Improve the organisation, planification and implementation	Impact Assessment	Project Leader Management Team
	Tool Design Internal Efficiency	Adjust the modality and functionality of currency mechanism	Impact Improvement	Designer Architect Computer Engineer
External Side	Fundraising Support External Visibility	Demonstrate transparency control and quality performance for granters	Impact Report	Financing Institutions Development Agencies
	Stakeholder Legitimacy External Credibility	Transform the legal framework and integrate transversal institutions	Proven Impact	Legal Counsel Public Government

Source: PLACE, 2012.

Impact assessment and impact reports are necessary to receive financing, especially through impact philanthropy and through donation fundraising (PLACE, 2010a). Those donations often imply a "counter-donation" of qualitative and quantitative information about the impact of the project. Indeed, a study in 2008 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[19] (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.

Having thus made the case for impact assessment and its importance for the CCS movement, especially for its legitimacy and financing support, we reviewed some existing impact assessment frameworks in related sectors. Standards to measuring impact already exist at the international level with global environmental indicators, at the national level through social and environmental accountancy standards, and at the company level through the valuation of its immaterial assets (WAVES, 2013 ; HELLIWELL *et alii*, 2012 ; UNITED NATIONS, 2012 ; EUROPEAN COMMISSION *et alii*, 2012 ; LOUETTE, 2008 ; OBSERVATOIRE DE L'IMMATÉRIEL, 2011).

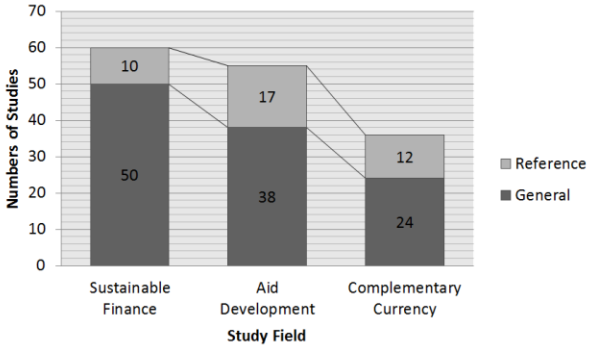
2.1.Review of existing impact assessment work in CCS and related fields

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. 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 scares compare to the work done on development projects and even impact finance as we can see below. The graphic depicts the ration 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[20].

[19] Based on a study of 165 systems around 28 countries.

[20] 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).

Figure 1: number of impact assessment reference versus general material in different fields



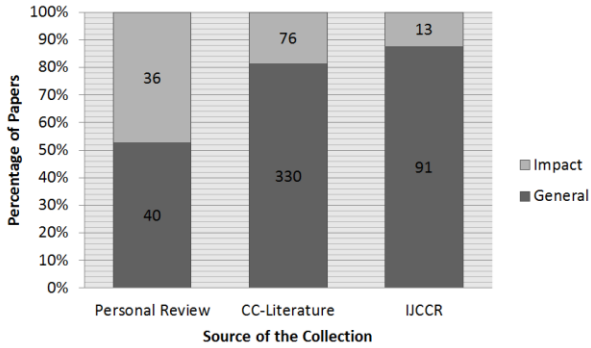
Source: PLACE, 2012.

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).

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[21]. Furthermore, most of those reports are based on empirical studies, which demonstrate a lack of genuine impact evaluation frameworks (SCHROEDER *et alii*, 2011b ; PLACE, 2012).

Finally, among the 104 papers published between 1997 and 2013 in the 17 volumes and 2 special issues of the IJCCR-International Journal of Community Currency Research, the only peer-reviewed journal of empirical, critical and theoretical research on CCS, only 13 pertinent papers deal with impact evaluation approach of CCS[22], which means 12.5%.

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



The reviewed research on CCS evaluation[23] can then be further analysed as presented in table 4, by their findings on the overall impact (positive, neutral or negative), time-scope, geographical spread, CCS type and research modalities (see annexe 1 page 18 for more information on their results and conclusion). On top of this non-exhaustive review of the state of the art of impact assessment in CCS, a deeper and comprehensive research through the lens of a common evaluation framework should be undertaken, to analyse how the different modalities of the studies influenced their findings on a positive, neutral or negative impact of CCS for sustainable development.

---

[21] 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.
"The database identifies 201 contributions with information about specific exchange systems or groups of systems – these are systematic empirical studies, sometimes country surveys of certain types of systems, and sometimes reports from activists." (SCHROEDER *et alii*, 2011b).

[22] 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 alii*, 2004 ; SCHROEDER, 2006 ; GELLERI, 2009 ; MOLNAR, 2011 ; SOTIROPOULOU, 2011 ; THIEL, 2011 ; NAUGHTON-DOE, 2011 ; SCOTT CATO *et alii*, 2012) .

[23] Only around a fourth of CCS research analysis deal with pertinent impact evaluation processes. In our personal review, 36 papers was dealing with impact assessment among 76 papers analysed, which means 47.37%, whereas in the CC-Literature, 76 papers among 406, which means 18.7% and in the IJCCR, 13 papers among 104, which means 12.5%. Thus a total of 125 papers among 586 are dealing with impact assessment, which means 21.33%. Consequently an average of 26.19% of general papers analysed in the CCS field are dealing with impact assessment.

Table 4: analysis of CCS evaluation research

CCS / Impact link	Study Reference	Data (Period, Region, CCS)	Used Model
Positive	RUDDICK *et alii*, 2013	2010 (11/08/2010 to 11/11/2010) Kongowea,Kenya (Eco-Pesa, Bangla-Pesa)	Data Source & Field Survey: (31 business and 41 business 3 months later) Exchange shop log books Serial numbers of exchangeable vouncher Business log books Business registration forms Business monitoring forms Interview questionnaires Field reports
	CHIEN, 2009	2006-2008 (01/10/2006 to 31/12/2008) Fortaleza, Brazil (Ecoelce)	Data Source & Field Survey: (UNIFOR-Universidae de Fortaleza. SER-Secretarias Executivas Regionais) Volume of negociated waste Energy saving Direct and indirect job creation Electric bill payment
	INSTITUTO PALMAS *et alii*, 2013	2011-2012 (06/2011 to 07/2012) Fortaleza, Brazil (Palmas)	Data Source & Field Survey & Indicators Matrix (Logic Model)
Neutral	FARE, 2011	2011 Quebec City, Canada (Accorderie) / Grenoble, France (SOL Alpin)	Field Survey: Semidirect interview Questionnaire Observation
	COLLOM, 2012	2002-2006 (2002 to 06/2006) Portland, Maine (PWTDE-Portland West Time Dollar Exchange)	Indicators Matrix: Number of active members per querter Quarter of first transaction Total number of hours per quarter Service categories Total hours of participation Average hours per quarter Account balance Number of trading partners Number of reciprocated contacts Ego-network density Number of services exchanged
	SEYFANG *et alii*, 2013	1996-2011 World (Service credits, mutual exchange, local currencies, barter markets)	Meta-analysis: Sustainable development dimensions: Economic sustainability Environmental sustainability Social sustainability
Negative	DITTMER, 2013	1996-2013 World (LETS-Local Exchange Trading System, Time Banks, HOURS, Convertible Local Currencies)	Meta-analysis Performanc citeria: Inclusive community-building Alternatives values Alternative livelihoods Eco-localization
	ALDRIDGE *et alii*, 2002	1997-1998 Gloucestershire, United Kingdom (Stroud LETS) / Hammersmith, United Kingdom (Hounslow LETS)	Data Source & Field Survey: Analysis of trading account Number of trade Participation in trading

The economic, social and environmental impact of CCS is under intense 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 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), are 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[24].

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

[24] Most of the studies are old, before 2003, and thus don't take into account the emergence of the new hybrid type of CCS, called 4th generation (BLANC, 2013). As they don't use the same framework of qualitative and quantitative data, they are scarcely ever comparable. They sometimes only focus on one aspect of sustainable development: economic, social or environmental and rarely take into account all of those dimensions at a glance. They often criticize the tough viability of CCS development without taking into account their high potential of innovation field experimentation and stakeholder integration in a design thinking process.

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[25]. We appreciate those initiatives and we hope that extensive, in-depth and thorough impact analysis will be done in the future. In any case, other fields have already made some great paths toward genuine impact evaluation standards and the CCS field should take inspiration from them.

In the field of development (aid), most of the national, regional and international agencies[26], charitable organizations, humanitarian aid organizations, both governmental or non-governmental, and both profit or non-profit organizations use monitoring and evaluation processes and the logic model evaluation of activity, outputs, outcomes in comprehensive impact assessment frameworks (PLACE, 2012 ; UNDP, 2009 ; THE WORLD BANK, 2009). Most of development field's actors are either respecting the handbook on planning, monitoring and evaluating for development results provided by the UNDP-United Nations Development Programme in 2009 or follow the guidance from the NONIE-Network Of Networks for Impact Evaluation from the World Bank (UNDP, 2009 ; THE WORLD BANK, 2009). There is also an inspiring initiative from the climate, community and biodiversity alliance called SBIA-Social and Biodiversity Impact Assessment (CCBA, 2011).

In the field of sustainable finance, an evaluation taxonomy is currently becoming a reference, especially in the impact investing sector including microfinance, social bonds and social entrepreneurship[27]. This Impact Reporting and Investment Standard (IRIS), proposed by the GIIN-Global Impact Investing Network, can be integrated in the SROI-Social Return On Investment evaluation process, and was created in partnership with MIX-Microfinance Information Exchange, the Aspen Network of Development Entrepreneurs, and the GIIRS-Global Impact Investing Ratings System of B Lab and is integrated with PULSE, the software of the Acumen Fund[28]. Nevertheless, actors in the impact investors, impact finance and impact philanthropy field mostly still use their own taxonomies, amounting to over 60 different methodologies around the world (see annexe 2 page 22 for more descriptions).

To advance towards the level of establishment of the aforementioned fields[29], first impact measurement indicators and impact assessment frameworks have recently been proposed in the context of CCS (PLACE, 2012 ; INSTITUTO PALMAS *et alii*, 2013). Along the same trajectory, we here propose an Impact Assessment matrix (IAM) and a Theory of Change (ToC) framework for the incremental development of a coherent set of indicators across different CCS building up to a comprehensive yet specific standard of impact evaluation in CCS.

2.2. "Impact Assessment Matrix" proposition for CCS

An Impact Assessment Matrix deals with reporting against indicators and monitoring whole systems, measuring the quantitative outputs of an activity and verifying the qualitative outcome 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):

- Independent: management must not impose restrictions on the scope, content, comments and recommendations of evaluation reports. Evaluators must be free of conflict of interest.
- Intentional: the rationale for an evaluation and the decisions to be based on it should be clear from the outset.
- Transparent: meaningful consultation with stakeholders is essential for the credibility and utility of the evaluation.
- Ethical: evaluation should not reflect personal or sectorial interests. Evaluators must have professional integrity, respect the rights of institutions and individuals to provide information in confidence, and be sensitive to the beliefs and customs of local social and cultural environments.
- Impartial: removing bias and maximizing objectivity are critical for the credibility of the evaluation and its contribution to knowledge.
- Of high quality: all evaluations should meet minimum quality standards defined by the evaluation office.
- Timely: evaluations must be designed and completed in a timely fashion so as to ensure the usefulness of the findings and recommendations.

[25] However 4th generation schemes, which promise a high potential for sustainable impact are not represented due to their very recent appearance.

[26] Such as, for example, the GIZ - German Agency for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit), the SDC - Swiss Agency for Development and Cooperation (Direction du développement et de la coopération), the SECO-State Secretariat for Economic Affairs, the CIDA - Canadian International Development Agency, DFID - Department for International Development, the AFD-French Development Agency,…

[27] Social entrepreneurship here also includes social business, no-profit-no-loss, and "bottom of the pyramid" schemes.

[28] GIIRS – Global Impact Investing Ratings System (social and environmental impact ratings and analytics approach) developed by B Lab in conjunction with IRIS – Impact Reporting and Investment Standards of the GIIN – Global Impact Investing Network

PULSE – impact investment measurement software (portfolio data management system - salesforce metric and evaluation tracking) developed by Acumen Fund and managed by App-X in conjunction with IRIS – Impact Reporting and Investment Standards of the GIIN – Global Impact Investing Network.

KHARMAX – impact monitoring system (identify and monitor their economic, environmental, social and corporate impacts) developed by Impact Finance.

SROI evaluation – Social Return on Investment (principles-based method for measuring extra-financial value) developed by The SROI Network, Social Evaluator, The New Economic Foundation, SVT – Social Venture Technology Group, and Global Social Benefit Incubator (ROSQUETA, 2009).

[29] Reaching principles, standards, or guidelines internationally known or agreed by most of worldwide institutions and verifying that such tools are efficient and effective in fulfilling those objectives is the research purpose of impact evaluation.

- Used: evaluation is a management discipline that seeks to provide information to be used for evidence-based decision making. To enhance the usefulness of the findings and recommendations, key stakeholders should be engaged in various ways in the conduct of the evaluation.

But also the SMART standards for outcomes and impact indicators proposed in the same handbook (UNDP, 2009: page 58 & 63):

- Specific, Measurable, Achievable, Relevant, Time-bound.

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 the following table 4, serves as an illustration this vision and also as an example of what a final dashboard or scorecard 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 level of the vision goal.
- Vision goal: as shown above, linked with a charter.
- Guideline principle: main topic, issue, subject which might be integrated, followed and respected.
- Mission objective: as shown above, for either internal (I) or external (E) project side purpose of the impact's mission.
- Typology or category: to simplify we will use the following reductionist classification: bilateral barter (B), multilateral barter (M), mutual credit (U), issued currency (C), innovative exchange system (I) or all types (A).
- Logic model: it can be an activity (A), output (P) or outcome (C).
- Progress measurement indicators: it can be any eco-socio-environmental performance indicators linked with hard skills (H) or soft skills (S).
- Monitoring and evaluation methodology: data collection and analysis: it can be a quantitative (T) or qualitative (L) research method.
- Cost: estimation of the time, money and human resources needed for information field consolidation of the proposed indicator: low (1), medium (2), high (3).
- Fr: frequency of the data collection and analysis: daily (D), weekly (W), monthly (M), yearly (Y).

PLACE C.. BINDEWALD L.. Validating and Improving the Impact of Complementary Currency Systems: impact assessment frameworks for sustainable development. In: CCS-2013 2nd INTERNATIONAL CONFERENCE ON COMPLEMENATARY CURRENCY SYSTEMS: MULTIPLE MONEYS AND DEVELOPMENT: MAKING PAYMENTS IN DEVERSE ECONOMIES. From 19th to 23rd of June 2013. The Hague. Conference proceedings. The Hague: International Institute of Social Studies of Erasmus University Rotterdam, 2013.

Table 5: prototype of Impact Assessment Matrix – IAM

Dimension	Level	Vision Goal	Guideline Principle	Mission Objective	Typology Category	Logic Model	Progress Measurement Indicators	Monitoring & Evaluation Methodology Data Collection & Analysis	Cost	Fr
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
	Micro	Financial Autonomy Development	Risk	Disaster mitigation	U C I	Output	Backup system Frequency	System database	1	Y
				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

PLACE C.. BINDEWALD L.. Validating and Improving the Impact of Complementary Currency Systems: impact assessment frameworks for sustainable development. In: CCS-2013 2nd INTERNATIONAL CONFERENCE ON COMPLEMENATARY CURRENCY SYSTEMS: MULTIPLE MONEYS AND DEVELOPMENT: MAKING PAYMENTS IN DEVERSE ECONOMIES. From 19th to 23rd of June 2013. The Hague. Conference proceedings. The Hague: International Institute of Social Studies of Erasmus University Rotterdam, 2013.

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
				GHG emission	C I	Outcome	%CO2 & CH4 decrease	Regional database	3	M
	Macro	**Eco-Localization Relocation**		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

3. A BOTTOM-UP EVALUATION FRAMEWORK UNDER DEVELOPMENT

For an on-going international EU-Interreg co-funded, cross-sectorial collaboration project around the consolidation of complementary currency tools (COMMUNITY CURRENCIES IN ACTION, 2012) a framework for the evaluation of complementary and community currencies is currently being developed. The methodology currently being applied and validated in the Community Currencies in Action (CCIA) project is here proposed as the second, incremental approach towards standardisation and consolidation of impact assessment of CCS.

This approach is being applied to the six conceptually different currency pilot projects across north-western Europe. Implementation partners in this project are Lambeth Council in London, UK, the city council of Amsterdam East, NL, the publicly owned waste company of the region Limburg and Diest in Belgium, the CCS agency Qoin, also in Amsterdam, and the timebanking agency Spice in Wales, UK. At the time of writing the Credit Municipal de Nantes has submitted its application to the EU Interreg offices to replace the original French partner that had left the consortium early on. Through these partners six CCS are being piloted in the five countries, England, Wales, Belgium, the Netherlands and France. These currencies will cover a wide array of models, from TimeCredits (Spice and Amsterdam East), legal tender backed currencies (Brixton Pound as part of the Lambeth pilot) and cooperative forms of business-to-business (b2b) mutual credit currencies (Qoin and Nantes), as well as combined models (Lambeth: Brixton Pound and b2b, Nantes: b2b-to-consumer).
By merit of this the approach to an evaluation framework had to be inclusive and flexible from the beginning. But it is also meant to be adaptable and useful for all other currency and stakeholder settings, particularly in regards to the identified importance of clarity on the objectives of currency initiatives.
Another challenge is presented by the fact that the CCIA pilots are currently at different implementation stages, some already running, some about to be launched or up-scaled and some still under deliberation. Consequently, the chosen framework approach needed to be applicable and beneficial across all development stages of CCS.

3.1. Deploying the “Theory of Change” approach for CCS evaluation

The chosen framework approach is the so-called “Theory of Change” (ToC) methodology, as explained below. To validate and adapt it for CCS, a ToC workshop will be conducted with the CCIA implementation partners and their stakeholder. At the time of writing three such workshops had been conducted, two with different time-credits systems in Wales and one with the “Makkie” time-currency, CCIA pilot of Amsterdam East. Preliminary results will be presented below.

The general ToC methodology has emerged from the theoretical and practical developments in evaluation research since the 1990s and is regularly employed in the mapping of complex interventions and their outcomes, particularly in the social and development spheres (ANDERSON, 2005). ToC refers as much to the finished product, an explanatory model of how an intervention reaches its set objectives, as to the development or determination of such models in a flexible multi-stakeholder process. A ToC framework also regularly serves as a first stage of many impact evaluation approaches, then often synonymously called “impact mapping”, as it allows for shared determination of relevant indicators and it is, as such, a standard building block to other methodologies e.g. the Social Return on Investment (SROI) methodology to which the here presented approach is also compatible in terms of the seven principles of SROI evaluation: Involve Stakeholders; Understand what changes; Value things that matter; Only include what is material/essential; Do not over-claim; Be transparent; Verify the results (The SROI Network, 2012).

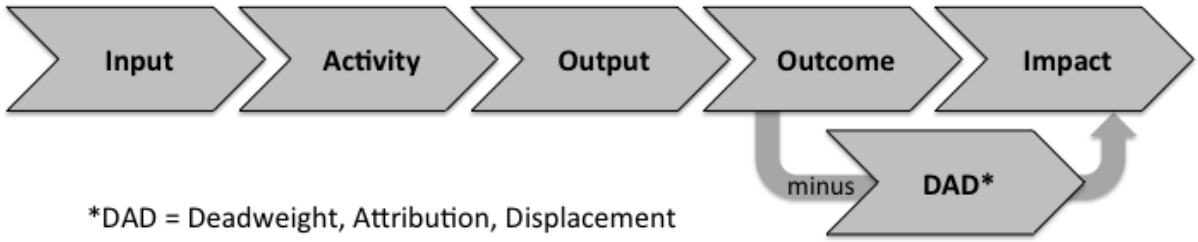
In general one can distinguish two use cases in which a ToC approach is commonly applied. On the one hand, it serves as a forward-looking project or intervention-planning tool; on the other hand it is an analytical, backwards-looking project description and communication tool. Both scenarios can serve 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 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.

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 “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.

As a natural precondition for any activity to take place, some sort of “input” or investment in time, effort, commitment and money is required. Also, as an intermediate step towards outcomes that might merit distinction are the “outputs” of an activity, the concrete measurable products or services that result from the activity (compare figure 1).

The final distinction between "outcomes" and "impact" then comes through the discounting of "deadweight", "attribution" and "displacement" (DAD) or, in simple words, what would have happened anyway, what happened through parallel interventions and what outcomes got shifted in or out of the scope of the study (for details see THE SROI NETWORK, 2012). These are the parts of the gathered data that have nothing to do with the project itself but weigh the results down (or up). This is a difficult but necessary step of due diligence preventing claims on results which are not attributable to the project itself but result from changes that happened in the general context during the lifetime of the project. Just to give an illustrative example for the importance of deadweight is a project that targets unemployment. In evaluating the impact of that project, the general development on the labour market needs to be closely observed. A positive trend in national employment figures, in this case the "deadweight", would have to be subtracted from any positive changes in the community at hand, or it has to be shown that the community affected by the evaluated project is not affected by or representative of the national labour development.

Figure 3: Intervention Elements from Input to Impact



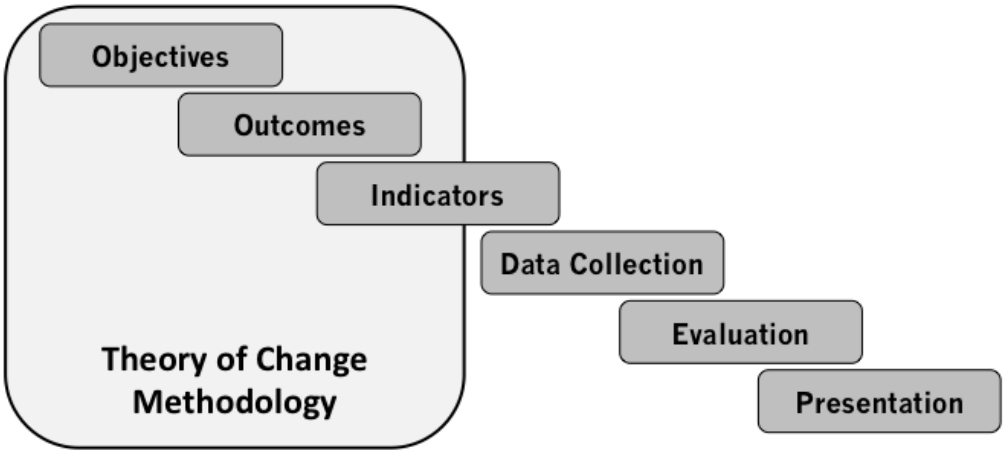
Typically, a ToC is developed after a stakeholder consultation, which, in the case of CCIA is done in participatory workshops with the implementation partners and their stakeholders. The answers and explanations given by the participants form the basis on which the facilitator/researcher writes up the ToC. For this, the facilitator starts off with as much a blank sheet as possible and tries to let the participating stakeholders articulate, determine and map the relevant results of a project. This can happen quite literally: The most basic building blocks of such workshop are three sheets of blank paper, labelled "short-term", "mid-term" and "long-term", which get gradually filled in with outcomes of the project in the course of the workshop. In the progression from short to long term, any outcome of an earlier stage can be seen as the precondition for outcomes at the next stage.

Each outcome thus determined in the ToC, 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 alii*, 2012). The ToC methodology allows for the involvement and consideration of all potential stakeholder groups of a project at least to the degree that the evaluation mandate determines. Apart from the internal clarity, this process also serves well to hone communications towards different audiences, such as funders, users and policy makers.

As part of a full evaluation or impact assessment (Figure 2), the ToC covers the first two parts, allowing for the third part, the determination of appropriate indicators to follow as described above. Through breaking up outcomes into very concrete and manageable components, it becomes easier to find qualitative and quantitative indicators for individual outcomes which are the basis for data collection and finally evaluation (including the discounting of deadweight). Less focused or concise articulations of the goals or objectives of a project like a CCS initiative do not allow for such evaluations, which is one of the reasons why past and present literature on CCS remain often speculative, subjective and narrative.

The combined graphic representation of the results of the ToC workshops with the TimeCredit currency pilots in Wales can be found as Annexe 3, page 23. Further results of the action research conducted as part of the CCIA project will be made available on the project website (COMMUNITY CURRENCIES IN ACTION, 2012).

Figure 4: Parts of an impact assessment process covered by the ToC approach



3.2. Benefits of the "Theory of Change" approach for Evaluation standards in CCS

The objective of the proposed framework is to provide the conceptual guideline and terms of reference to enable currency initiatives to incorporate the ToC methodology into their project processes at any stage.

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.

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:

1) It is applicable at all stages of development of a given system or initiative.
2) It is supportive of the design, marketing and validation processes of currency initiatives through a focus on the clear articulation of objectives and assumptions.
3) It is compatible with different stakeholder situations (grass-root, non-profit, commercial, public).
4) 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.
5) It is adaptable to self-driven, facilitated or commissioned evaluation efforts.
6) 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 part we analyse complementary currency systems as innovative value activation tools and how they relate to the implementation of sustainable visions. In the second and third part we make the case for comprehensive efforts towards evidencing their impact in reaching such sustainable objectives. We call for the development of evaluation processes, methodologies, frameworks and we provided a prototype, called Impact Assessment Matrix, and a practical and incremental approach in that direction through the application of the Theory of Change methodology.

Thanks to this impact evaluation and monitoring approach, we would be able to validate that complementary currency systems can be strategic and efficient impact tools for sustainable and ethical prosperity, which is important to make the case to funders and policy makers. This approach reflects 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 would ultimately 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.

Both complementary and connected approaches towards this goal, the presented 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.

ACKNOWLEDGEMENT

Both authors gratefully acknowledge the great work and generous contributions of all the people in the field of CCS, we are standing on the shoulders of giants.

Both authors also acknowledge the work and collaboration leading up to this paper of Gill SEYFANG, Marie FARE, Alan PATTERSON, Juliana BRAZ, Helene JOACHIM, Erick BRENES, Camille MEYER, Marc MÜNSTER, William O. RUDDICK, Etienne HAYEM, Vincent DEMONTALIVET, Nicolas BRIET, Matthieu LANGEARD, and Maria NGINAMAU.

Christophe PLACE acknowledges the Geneva School of Business Administration and especially Andrea BARANZINI, Paolo BARACCHINI, Christophe-Alexandre DUNAND, David MARADAN, Emmanuel FRAGNIÈRE, Jean-Michel SAHUT, Claire BARIBAUD, Catherine EQUEY, and Bernard SCHAFFER for their support to my participation at the ISS conference. He also thanks Iliya MARKOV, Stefano CARATTINI and Philip CHOWNEY for their inspiration during the writing process.

Leander BINDEWALD gratefully acknowledges Susan STEED and Natalie NICHOLS at the New Economics Foundation and the partners and funders of the Community Currencies in Action EU-Interreg project.

ANNEXE

Annexe 1: results and conclusion of some impact assessment process in CCS field

Table 6: CCS impact assessment process research initiatives (social capital benefits)

Year	Author	Editor	Title	Results & Conclusion
2013	**RUDDICK William O. MARIANI Lucero.**	**UNRISD conference**	Complementary currencies strengthening the Social and Solidarity Economy: case studies from Kenya	22% average increase in participating businesses 20 tonnes of waste collected 3 youth-led community tree nurseries created 75 small local businesses involved 11.85 times more worth of trading circulation facilitated (3'200 € equivalent for 270 Eco-Pesa traded) 5 times more activities accomplished than direct donation 3'596 € programme cost for 7 months implementation CCS benefits: Sales increase within a SSE network Financial independence for SME Better business investment versus basic needs spending Locally finance community projects Local market stability versus national money scarcity and devaluation CCS show positive impacts in sustainable development and could become a key tool for ending of poverty Need of guidelines standards for various topics: Legal framework, risk management, community, governance, sustainability, economic viability, professionalism, data collection and monitoring, technology
2009	**CHIEN Marsha**	**United Nations Global Compact**	From sustainability to human rights: a case study on Endeas/Endesa Brasil	59 barter center with chip card system for electric bill discount against recyclable waste 150'000 € programme cost (software, chip card, database) 98'000 € benefit out of benefit from electricity consumption increase due to supply network access improvement 4'600 tones of waste recycled equivalent to 17,15 GWh saving 261'333 € discount on electric bill for 120'000 benificiaries 57% of participants pay their electric bill formerly unpaid-for 52 direct jobs and 200 indirects jobs links with recycling industry created Human rights issues addressed: Right to an adequate standard of living Right to a healthy environment Sustainability and environmental responsibility Demonstrate value of links between core business practices and the Global Compact, Millenium Development Goals and the Universal Declaration on Human Rights. Addresses the company's business needs, fosters environmental sustainability and provides a source of income to low-income clients.
2013	**INSTITUTO PALMAS. NESOL-USP.**	**A9 Editora**	15 years of Palmas Bank: resisting and innovating	78% of credit clients and 35% of banking correspondents beneficiate form family grant social welfare. 90% of credit clients and 87,3% of banking correspondents have an income below minimum income. 11% of credit clients and 6% of banking correspondents have an income below poverty ligne. 75% have a better financial security and 66% a better budget management. 41,26% feel more secure thanks to the community bank. 62,74% believe that community bank help them in budget management. 53,57% point the community bank as a first option for credit in relation with other formal or informal agents. 52% have a business and 95.2% of them in the district. 29% started a business thanks to community bank credit. 57,21% of credit clients and 52% of lobby clients recognize the social action integrated for the community development through financial services. 91,5% of credit clients and 99% of lobby clients point improvement in banking and finance services access, work opprotunities, education and studies. 99% of credit clients and 93% of lobby clients point a better life conditions
2011	**Marie FARE**	**Université Lumière Lyon 2**	Monetary conditions of a local sustainable development: from complementary exchange systems to subsidiary currencies	Evaluation Grid: Activities' territoriality Exchange stimulation Way of life, social representation and practice transformation 4 criteria of subsidiarity: Commensurate Convertibility Joint use Use sphere coincidence High potential for a transition towards sustainable develoment completed with other leverage of territorial autonomy Need to reply this analysis framework on other CCS to confirm or deny those results
2012	**COLLOM Ed**	**International**	Key indicators of	Transactions records are far from perfect as members do not report all of their

		Journal of Community Currency Research	time bank participation: using transaction data for evaluation	transactions. It is not posssible to know how underreporting might bias the results of the indicators of particpation that have been described here. Membership forms can include variables such as gender, age, race, education, income, marital status, etc. With this information, researchers could test for demographic differences in member participation. With social network analysis software, one could also invesitgate who trades with whom. Survey would be a very good tool to measure the outomes of time bank participation as well as organizational commitment or satisfaction with the time bank. Thus it is possible to test for correlations between local unemployment rate across time and the number of active members per quarter, the number of new members per quarter, and the total number of hours exchanged per quarter. While individual case stuzdies are mos common, comparisons of multiple systems over time will enable us to learn more about the dynamics of time banking and its potential to empower the economically marginalized and build social capital.
2013	**SEYFANG Gill. LONGHURST Noel.**	**Ecological Economics**	Growing green money? Mapping community currencies for sustainable development	3 service credits systems more focus o social sustainability. 3 mutual exchange systems more focus on both social and economic sustainability 3 local currencies systems more focus on both economic and environmental sustainability 1 barter markets system focus on environmental sustainability and 1 barter markets system focus on economic sustainability These CCs are developed with the aim of achieving a range of 'new economics'-inspired sustainable development objectives, principally community-building and social capital creation, boosting local economies and valuing marginalised labour, and enabling collaborative consumption to reduce environmental impacts of current lifestyles. Community currencies seem to have the potential to deliver sustainable development benefits, but more research is needed to understand the initiatives before they can be successfully harnessed by policymakers to help achieve policy goals such as encouraging pro-environmental behaviour change, increasing civic engagement, supporting local businesses, and building new systems of provision for sustainability. In this scoping study we have been constrained by the lack of reliable data on many of these national CC networks, and our analysis has been based on simple descriptive data about objectives, numbers of projects, and network status. There is a dearth of good evaluation data for these CCs, and almost no robust research about how successfully (or not) CCs achieve their aims, what their potential is, and what is holding them back. In addition to filling these big data gaps, we also need to study the new, emerging, promising CC models, to understand how they have learned from previous experience, and might better meet their potential in achieving sustainable development goals.
2013	**DITTMER Kristofer**	**Journal of Cleaner Production**	Local currencies for purposive degrowth ? A quality check of some proposals for changing money-as-usual	They are confined to unskilled personal services and dependent on grant funding, but may have a minor capacity to promote local purchasing. Local currencies that appeal for elite support e without mass popular backing e have shaken off most radical connotations, and are vulnerable to changing policy agendas. Degrowth movement would improve its chances of contributing to purposive degrowth by prioritizing government-centred ecological reform of the monetary system over local currencies.
2002	**ALDRIDGE Theresa J.. PATTERSON Alan.**	**Area**	LETS get real: constraints on the development of local exchange trading schemes	LETS can fail to boost second-hand trading even among decidedly 'green' constituencies Frequent stumbling block of these autonomist currencies is volunteer burnout. Demonstrates that both the volume of trading and the value of the trades are very low
1997	**SEYFANG Gill**	**International Journal of Community Currency Research**	Examining local currency systems: a social audit approach	Social audit is a process of defining, observing and reporting measures of an organisation's ethical behaviour and social impact against its objectives. Social policy is then evaluated according to its impact on these needs, rather than by applying efficiency criteria. Macro/micro social indicator' method which measures an organisation's (micro) performance in areas of (macro) social indicators (quality of life of members and the community); 'constituency group attitudes' audit, which uses both factual and subjective information to evaluate the impacts of a pluralistic organisation on its stakeholders
2009	**WALKER David**	**International Journal of Community Currency Research**	The impact of community currency systems on gender relations in rural northeast Thailand	A hybrid social audit – gender analysis approach Social Audit Approach - Gender analysis frameworks Community currency systems strengthening of women's social capital Community currency systems can positively influence gender relations The transformative impact on gender relations is seen to be limited to the arena of collective action or Social Capital.
2012	**GRAUGAARD Jeppe Dyrendom**	**Local Environment: The International**	A tool for building community resilience? A case study of the	There have been no empirical studies to date assessing the socio-economic impacts of this model. Novel framework for estimating economic, social, and environmental outcomes, which uses a mixed-methods approach

		Journal of Justice and Sustainability	Lewes Pound	Findings suggest that complementary currencies can enhance social-ecological resilience through awareness-raising and changes in consumption. Although economic localisation – a key indicator – is lacking, there is evidence that the Lewes Pound has developed social interactions and changed consumption patterns of its users.
2010	**OZANNE Lucie K.**	**International Journal of Community Currency Research**	Learning to exchange time: benefits and obstacles to time banking	Using focus groups, this study identifies benefits of Time Banking in terms of physical, human, social, and cultural capital Physical: an affirming institution which enables participants to recognise their skills and capabilities and gain new skills. Social capital: Time Banking serves to build connections and increase trust among members, their social capital, and reinforce weak ties in the community
2012	**COLLOM Ed**	**International Journal of Community Currency Research**	Key indicators of time bank participation: using transaction data for evaluation	Time Bank Participation Indicators: System: Number of active members per quarter. Quarter of first transaction. Total number of hours per quarter. Services categories (Arts and crafts production. Beauty and spa. Cleaning, lights tasks and errands. Computers and technology. Construction, installation, maintenance and repair. Entertainment and social contact. Events and program support. Food preparation and service. Health and wellness. Office and administrative support. Sales and rentals of items. Transportation and moving. Tutoring, consultation and personal services.) Individual: Total hours of participation. Average hours per quarter. Account balance. Number of trading partners. Number of reciprocated contacts. Ego-network density. Number of services exchanged.
2012	**KOKABU Masayuki. KATAI Osamu. SHIOSE Takayuki. KAWAKAMI Hiroshi.**	**Kyoto University**	Design concept of community currency based on fuzzy network analysis	In this paper, we have introduced community currency for constructing lively communities and taken account of the reciprocity that can be expected by the use of community currencies. The reciprocity contributes to emerge and accumulate social capital.
2012	**MEYER Camille**	**Université Libre de Bruxelles**	Solidarity finance as sustainable common good: case study of Palmas community bank of development	Analysis framework of Elinor OSTROM: principles of common conception to sustainable institutions of common resources: Clearly defined limits Concordance between appropriation and furniture rules and local conditions Collective choice dispositive Surveillance Gradual sanctions Conflict resolutions mechanisms Organisation rights minimum recognition Interlocked enterprises Multiple dimensions of local development: Economic dimension: life level Social dimension: community vitality, psychological well-being, time use, health, Cultural dimension: culture, education Political dimension: Governance and citizenship Environmental dimension: environment
2011	**BRENES Erik**	**International Journal of Community Currency Research**	Complementary currencies for sustainable local economies in Central America	Coopevictoria – Costa-Rica (07/2006 to 12/2009) 24'000 Litres of waste oil a month collected 700 children involved in the collecting and bio-diesel production process for agriculture machinery Strong solution that can empowers communities and/or local organizations to address local problems and needs with local resources. Improve local economy as well as energetic independence due to the integration all three dimensions of the Agenda 21 Global policy Strong planning tool for middle and long term sustainable development Maximize local usage of resources making it sometimes an affordable solution for local economic development Local economy becomes more resilience and adaptable to national or global economy crisis.
2001	**SEYFANG Gill**	**Voluntary Action**	Spending time, building communities: evaluating time banks and mutual volunteering as a tool for tackling social exclusion	Building social capital: 91% Participants in their time bank were building friendships and trust, and the same proportion agreed that members were expanding their social networks as a result of their time exchanges. Encouraging community involvement : 91% time bank co-ordinators who responded agreed that their projects encouraged community involvement Engaging socially excluded Groups: 73% of the co-ordinators responding to the survey agreed that their time banks were benefiting the socially excluded
2008	**SILVA JUNIOR Jeová Torres**	**Universidade Federal do Ceará Laboratório Interdisciplinar de Estudos em Gestão Social**	Avaliação de impactos e de imagem : banco palmas – 10 anos	Why do you use Palmas currency (Principal reason) ? 43% Help local business. 22% for the purchase discount. 18% to receive a part of the salary in Palmas currency. 10% to receive loans in Palmas currency. 7% other. How Palmas currency helped you? 22% increase its income. 20% find a job. 23% meet other people. 12% find other projects. 11% become best-known. 05% increase its study interest. 01% help local growth.
2006	**WHEATLEY Gerald**	**The University of Calgary**	Complementary currency and quality of life: social and economic capital	Currency improves subjective well-being: 27% strongly agree. 51% agree. 13% disagree. 7% strongly disagree Improved social capital indicators from currency involvement: 75% more friends. 87% support others. 81% more relationships. 41% more self-confidence. 82% help others.

			effects on subjective well-being	Improved economic capital indicators: 59% more access. 80% more customers. 28% more disposal. 41% use skills Complementary currency spent and earned: <$100: 42% spent / 43% earned. $100 – 500$: 41% spent / 17% earned. $500 - $2000: 13% spent / 15% earned. >$2000: 3% spent / 5% earned Importance of mindfulness and spirituality: Mindfulness: 3% very little. 10% somewhat. 16% quite. 68% very. Spirituality: 6% very little. 21% somewhat. 31% quite. 41% very. Education levels 3% Some high school. 8% High school. 8% High school + training. 22% Some university-college. 44% university-college. 3% Some graduate school. 13% Graduate degree. Evaluation instrumental dimensions: 89% support hour merchants. 36% develop self-confidence. 43% develop new skills. 33% use skills. 72% new customers. 40% access to goods/services. Relationship evaluations: 84% improve quality of life. 87% help people. 55% deeper friendships. 80% deeper friendships. 80% establish trust. 67% relationships outside circle of friends. 67% increase circle of friends
2011	**WHEATLEY Gerald. YOUNIE Corrine. ALAJLAN Hind. McFARLANE Erin.**	**International Journal of Community Currency Research**	Calgary dollars: economic and social capital benefits	48% decrease in accessing crises services thanks to timely access to goods, services, support and referrals aid in crisis prevention 45% of respondents (stated that they agreed or strongly agreed with the statement "I) have established relationships of trust with people in the community 50% agreed or strongly agreed to be more active in community issues and initiatives.
2011	**RUDDICK William O.**	**International Journal of Community Currency Research**	Eco-Pesa: an evaluation of a complementary currency programme in Kenya's informal settlements	This increase in local trade resulted in a 22% average increase in net monthly incomes of participating businesses Monthly income in Shillings and Eco-Pesa of registered businesses type (Health clinic. General shop. Water. Business Groups. Cooked food. Vegetables. Salon. Charcoal. Drinks. Education. Meat & Poultry. Waste removal. Fish. Housewares. Transportation. Vegetables & Fruit. Hawkers. Dairy. Poultry) Eco-Pesa issued, exchanged and circulated: Issued (registration, sales, events + youth service). Exchange/In Circulation (current circulation, exchanged for Shillings) Goods and services trade with Eco-Pesa (local vs non-local): Charcoal. Flour. Water. Soap. Fire Wood. Sugar. Green Vegetable. Cooked Food. Detergent. Fish. Milk. Meat. Soda. Waste removal. Beans. Photography. Utensils. Salt. Rice. Cigarettes. Cooking oil. Green grams. Tomatoes. Ground nuts. Potatoes. Seedings. Spices. Airtime. Biscuits. Books. Bread. Cakes. Eggs. Handkerchief. Matches. Pesticides. Popcorn. Sweets. Tea.

Source: PLACE, 2012.

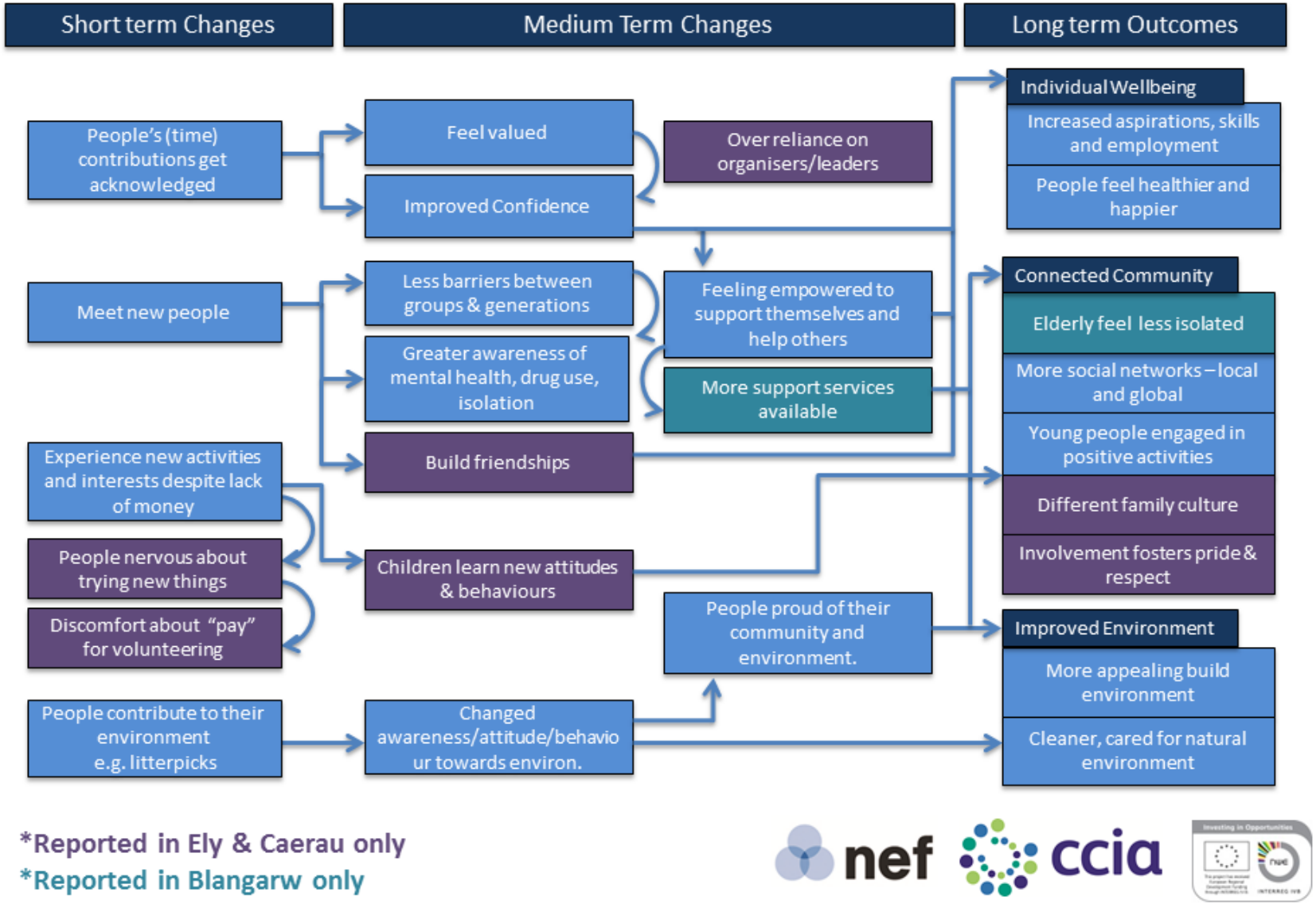
Annexe 2: selection of impact assessment methodologies in sustainable finance

Table 7: impact assessment methodologies in impact investing

Organisation	Title	Description
B Lab **IRIS – Impact Reporting and Investment Standards** **GIIN – Global Impact Investing Network**	GIIRS – Global Impact Investing Ratings System	Social and environmental impact ratings and analytics approach. Setting a standard for the social and environmental performance of companies and fund. Impact Ratings assess the social and environmental impact and practices.
Acumen Fund	Pulse - PDMS -Portfolio Data Management System	Quantitative financial, operational and social Metrics. Qualitative Capabilities Assessment score. Summary descriptive context notes. For investors only
Impact Finance	Kharmax – Impact Monitoring System	Impact tracking solution. Aggregated portfolio scorecard
Global Social Benefit Incubator	SROI Lite	Management dashboard: financial, organizational and process metrics.
Social Venture Technology Group (SVT)	SROI Toolkit	Impact assessment and management system
The SROI Network	A guide to Social Return on Investment	Methodology for measuring and managing return on the social impact of an investment. Guidelines for measurement of non-financial impact
Social Evaluator	A guide to Social Return on Investment	Methodology for measuring and managing return on the social impact of an investment
The New Economic Foundation	SROI Social Return on Investment	Analytic tool for measuring and accounting social, environmental and economic costs and benefits into decision making
University of Pennsylvania – School of Social Policy and Practice – The Center for High Impact Philanthropy	Measuring what matters. Social Return on Investment	Overview of SROI methodology
SROI London	SROI Primer	Compendium on Social Return on Investment: Organisations & Networks, Measurement Tools, Publications, Social Accounting and Audit SROI Calculation process. Conventional monetary valuation
REDF	Social Return on Investment (SROI) Collection	Collection of SROI research, methodology and case study

Source: PLACE, 2012.

Annexe 3: Example of a Theory of Change flow chart for CCIA TimeCredit currencies in Wales



*Reported in Ely & Caerau only

*Reported in Blangarw only

REFERENCE

ACUMEN FUND. Pulse. Available on < http://www.acumenfund.org/investments/investment-performance/pulse.html > and < http://www.app-x.com/products/pulse > and <http://pulse.app-x.com >. Consulted the 30th of May 2013.

ANDERSON Andrea. The Community Builder's Approach to Theory of Change. Aspen Institute, 2005. Available at < www.aspeninstitute.org/sites/default/files/content/docs/rcc/rCCSommbuildersapproach.pdf >. Consulted the 30th of May 2013.

ALDRIDGE Theresa J.. PATTERSON Alan. LETS get real: constraints on the development of local exchange trading schemes. Area. 34(4), 370-381, 2002 *apud:* ALDRIDGE Theresa J.. PATTERSON Alan. TOOKE Jane. Trading places: geography and the role of local exchange trading schemes in local sustainable development. Local environmental sustainability. Woodhead, Cambridge. 169-194, 2003.

APRES-GE. Les critères d'adhésion à la chambre de l'économie sociale et solidaire [Membership criteria to the social and solidarity economy chamber]. Chambre de l'économie sociale et solidaire APRES-GE. Geneva, 21st of September 2011. Available on < http://www.apres-ge.ch/sites/test.intranetgestion.com/files/Brochure_presentation_criteres_adhesion_ESS_novembre_2012.pdf >. Consulted the 30th of May 2013.

ARNSPERGER Christian. Want to really help expand social and solidarity economy? Then start rethinking money! United Nations Research Institute for Social Development (UNRISD). Social Policies for Inclusive and Sustainable Development Programme Area. Potential and limits of social and solidarity economy project. Think piece. Geneva, 30th of April 2013. Available on < http://www.unrisd.org/sse >. Consulted the 30th of May 2013.

B LAB. GIIRS-Global Impact Investing Rating System. B Lab, 2013. Available on < http://www.giirs.org/ >. Consulted the 30th of May 2013.

BLANC Jérôme. 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. Article. Lyon: CC-CONF, 2011. Available on < http://www.monnaiesendebat.org/spip.php?rubrique18 >. Consulted the 30th of May 2013.

BLANC Jérôme. Community and complementary currencies, practices and research: state of the art. In: UNRISD CONFERENCE INTERNATIONAL SYMPOSIUM ON POTENTIAL AND LIMITS OF SOCIAL AND SOLIDARITY ECONOMY – SPECIAL SESSION ON ALTERNATIVE FINANCE AND COMPLEMENTARY CURRENCIES, 6th, 7th and 8th of May 2013. Geneva. Presentation. Geneva: International Labour Organization, 2013.

BINDEWALD Leander. NGINAMAU Maria. PLACE Christophe. 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: UNRISD CONFERENCE INTERNATIONAL SYMPOSIUM ON POTENTIAL AND LIMITS OF SOCIAL AND SOLIDARITY ECONOMY – SPECIAL SESSION ON ALTERNATIVE FINANCE AND COMPLEMENTARY CURRENCIES, 6th, 7th and 8th of May 2013. Geneva. Working paper. Geneva: International Labour Organization, 2013. Available on < http://www.unrisd.org/sseconf >. Consulted the 30th of May 2013.

BODE Siglinde. Potential regionaler komplementär-währungen zur Förderung einer endogenen regionalentwicklung. Freie wissenschaftliche arbeit zur erlangung des hichschulgrades einer diplom-geographin. Universität Osnabrück – Fachbeireich kultur und geowissesnchaften, Osnabrück, August 2004. Available on < http://www.regionalentwicklung.de/download/Siglinde_Bode_2005_Komplementaerwaehrungen_zur_endogenen_Regionalentwicklung.pdf >. Consulted the 30th of May 2013.

BRENES Erik. Complementary currencies for sustainable local economies in Central America. Journal of Community Currency Research 15 (D), 32-38, 2011. Available on < http://ijccr.net/category/volume/15-2011/ >. Consulted the 30th of May 2013.

BRIET Nicolas. L'émergence des monnaies complémentaires en Rhône Alpes et Suisse – co-créons une finance durable et équitable [Emergence of complementary currency in Rhônes-Alpes and Switzerland – co-creation of a sustainable and ethical finance]. In: 4ème RENCONTRES ÉCO-CITOYENNES DU TIOCAN, 29th, 30th, and 31st of March 2013. Thoiry. Synthesis. Thoiry: ASSOCIATION OBJECTIF GAÏA, 2013 *apud:* BINDEWALD Leander. NGINAMAU Maria. PLACE Christophe. 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: UNRISD CONFERENCE INTERNATIONAL SYMPOSIUM ON POTENTIAL AND LIMITS OF SOCIAL AND SOLIDARITY ECONOMY – SPECIAL SESSION ON ALTERNATIVE FINANCE AND COMPLEMENTARY CURRENCIES, 6th, 7th and 8th of May 2013. Geneva. Working paper. Geneva: International Labour Organization, 2013. Available on < http://www.unrisd.org/sseconf >. Consulted the 30th of May 2013.

BRINK Patrick ten. MAZZA Leonard. BADURA Tomas. KETTUNEN Marianne. WITHANA Sirini. Nature and its role in the transition to a green economy. Institute for European Environmental Policy. The Economics of Ecosystems and Biodiversity, 2012. Available on < http://www.teebweb.org/wp-content/uploads/2012/10/Green-Economy-Report.pdf >. Consulted the 30th of May 2013.

BROCK Arthur. New wealth, new economy. In THE FUTURE OF MONEY AND TECHNOLOGY SUMMIT, 28th of February 2011, San Francisco. Presentation. San Francisco, 2011. Available on < http://artbrock.com/ >. Consulted the 30th of May 2013.

CAHIER D'ESPÉRANCE RICHESSES ET MONNAIES. Cahier d'espérance pour un autre regard sur la richesse et la monnaie [Expectation notebook for another look at wealth and currency]. In: ÉTATS GÉNÉRAUX DE L'ÉCONOMIE SOCIALE ET SOLIDAIRE, 1., 17th, 18th and 19th of June 2011. Paris. Synthesis. Paris: PALAIS BRONGNIART, 2011. Available on < http://cahier.collectif-richesses.org/ >. Consulted the 30th of May 2013.

CAHN Edgar S.. ON LETS and Time Dollars. International Journal of Community Currency Research 5, 2001. Available on < http://ijccr.net/category/volume/5-2001/ >. Consulted the 30th of May 2013.

CCBA (The Climate, Community & Biodiversity Alliance). SBIA Social and Biodiversity Impact Assessment manual. The Climate, Community & Biodiversity Alliance (CCBA), September 2011. Available on < http://www.climate-standards.org/documents/social_biodiversity.html >. Consulted the 30th of May 2013.

CHIEN Marsha. From sustainability to human rights: a case study on Endesa/Endesa Brasil. Case Story. United Nations Global Compact. Progress and Disclosure. Analyzing Progress. Case Story Details, 13th of August 2009. Available on < http://www.unglobalcompact.org/case_story/373 >. Consulted the 30th of May 2013 *apud:* PLACE Christophe. Community currency progress in Latin America: evolution in Brazil of a socio-technical innovation for economic sustainability. International Journal of Community Currency Research [Special issue on complementary currencies: state of the art], 15 (D), 39-46, 2010. Available on < http://ijccr.net/category/volume/15-2011-special-issue/ >. Consulted the 30th of May 2013.

COLLOM Ed. Key indicators of time bank participation: using transaction data for evaluation. International Journal of Community Currency Research 16(A), 18-26, 2012. Available on < http://ijccr.net/category/volume/16-2012/ >. Consulted the 30th of May 2013.

COMMUNITY FORGE. Grand Genève: une monnaie solidaire. Étude de faisabilité d'une monnaie complémentaire pour Genève et Région [Great Geneva : a solidarity currency. Feasibility study of a complementary currency for Geneva and region]. Geneva: Community Forge, 2013. Available on < http://projet-genevois.communityforge.net/ > and < http://alliance.communityforge.net/fr/geneve/ >. Consulted the 30th of May 2013.

COMMUNITY CURRENCIES IN ACTION, < www.communitycurrenciesinaction.eu >. Consulted the 30th of May 2013.

DERUDDER Philippe. LEPESANT Michel. Monnaie locale complémentaire éditorial [Local complementary currency editorial], 2011. Available on < http://monnaie-locale-complementaire.net/category/fondamentaux/ >. Consulted the 30th of May 2013.

DEMEULENAERE Stephen. 2007 yearly report of the worldwide database of complementary currency systems. International Journal of Community Currency Research, 12, 2-19, 2008. Available on < http://www.ijccr.net/IJCCR/2008_%2812%29.html >. Consulted the 30th of May 2013 *apud:* PLACE Christophe. Financing the architects of the complementary currencies: how to finance the specialized structure in exchangeable wealth valuation architecture? What evaluation in conventional and complementary currency for the wealth brought by the currency design expertise? In: CC-CONF 2011 1st INTERNATIONAL CONFERENCE ON COMMUNITY AND COMPLEMENTARY CURRENCIES: THIRTY YEARS OF COMMUNITY AND COMPLEMENTARY CURRENCIES: WHAT NEXT? 16th, 17th, and 18th of February 2011. Lyon. Conference Proceedings. Lyon: Ecole Normale Supérieure, 2011. Available on < http://triangle.ens-lyon.fr/spip.php?article1588 >. Consulted the 30th of May 2013.

DEMONTALIVET Vincent. CHAUSSAVOINE Olivier. MyRecycleStuff, 2013 *apud:* BINDEWALD Leander. NGINAMAU Maria. PLACE Christophe. 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: UNRISD CONFERENCE INTERNATIONAL SYMPOSIUM ON POTENTIAL AND LIMITS OF SOCIAL AND SOLIDARITY ECONOMY – SPECIAL SESSION ON ALTERNATIVE FINANCE AND COMPLEMENTARY CURRENCIES, 6th, 7th and 8th of May 2013. Geneva. Working paper. Geneva: International Labour Organization, 2013. Available on < http://www.unrisd.org/sseconf >. Consulted the 30th of May 2013.

DITTMER Kristofer. Local currencies for purposive degrowth? A quality check of some proposals for changing money-as-usual. Corrected proof – article in press. Journal of Cleaner Production, 3rd of April 2013. Available on < http://dx.doi.org/10.1016/j.jclepro.2013.03.044 >. Consulted the 30th of May 2013.

EUROPEAN CENTRAL BANK. Virtual currency schemes. Frankfurt am Main: European Central Bank, October 2012. Available on < http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf >. Consulted the 30th of May 2013.

EUROPEAN COMMISSION. FOOD AND AGRICULTURE ORGANIZATION. INTERNATIONAL MONETARY FUND. ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. UNITED NATIONS. WORLD BANK. System of environmental-economic accounting: central framework. White cover publication, pre-edited text subject to official editing, 2012. Available on < http://unstats.un.org/unsd/envaccounting/White_cover.pdf >. Consulted the 30th of May 2013.

FARE Marie. Les conditions monétaires d'un développement local soutenable: des systèmes d'échange complémentaire aux monnaies subsidiaires [Monetary conditions of a local sustainable development: from complementary exchange systems to subsidiary currencies]. Doctoral thesis in economics sciences. Lyon: Université Lumière Lyon 2, 12th of December 2011.

FARE Marie. Les monnaies sociales et complémentaires dans les dynamiques territoriales: potentialities, impacts, limites et perspectives [Community and complementary currencies in territorial dynamics: potential, impacts, limits and prospects]. In: UNRISD CONFERENCE INTERNATIONAL SYMPOSIUM ON POTENTIAL AND LIMITS OF SOCIAL AND SOLIDARITY ECONOMY, 6th, 7th and 8th of May 2013. Geneva. Draft paper. Geneva: International Labour Organization, 2013. Available on < http://www.unrisd.org/sseconf >. Consulted the 30th of May 2013.

FOUNDATION CENTER. TRASI – Tools and Resources for Assessing Social Impact. Browse toolkit, 2013. Available on < http://trasi.foundationcenter.org/browse.php > and < http://trasi.foundationcenter.org/browse_toolkit.php >. Consulted the 30th of May 2013.

FURTADO Jose Ireneu dos Remedios. Multiple approaches towards sustainable development. Los Banos: IRRI, 2005.

GELLERI Christian. Chiemgauer regiomoney: theory and practice of a local currency. International Journal of Community Currency Research 13, 61-75, 2009. Available on < http://ijccr.net/category/volume/13-2009/ >. Consulted the 30th of May 2013.

GLOBAL SOCIAL BENEFIT INCUBATOR. SROI Lite. Available on < http://cms.scu.edu/socialbenefit/entrepreneurship/gsbi/ >. Consulted the 30th of May 2013.

GOLEMAN Daniel. BOYATZIS Richard. Social intelligence and the biology of leadership. Harvard Business Review, September 2008. Available on < http://hbr.org/product/social-intelligence-and-the-biology-of-leadership/an/R0809E-PDF-ENG >. Consulted the 30th of May 2013.

GGKP (Green Growth Knowledge Platform). Moving towards a common approach on green growth indicators. Scoping paper. Green Growth Knowledge Platform (GGKP), April 2013. Available on < http://www.greengrowthknowledge.org/Pages/GGKPHome.aspx >. Consulted the 30th of May 2013.

GRAUGAARD Jeppe Dyrendom. A tool for building community resilience? A case study of the Lewes Pound. Local Environment: The International Journal of Justice and Sustainability 17(2), 1st of March 2012. Available on < http://www.tandfonline.com/doi/abs/10.1080/13549839.2012.660908 >. Consulted the 30th of May 2013.

HAYEM Etienne. Une monnaie pour relier les acteurs de l'économie symbiotique et developer une économie vertueuses sur les territoires [A currency to link symbiotic economy actors and develop and virtuous economy on territories]. Paris: Zoupic, le propre de l'om, 30th of May 2013. Available on < http://www.zoupic.com/2013/05/30/une-monnaie-pour-relier-les-acteurs-de-leconomie-symbiotique-et-developper-une-economie-vertueuse-sur-les-territoires/ >. Consulted the 30th of May 2013.

HELLIWELL John. LAYAD Richard. SACHS Jeffrey. World happiness report. New York: The Earth Institute Columbia University, 2nd of April 2012. Available on < http://www.earth.columbia.edu/sitefiles/file/Sachs%20Writing/2012/World%20Happiness%20Report.pdf >. Consulted the 30th of May 2013.

IMPACT FINANCE. Kharmax Impact Monitoring System. Available on < http://www.impact-finance.com/kharmax >. Consulted the 30th of May 2013.

INGLEBY Julie. Local economic trading systems: potentials for new communities of meaning: a brief exploration of eight LETSystems, with a focus on decision making. International Journal of Community Currency Research 2, 1998. Available on < http://ijccr.net/category/volume/2-1998/ >. Consulted the 30th of May 2013.

INSTITUTO PALMAS. NESOL-USP (Núcleo de Economia Solidária da Universidade de São Paulo). Banco Palmas 15 anos: resistindo e inovando [15 years of Palmas Bank : resisting and innovating]. São Paulo: A9 Editora, 2013.

INVESTOPEDIA. Definition of complementary currency, 31st of May 2013. Available on < http://www.investopedia.com/terms/c/complementary-currency-cc.asp >. Consulted the 30th of May 2013.

JACKSON Tim. Prosperity without growth: economics for a finite planet. London: Earthscan, 2009. Available on < http://www.gci.org.uk/Documents/Tim_JACKSON_Prosperity_Without_Growth.pdf >. Consulted the 30th of May 2013.

JACOB Jeffrey. BRINKERHOFF Merlin. JOVIC Emily. WHEATLEY Gerald. The social and cultural capital of community currency an Ithaca Hours case study survey. International Journal of Community Currency Research 8, 42-56, 2004. Available on < http://calgarydollars.ca/Gerald%20Wheatley%20MA%20Thesis.pdf > and < http://ijccr.net/category/volume/8-2004/ >. Consulted the 30th of May 2013.

KAWANO Emily. Social solidarity economy: toward convergence across continental divides. United Nations Research Institute for Social Development (UNRISD). Social Policies for Inclusive and Sustainable Development Programme Area. Potential and limits of social and solidarity economy project. Think piece. Geneva, 26th of February 2013. Available on < http://www.unrisd.org/sse > and < http://prezi.com/uaa5vaqmdllj/solidarity-economy/ >. Consulted the 30th of May 2013.

KENNEDY Margrit. LIETAER Bernard A.. Regionalwährungen. Riemann, München 2004 *apud:* PLACE Christophe. Community currency progress in Latin America: evolution in Brazil of a socio-technical innovation for economic sustainability. International Journal of Community Currency Research [Special issue on complementary currencies: state of the art], 15 (D), 39-46, 2011. Available on < http://ijccr.net/category/volume/15-2011-special-issue/ >. Consulted the 30th of May 2013.

KIM Won. JEONG Ok-Ran. LEE Sang-Won. On social web sites. Information Systems 25 (2010) 214-236. Available on < http://www.ic.ufmt.br:8080/c/document_library/get_file?p_l_id=12828&folderId=17100&name=DLFE-612.pdf >. Consulted the 30th of May 2013.

KOKABU Masayuki. KATAI Osamu. SHIOSE Takayuki. KAWAKAMI Hiroshi. Design concept of community currency based on fuzzy network analysis. Kyoto: Kyoto University. Available on < http://www.ormita.com/pdf/library/communitycurrencydesign.pdf >. Consulted the 30th of May 2013.

KUMHOF Michael. BENES Jaromir. The Chicago plan revisited. Revised draft. 7th of February 2013. In KEY ISSUES FOR A GREEN ECONOMY - FINANCIAL REFORM FOR A SUSTAINABLE ECONOMY. Seminar number 9. Stockholm: Global Utmaning, 8th of January 2013. Available on < http://www.stanford.edu/~kumhof/chicago.pdf > and < http://www.globalutmaning.se/?p=7280 >. Consulted the 30th of May 2013.

LAARCHER Samaôn. Nouvelles formes de sociabilités ou les limites d'une utopie politique: l'exemple des systèmes d'échange local [New forms of sociability or political utopia limits: the example of local exchange systems (SEL)]. International Journal of Community Currency Research 3, 1999. Available on < http://ijccr.net/category/volume/3-1999/ >. Consulted the 30th of May 2013.

LEWIS Michael. CONATY Pat. The resilience imperative: cooperative transitions to a steady-state economy. Gabriola Island: New Society Publishers, 2012. Available on < http://www.canadianopenlibrary.ca/SwfDocs/NSP/9780865717077.pdf >. Consulted the 31st of May 2013 *apud:* KAWANO Emily. Social solidarity economy: toward convergence across continental divides. United Nations Research Institute for Social Development (UNRISD). Social Policies for Inclusive and Sustainable Development Programme Area. Potential and limits of social and solidarity economy project. Think piece. Geneva, 26th of February 2013. Available on < http://www.unrisd.org/sse > and < http://prezi.com/uaa5vaqmdllj/solidarity-economy/ >. Consulted the 30th of May 2013.

LH FORUM. Movement for a positive economy. The report. Paris: PlaNet Finance, 13th of September 2012. Available on < http://www.lh-forum.com/en/report >. Consulted the 30th of May 2013.

LIETEAR Bernard. ULANOWICZ Robert E.. GOERNER Sally J.. McLAREN Nadia. Is our monetary structure a systemic cause for financial instability ? Evidence and remedies from nature. Journal of Futures Studies. Special issue on the financial crisis, April 2010. Available on < http://www.lietaer.com/images/Journal_Future_Studies_final.pdf >. Consulted the 30th of May 2013.

LIETAER Bernard, BELGIN Stephen. New money for a new world. Quiterra Press, 2011a.

LIETAER Bernard. Building strength: a big picture look at challenges and opportunities in the complementary currency movement, 30th of January 2011b. Available on < http://www.lietaer.com/2011/01/building-strength-a-big-picture-look-at-the-complementary-currency-movement/ >. Consulted the 30th of May 2013.

LIETAER Bernard. ARNSPERGER Christian. BRUNNHUBER Stefan. GOERNER Sally. Money and sustainability: the missing link: a report from the Club of Rome. Devon: Triarchy Press, 23rd of July 2012. Available on < http://www.clubofrome.org/cms/wp-content/uploads/2012/05/Money-and-Sustainability-the-missing-link-Executive-Summary.pdf >. Consulted the 30th of May 2013.

LOUETTE Anne. Sustainability compendium: social and environmental responsibility management tools. São Paulo : Antakarana Cultura Arte Ciência/Willis Harman House, 2008. Available on < http://www.compendiosustentabilidade.com.br >. Consulted the 30th of May 2013.

LOUETTE Anne. Sustainability indicators of nations: a contribution to dialogue. São Paulo : Antakarana Cultura Arte Ciência/Willis Harman House, 2009. Available on < http://www.compendiosustentabilidade.com.br >. Consulted the 30th of May 2013.

MARTIGNONI Jens. A new approach to a typology of complementary currencies. International Journal of Community Currency Research 16 (A), 1-17, 2012. Available on < http://ijccr.net/category/volume/16-2012/ >. Consulted the 30th of May 2013.

MEYER Camille. Les finances solidaires comme biens communs durables: etude de cas de la banque communautaire de développement Palmas [Solidarity finance as sustainable common good: case study of Palmas community bank of development]. Master of Science dissertation in population and development. Bruxelles: Université Libre de Bruxelles, 2012.

MONNAIE EN DÉBAT. Faire mouvement [Make motion]. In: RENCONTRE INTERNATIONALE DES ACTEURS DES MONNAIES SOCIALES ET COMPLÉMENTAIRE, 1., 18th of February 2011. Lyon. Synthesis. Lyon: MONNAIE EN DÉBAT, 2011. Available on < http://www.monnaiesendebat.org/ >. Consulted the 30th of May 2013.

MOLNAR Stefan. Time is of the essence : the challenges and achievements of a swedish time banking initiative. International Journal of Community Currency Research 15 (A), 13-22, 2011. Available on < http://ijccr.net/category/volume/15-2011/ >. Consulted the 30th of May 2013.

MINISTÈRE DU REDRESSEMENT PRODUCTIF. Potentiel et perspectives de développement des plates-formes d'échanges interentreprises [Potential and perspective of development of interenterprise exchange platforms]. Pôle interministériel de proespective et d'anticipation des mutations économiques. Direction générale de la compétitivité de l'industrie et des services, January 2013. Available on < http://www.dgcis.redressement-productif.gouv.fr/etudes-et-statistiques/potentiel-et-perspectives-developpement-des-plates-formes-dechanges-interentr >. Consulted the 30th of May 2013.

NAUGHTON-DOE Ruth. Time banking in social housing: a toolkit for co-production in public services. International Journal of Community Currency Research [Special issue on complementary currencies: state of the art], 15 (D), 17-21, 2011. Available on < http://ijccr.net/category/volume/15-2011-special-issue/ >. Consulted the 30th of May 2013.

NEF (The New Economics Foundation). Social Return on Investment. Available on < http://www.neweconomics.org/projects/social-return-investment >. Consulted the 30th of May 2013.

NGINAMAU Maria. Étude de faisabilité de l'implémentation d'une monnaie sociale complémentaire au sein d'un réseau de l'économie sociale et solidaire [Feasability study of complementary and community currency implementation within a social and solidarity economy network]. Master of Science dissertation in services engineering and management. Geneva: Geneva Business School of Administration, 2013 *apud:* BINDEWALD Leander. NGINAMAU Maria. PLACE Christophe. 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: UNRISD CONFERENCE INTERNATIONAL SYMPOSIUM ON POTENTIAL AND LIMITS OF SOCIAL AND SOLIDARITY ECONOMY – SPECIAL SESSION ON ALTERNATIVE FINANCE AND COMPLEMENTARY CURRENCIES, 6th, 7th and 8th of May 2013. Geneva. Working paper. Geneva: International Labour Organization, 2013. Available on < http://www.unrisd.org/sseconf >. Consulted the 30th of May 2013.

OBSERVATOIRE DE L´IMMATÉRIEL. Thésaurus-Bercy V1- Référentiel français de mesure de la valeur extra-financière et financière du capital immaterial des entreprises [French reference of measurement of extra-financial and financial value of immaterial assets of companies]. In: 1er SYMPOSIUM INTERNATIONAL SUR L´ÉVALUATION ET LA VALORISATION DES ACTIFS IMMATÉRIELS. Paris. Report. Paris: Ministère des Finances, 7th of October 2011. Available on < http://www.observatoire-immateriel.com/ >. Consulted the 30th of May 2013.

OZANNE Lucie K.. Learning to exchange time: benefits and obstacles to time banking. International Journal of Community Currency Research 14 (A), 1-16, 2010. Available on < http://ijccr.net/category/volume/14-2010/ >. Consulted the 30th of May 2013.

P2P FOUNDATION. Complementary currency definition, 31st of May 2013. Available on < http://p2pfoundation.net/Complementary_Currencies >. Consulted the 30th of May 2013.

PARK Sean. Reinventing financial services for a digital currency. In LIFT CONFERENCE, 4th of February 2011, Geneva. Presentation. London: Anthemis Group, 2011. Available on < http://www.parkparadigm.com/ >. Consulted the 30th of May 2013 *apud:* PLACE Christophe. La finance éthique au service de l'innovation économique et monétaire [Ethical finance to serve economic and monetary innovation]. In: CONFERENCE INNOVATION, FINANCEMENT ET ENTREPRENEURIAT, 3rd and 4th of February 2012. Geneva. Working paper. Geneva: Geneva School of Business Administration, 2012.

PLACE Christophe. Moedas sociais e filantropía: o impact to investimento social privado para o desenvolvimento de alternativas ? [Social currencies and philanthropy: impact of social investment on the development of alternatives?]. Technical article. Instituto MAIS: Revista Benchmarking, 5, 46-48, June 2010a. Available on < http://www.maisprojetos.com.br/benchbrasil/revista/ >. Consulted the 30th of May 2013.

PLACE Christophe. Community currency for local economy: a grassroots innovation for prosperity through democracy? [Alternative Management Observatory Essay] Paris: Alternative Management Observatory, 1st of August 2010b. Available on < http://appli6.hec.fr/amo/Articles/Fiche/Item/144.sls >. Consulted the 30th of May 2013.

PLACE Christophe. Creative monetary valuation [ISBN 978-3-8383-9362-9]. Saarbrücken: LAP Lambert Academic Publishing, September 2010c.

PLACE Christophe. Impact assessment of economic and monetary innovations for their financing and improvement: why is it necessary for social transformation projects management? In: TESLA CONFERENCE INTERNATIONAL SOCIAL TRANSFORMATION CONFERENCE – ENERGY CURRENCY ENERGY AS THE FUNDAMENTAL MEASURE OF PRICE, COST AND VALUE, 10th, 11th and 12th of July 2012. Split. Conference proceedings. Split: University of Split, 2012. Available on < http://teslaconference.com/documents/PLACE%20Christophe.pdf >. Consulted the 30th of May 2013.

REDF (The Roberts Enterprise Development Fund). Social Return on Investment (SROI) Collection. The Roberts Enterprise Development Fund (REDF), 2000. Available on < http://www.redf.org/learn-from-redf/publications/119 >. Consulted the 30th of May 2013.

RIPESS (Intercontinental Network for the Promotion of the Social Solidarity Economy). The economy we need: declaration of the social and solidarity economy movement at Rio+20. Intercontinental Network for the Promotion of the Social Solidarity Economy (RIPESS), 16th of June 2012. Available on < http://www.ripess.org/ripess-rio20-declaration/?lang=en >. Consulted the 30th of May 2013.

ROSQUETA Katherina. Measuring what matters – social return on investment – SROI. University of Pennsylvania's Center of High Impact Philanthropy, school of Social Policy and Practice, March 2009. Available on <http://fr.slideshare.net/Impact_Penn/kats-sroi-lecture-mar-2009>. Consulted the 30th of May 2013.

RUDDICK William O.. MARIANI Lucero. Complementary currencies strengthening the Social and Solidarity Economy: case studies from Kenya. In: UNRISD CONFERENCE INTERNATIONAL SYMPOSIUM ON POTENTIAL AND LIMITS OF SOCIAL AND SOLIDARITY ECONOMY, 6th, 7th and 8th of May 2013. Geneva. Working paper. Geneva: International Labour Organization, 2013. Available on < http://www.unrisd.org/sseconf >. Consulted the 30th of May 2013.

RUDDICK William O.. Eco-pesa: an evaluation of a complementary currency programme in Kenya's informal settlements. International Journal of Community Currency Research 15 (A) 1-12, 2011. Available on < http://ijccr.net/category/volume/15-2011/ >. Consulted the 30th of May 2013.

SCOTT CATO Molly. SUÁREZ Marta. Stroud pound: a local currency to map, measure and strengthen the local economy. International Journal of Community Currency Research [Special issue on thirty years of community and complementary currencies: a review of impacts, potential and challenges], 16 (D), 106-115, 2012. Available on < http://ijccr.net/category/volume/16-2012-special-issue/ >. Consulted the 30th of May 2013.

SCHROEDER Rolf F.H.. Conference report - complementary currencies, exchange systems, social money. In: INTERNATIONAL CONFERENCE ON COMMUNITY AND COMPLEMENTARY CURRENCIES, 1., 16th and 17th of February 2011. Lyon. Article. Lyon: CC-CONF, 2011a. Available on < http://www.monnaiesendebat.org/spip.php?rubrique18 >. Consulted the 30th of May 2013.

SCHROEDER Rolf F.H.. MIYAZAKI Yoshihisa. FARE Marie. Community currency research: an analysis of the literature. International Journal of Community Currency Research 15 (A), 31-41, 2011b. Available on < http://ijccr.net/category/volume/15-2011/ >. Consulted the 30th of May 2013.

SCHROEDER Rolf F.H. Community exchange and trading systems in Germany. International Journal of Community Currency Research10, 24-42, 2006. Available on < http://ijccr.net/category/volume/10-2006/ >. Consulted the 30th of May 2013.

SCHWARTZ Tony, McCARTHY Catherine. Manage your energy, not your time. Harvard Business Review: October 2007. Available on < http://hbr.org/product/manage-your-energy-not-your-time/an/R0710B-PDF-ENG >. Consulted the 30th of May 2013.

SELIGMAN Martin E.P.. Building resilience. Harvard Business Review, April 2011. Available on < http://hbr.org/product/building-resilience/an/R1104H-PDF-ENG >. Consulted the 30th of May 2013.

SERVET Jean-Michel. Monnaie complémentaire versus microcredit solidaire et tontines: contribution compare à un développement solidaire local [Complementary currency versus solidarity microcredit and tontines: comparing contributions to local solidarity-based development]. In: UNRISD CONFERENCE INTERNATIONAL SYMPOSIUM ON POTENTIAL AND LIMITS OF SOCIAL AND SOLIDARITY ECONOMY, 6th, 7th and 8th of May 2013. Geneva. Draft paper. Geneva: International Labour Organization, 2013. Available on < http://www.unrisd.org/sseconf >. Consulted the 30th of May 2013.

SEYFANG Gill. LONGHURST Noel. Growing green money? Mapping community currencies for sustainable development. Ecological Economics. 86, 65-77, 2013. Available on < http://dx.doi.org/10.1016/j.ecolecon.2012.11.003 >. Consulted the 30th of May 2013.

SEYFANG Gill. LONGHURST Noel. Grassroots innovation for sustainability: a niche analysis of community currencies. Working paper. Science, Society and Sustainability Research Group, Norwich, 2012. Available on <

http://grassrootsinnovations.org/2012/10/03/working-paper-grassroots-innovations-for-sustainability-a-niche-analysis-of-community-currencies/ >. Consulted the 30th of May 2013.

SEYFANG Gill. Tackling social exclusion with community currencies: learning from LETS to Time Banks. International Journal of Community Currency Research 6, 2002. Available on < http://ijccr.net/category/volume/6-2002/ >. Consulted the 30th of May 2013.

SEYFANG Gill. Spending time, building communities: evaluating time banks and mutual volunteering as a tool for tackling social exclusion. Voluntary Action 4(1), 2001. Available on < http://www.ivr.org.uk/images/stories/Institute-of-Volunteering-Research/VA-Documents/VA4_1/article2_seyfang.pdf >. Consulted the 30th of May 2013.

SEYFANG Gill. Examining local currency systems: a social audit approach. International Journal of Community Currency Research 1, 1997. Available on < http://ijccr.net/category/volume/1-1997/ >. Consulted the 30th of May 2013.

SILVA JUNIOR Jeová Torres. Avaliação de impactos e de imagem : banco palmas – 10 anos [Study on the evaluation and impact of the Banco Palmas]. Juazeiro do Norte: Universidade Federal do Ceará - Laboratório Interdisciplinar de Estudos em Gestão Social, February 2008 *apud:* DE MELO NETO SEGUNDO João Joaquim. Associate community banks in Brazil. Working USA The Journal of Labor & Society 13(1), 18th of March 2010. Available on < http://www.banquepalmas.fr/IMG/pdf/Rapport_Jeova_Evaluation_BP.pdf > and < http://onlinelibrary.wiley.com/doi/10.1111/j.1743-4580.2010.00280.x/full >. Consulted the 30th of May 2013.

SLATER Matthew. Complementary currency open source software in 2010. International Journal of Community Currency Research [Special issue on complementary currencies: state of the art], 15 (D), 82-87, 2011. Available on < http://ijccr.net/category/volume/15-2011-special-issue/ >. Consulted the 30th of May 2013.

SOCIAL E-VALUATOR. A guide to Social Return on Investment, April 2009. Available on < http://www.socialevaluator.eu/WhatisSROI.aspx >. Consulted the 30th of May 2013.

SOCIAL VENTURE TECHNOLOGY GROUP. SROI Toolkit. Available on < http://svtgroup.net/company-overview/impact-management >. Consulted the 30th of May 2013.

SOLIS Brian. Engage: the complete guide for brands and business to build, cultivate, and measure success in the new web. John Wiley & Sons, Inc: New York City, 15th of March 2011.

SOTIROPOULOU Irene. Alternative exchange systems in contemporary Greece. International Journal of Community Currency Research [Special issue on complementary currencies: state of the art], 15 (D), 27-31, 2011. Available on < http://ijccr.net/category/volume/15-2011-special-issue/ >. Consulted the 30th of May 2013.

SROI PRIMER. Measuring social impact: the foundation of social return on investment (SROI), 2004. Available on < http://sroi.london.edu/resources.html >. Consulted the 30th of May 2013.

STIGLITZ Joseph E.. SEN Amartya. FITOUSSI Jean-Paul. Report of the commission on the measurement of economic performance and social progress. Commission on the measurement of economic performance and social progress, 14th of September 2009. Available on < www.stiglitz-sen-fitoussi.fr >. Consulted the 30th of May 2013.

STODDER James. Complementary credit networks and macro-economic stability: Switzerland's Wirtschaftsring. Journal of economic behavior and organization (72) 79-95, October 2009. Available on < http://www.ewp.rpi.edu/hartford/~stoddj/BE/WIR_Update.pdf >. Consulted the 30th of May 2013 *apud:* KALINOWSKI Wojtek. Currency pluralism and economic stability: the Swiss experience. Veblen Institute, October 2011. Available on < http://www.veblen-institute.org/IMG/pdf/currency_pluralism_and_economic_stability_eng_oct_2011_.pdf >. Consulted the 30th of May 2013.

SVTG (Social Venture Technology Group). Catalog of approaches to impact measurement. Social Venture Technology Group (SVTG), March 2008. Available on < http://svtgroup.net/wp-content/uploads/2011/09/SROI_approaches.pdf >. Consulted the 30th of May 2013.

SWAM Melanie. Economics of the future: plus ça change. Palo Atlo: MS Futures Group, 2008.

THE WORLD BANK – NETWORK OF NETWORKS FOR IMPACT EVALUATION. Impact Evaluations and Development: NONIE Guidance on Impact Evaluation, 2009. Available on < http://www.worldbank.org/ieg/nonie/guidance.html >. Consulted the 30th of May 2013.

THIEL Christian. Complementary currencies in Germany: the regiogeld system. International Journal of Community Currency Research [Special issue on complementary currencies: state of the art], 15 (D), 17-21, 2011. Available on < http://ijccr.net/category/volume/15-2011-special-issue/ >. Consulted the 30th of May 2013.

THE SROI NETWORK. A guide to Social Return on Investment, January 2012. Available on < http://www.thesroinetwork.org/publications/doc_details/241-a-guide-to-social-return-on-investment-2012 >. Consulted the 30th of May 2013.

ULANOWICZ Robert E.. GOERNER Sally J.. LIETAER Bernard. GOMEZ Rocio. Quantifying sustainability: resilience, efficiency and the return on information theory. Ecological complexity 6 (1) 27-36, March 2009. Available on < http://www.lietaer.com/images/Ecological_Complexity_Final.pdf >. Consulted the 30th of May 2013 *apud:* PLACE Christophe. BENSADOUN Mathieu. Valorisation monétaire complémentaire: une réponse possible aux limites actuelles et futures de la valorisation monétaire classique: les monnaies complémentaires [Complementary monetary valuation: a possible answer to current and future limits of classic monetary valuation: complementary currencies]. Club Finance HEC-Paris Libres Opinions. Working paper. Paris: Club Finance, February 2010. Available on < http://www.hec.fr/Club-Finance/Libres-opinions >. Consulted the 30th of May 2013.

UNEP (United Nations Environment Programme). GEO5 Global Environment Outlook: environment for the future we want. United Nations Environment Programme (UNEP), 2012. Available on < http://www.unep.org/geo >. Consulted the 30th of May 2013.

UNEP (United Nations Environment Programme). Green economy report: towards a green economy: pathways to sustainable development and poverty eradication. United Nations Environment Programme (UNEP), 2011. Available on < http://www.unep.org/greeneconomy/GreenEconomyReport/tabid/29846/language/en-US/Default.aspx >. Consulted the 30th of May 2013.

UNDP (United Nations Development Programme). Handbook on Planning, Monitoring and Evaluating for Development Results. United Nations Development Programme (UNDP), 2009. Available on < http://web.undp.org/evaluation/handbook/index.html >. Consulted the 30th of May 2013.

UNITED NATIONS. The report of the high-level meeting on wellbeing and happiness. In WELLBEING AND HAPPINESS: DEFINING A NEW ECONOMIC PARADIGM. New York. Report. New York: United Nations Headquarter, 2nd of April 2012. Available on < http://www.uncsd2012.org/content/documents/519BhutanReport_WEB_F.pdf >. Consulted the 30th of May 2013.

UPEACE (University for Peace mandated United Nations – Center of Executive Education). Entrepreneurship, Innovation and Social Change: Measuring Impact and Evaluation. University for Peace mandated United Nations – Center of Executive Education (UPEACE), 2011. Available on < http://centre.upeace.org/courses/entrepreneurship-innovation-and-social-change/ >. Consulted the 30th of May 2013.

UTTING Peter. Social and solidarity economy: a pathway to socially sustainable development? United Nations Research Institute for Social Development (UNRISD). Social Policies for Inclusive and Sustainable Development Programme Area. Potential and limits of social and solidarity economy project. Think piece. Geneva, 29th of April 2013. Available on < http://www.unrisd.org/sse >. Consulted the 30th of May 2013.

VIRTUAL CURRENCY PLATFORMS. Virtual currency platforms, 2013. Available on < http://www.virtualcurrencyplatforms.com/virtual-currency-platforms >. Consulted the 30th of May 2013.

VOGEL Isabel. Review of the use of "Theory of Change" in international development, UK department of International Development, 2012. Available on < https://www.gov.uk/government/news/dfid-research-review-of-the-use-of-theory-of-change-in-international-development > Consulted the 30th of May 2013.

WALKER David. 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 13, 36-60, 2009. Available on < http://ijccr.net/category/volume/13-2009/ >. Consulted the 30th of May 2013.

WAVES (Wealth Accounting and the Valuation of Ecosystem Services). The global partnership on wealth accounting and the valuation of ecosystem services. Annual report. Wealth Accounting and the Valuation of Ecosystem Services (WAVES), 2013. Available on < http://www.wavespartnership.org/waves/sites/waves/files/images/WAVES-Annual-Report-2013.pdf >. Consulted the 30th of May 2013.

WHEATLEY Gerald. Complementary currency and quality of life: social and economic capital effects on subjective well-being. Calgary: The University of Calgary, 3rd of April 2006 *apud:* JACOB Jeffrey. BRINKERHOFF Merlin. JOVIC Emily. WHEATLEY Gerald. The social and cultural capital of community currency an Ithaca Hours case study survey. International Journal of Community Currency Research 8, 42-56, 2004. Available on < http://calgarydollars.ca/Gerald%20Wheatley%20MA%20Thesis.pdf > and < http://ijccr.net/category/volume/8-2004/ >. Consulted the 30th of May 2013.

WHEATLEY Gerald. YOUNIE Corrine. ALAJLAN Hind. McFARLANE Erin. Calgary dollars: economic and social capital benefits. International Journal of Community Currency Research 15 (A), 84-89, 2011. Available on < http://ijccr.net/category/volume/15-2011/ >. Consulted the 30th of May 2013.

WILLIAMS Colin C.. Informal sector responses to unemployment: an evaluation of the potential of Local Exchange Trading Systems (LETS). Work, Employment & Society 10(2), 1996. Available on < http://wes.sagepub.com/content/10/2/341.full.pdf+html >. Consulted the 30th of May 2013.

WILLIAMS Colin C.. Local exchange and trading systems (LETS) in Australia: a new tool for community development? International Journal of Community Currency Research 1, 1997. Available on < http://ijccr.net/category/volume/1-1997/ >. Consulted the 30th of May 2013.