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**Working Paper**

## Re-imagining money to broaden the future of development finance: What Kenyan community currencies reveal is possible for financing development

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# UNRISD

United Nations Research Institute for Social Development

Working Paper 2015-10

## **Re-imagining Money to Broaden the Future of Development Finance**

*What Kenyan Community Currencies Reveal is Possible  
for Financing Development*

*Jem Bendell, Matthew Slater and Will Ruddick*

prepared for the UNRISD Workshop  
“Social and Solidarity Finance: Tensions, Opportunities and  
Transformative Potential” in collaboration with the Friedrich-Ebert  
Stiftung and the International Labour Office

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# UNRISD

United Nations Research Institute for Social Development

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# Acronyms

BBN	Bangladesh Business Network
CCS	Collaborative Credit Systems
GDP	Gross domestic product
IFLAS	Institute for Leadership and Sustainability
IOU	Promissory note
LETS	Local Exchange Trading Systems
MP	Member of Parliament
UNDESA	United Nations Department of Economic and Social Affairs
UN-NGLS	United Nations Non-Governmental Liaison Service
UNRISD	United Nations Research Institute for Social Development
USD	United States dollar
WIR	Wirtschaftsring-Genossenschaft ( <i>Swiss Economic Circle</i> )

## Summary

This paper argues that it is important to understand the nature of money and its impacts to be able to engage better with currency innovations for sustainable development. The paper focuses on the case of Bangla-Pesa, an alternative currency used in poor urban areas in Kenya, to demonstrate how currency innovation can work for poor people. The Kenyan non-governmental organization, Grassroots Economics, is helping to create business networks in the poorest urban areas. Vouchers, issued and honoured by every member of the network, function as a form of currency. This has led to an increase in turnover of more than 20 percent and corresponding economic growth, as well as a reduction of waste and unemployment. This model requires very little investment.

However, despite an excellent and documented track record, Grassroots Economics was unable to secure any institutional funding. The authors suspect that this lack of support arises from a lack of understanding among development professionals about the nature of money, how new currencies can be created and which innovations are useful. This paper therefore seeks to inform policy makers about the nature of money, offering a new typology of money called the Value-Sequence Typology, which categorizes “monies” based on the process and justification for issuing new units, or in this case, vouchers. The authors propose a new definition of money as a system of agreements and symbols which influence the creation and exchange of value and power. The agreements, whether explicit or implicit, about the relationship between the symbols of money and when the actual value of what was monetized changes hands, (before, during, or after) are the most important signifier of money types.

Grassroots economics, in a context of a community of micro-entrepreneurs, uses a Collaborative Credit System (CCS) in which members issue interest free credit to each other. This is similar to how most national currencies are created, yet it is done peer-to-peer, without the involvement of banks. The authors feel this is particularly important in a time of declining official development assistance. Creative insight into the nature of money could enable a new era in development cooperation through promotion of collaborative credit systems.

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## Introduction

This paper explains the nature of money and finance to enable development researchers and professionals to engage better with currency innovations for sustainable development. Current approaches are limited by mistaken assumptions about the nature of “money” itself, how it is issued, and the relationship between money and wealth. This paper disproves these fallacies and explains how the field of currency innovation—beyond “legal tender”<sup>1</sup> forms of money—can be useful for financing social and solidarity economy (SSE)<sup>2</sup> to achieve sustainable development goals. The paper profiles an initiative in Kenya called the Bangla-Pesa that demonstrates how an altered understanding of money and technology of currency can help people in poverty to improve their lives through trade. Given the widely reported limitations of microfinance in achieving national development (Bateman 2010), fresh thinking is urgently required, and complementary currencies like the Bangla-Pesa provide some indication of a new development financing agenda.

The paper begins with a discussion of the nature of money, the common misunderstandings in mainstream economics about it and the importance, for development outcomes, of the way it is created today by commercial bank lending. The paper notes how initiatives on financing of development have only focused on legal tender, which is state-backed money, and ignored the potential of what we describe as “common tender”, which are forms of private money. The paper presents a new conceptual framework for understanding money that is based on interpreting money and currency as systems of agreements and symbols that support claims on goods or services. Brief examples are provided to illustrate this “value-sequence typology” of money, before presenting the development of complementary currencies in Kenya. The Bangla-Pesa case study is key for highlighting how the ability to reimagine money which could lead to a new agenda for development action. In addition, this paper uses monetary theory to suggest how the Bangla-Pesa could become critical in the history of development. The monetary theory also helps contextualize other currency innovations, including Bitcoin. As economic sociologists and currency innovators, the authors draw upon sociology, anthropology, monetary history, development studies and heterodox economics to theorize the importance of currency innovation for sustainable development.

It is important to note that in this paper, we do not draw upon the legal definitions of different types of money and currency from various jurisdictions, as that would be a major undertaking for different purposes. The purpose here is to support greater conceptual clarity about the nature of money and currency.<sup>3</sup>

## Monetary Confusion at the Heart of Development Financing

In the past decades, financial innovation for the poor has mostly been dominated by microfinance, involving small loans to poor individuals. However, according to Bateman (2010), over the years microfinance has been used by many as a tool for

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<sup>1</sup> “Legal tender” defines any money that, according to national laws, a creditor must accept toward repayment of a debt, if the debt is to be recognized by a court. It does not mean that currencies that are not legal tender are illegal, simply that such other currencies are not imposed on a population.

<sup>2</sup> The term social and solidarity economy refers to organizations that are distinguished from conventional enterprise by having primarily societal objectives, using economic means and involving varying forms of collaborative ownership.

<sup>3</sup> In this paper we use the terms money and currency interchangeably.



usurious profit making, rather than empowerment, as it has often been used to entice poor people into high-interest loans. In addition, the broader developments of microfinance are difficult to prove. While concerns grow over microfinance, traditional donor funds for development are declining in various regions as a result of the Western economic crisis. In this context, novel approaches to financing development need to be considered.

Recent years of intergovernmental discussion on financing for development have ignored the most simple aspect of their mandate—the nature of the very thing they are talking about—money. No wonder, as GDP rises in most countries, mainstream economists maintain that everyone is getting richer but have little to say about the money in which they are measuring that wealth. Three aspects of money are overlooked by mainstream economists. First, by not looking at money beyond its functions, they overlook how contemporary money is created and how it came to be that way. Second, they do not examine how that form of money issuance affects society and the environment. Third, they do not explore the workings of alternatives to legal tender, found in the field of currency innovation. We deal with each issue in turn.

### ***First oversight: Money creation***

First, according to the Bank of England (2014:15), economists have been misinformed about how money is created: “rather than banks lending out deposits that are placed with them, the act of lending creates deposits—the reverse of the sequence typically described in textbooks”. Notes and coins are used to settle only a tiny volume of monetary transactions, typically around 5 percent in most economies worldwide. Most of what we use to settle transactions is not cash but promises of cash recorded in bank accounts: in other words, credit. When a bank issues a loan to provide electronic deposits in a client’s account, that newly created credit-money is considered as good as money itself. Thanks to electronic payments and widespread cash machines, we experience this credit-money interchangeably from the government-issued cash. Furthermore, banks’ promises to pay us cash are accepted in payment of taxes, practically reducing the distinction. The banks do not need an equivalent amount of money on deposit in order to issue loans, instead, the agreement of the borrower to pay back the bank becomes an asset to the bank, and their deposit in the borrower’s account is the bank’s liability, governed by contract, which includes how much they are prepared to provide in cash each day (Bendell and Doyle 2014). The Bank of England does not offer critiques of the current system, but its report highlights the errors of mainstream economics on the most elementary aspect of money: where it comes from. A far-reaching error, it would seem. A survey of British Members of Parliament (MPs) in 2014 found that only one out of 10 knew that commercial banks create the majority of money in circulation in the United Kingdom (Positive Money 2014).

This oversight on how money is created is matched by several mainstream economists’ misplaced assumptions of the origin of money in history. The assumption is that money began as a replacement for the direct swapping of goods, or barter. They assume it began as coins, and then paper and digital arrangements followed. The mistaken assumption persists in popular media: a search online for the phrase “go back to barter” will reveal leading journalists assuming money replaced barter. Insights from beyond the economics field reveal a very different history. Cambridge anthropology professor Caroline Humphrey (1985:1) concludes “No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there never has been such a thing”. Economist and monetary historian Glyn Davies (2002:22) concludes “the overwhelming tangible evidence of

actual types of primitive [sic] moneys from all over the world and from the archaeological, literary and linguistic evidence of the ancient world, is that barter was not the main factor in the origins and earliest developments of money”. Another anthropologist, David Graeber (2011:40), concludes, “We did not begin with barter, discover money, and then eventually develop credit systems. It happened precisely the other way around. What we now call virtual money came first. Coins came much later, and their use spread only unevenly, never completely replacing credit systems.” For instance, the very earliest forms of money are records of debts and credits on Mesopotamian clay tablets from around 5,000 years ago, which is around 2,500 years before the first known coins (Davies 2002; Graeber 2011).

The mistaken barter theory of money suggests that money in its essence is a commodity with value in itself, a “thing” to be swapped for goods and services, rather than a system with symbols based on agreements. This is a limited view of money which can empower the factions that control the flow of commodities in society; that is, if you do not have commodities, you do not have money. Assuming money to be a thing of value without considering how it is created undermines the utility of mainstream economics for informing development policy and programmes because it leads to a second oversight.

### ***Second oversight: The impact of modern money issuance system***

A second oversight of mainstream economics on money matters is that it does not examine how the form of the contemporary issuance of money affects society and the environment. Professor Wray (2007:1) describes “heterodox economists” who “share an endogenous approach to money that insists that money is an essential component of the normal operation of the capitalist economy. Hence, they deny that money could be neutral, whether in the short run or in the long run.” In other words, the way money is issued, by whom, to whom, how much and with what requirements and charges attached, shapes economic and societal outcomes. As over 90 percent of all money in circulation today in many economies is bank-issued credit, this affects who receives new money and at what cost, through interest payments. In many economies over a third of new money is created to buy government bonds, thereby indebting nations as interest charges compound and thereby increase demands for taxation. In more economies, the majority of money created for the general public is in the form of housing loans, thereby enabling or driving rising prices for real estate (Ryan-Collins et al. 2012). Loans to businesses form a smaller and falling percentage of new money creation in most economies. Therefore the money for the wider economy needs to be spent by governments or people involved in the real estate sector, and if those mechanisms do not work well at reaching certain sectors of society, they experience a lack of money, often experienced as poverty.

Due to interest charges on newly created money, there is more debt outstanding than money to pay it off and therefore unless the circulating speed, or “velocity,” of money is increasing, the only way for these debts to be serviced is for more loans to be issued than before, which can only happen if the economy is growing in size. That means a steady state economy is impossible. Given limitations in the environmental capacities for sustaining industrial human societies, the imperative to grow rather than allow a stable size of economy is of concern. Meanwhile, as the sentiment and strategies of banks influence the amount of money in the economy, there can be great fluctuations on its availability, and therefore booms and contractions of economic activity. These

monetary dynamics have been described as a “cancer” in the body of the economy and that healing capitalism requires treatment of these monetary rules (Bendell and Doyle 2014).

### ***Third oversight: Ignoring alternatives to legal tender***

The third oversight of mainstream economists on monetary issues is that they do not explore alternatives to legal tender, found in the field of currency innovation. In most countries the legal tender laws specify that if legal tender currency is presented for payment of debts, then it must be accepted by the creditor or the debt will not be recognized by a court of law. This creates a strong incentive for people to trade in legal tender currencies, and also forces people to accept them. Anyone exercising a choice not to accept legal tender, for whatever reason, would have nothing with which to pay taxes. It should be noted here that although a currency might not be legal tender does not mean that it is illegal, rather it exists without the state requiring us to accept it. Schools of thought in economics which focus on why it is better that the state regulates money in this way are called Chartalism, the State Theory of Money and Modern Monetary Theory (Wray 2000). Chartalists often argue against commodity money theorists, such as the Metallists who believe money should be metal or accurate promises of metal, or the Austrian School, which tends to prefer a free market of privately issued currencies (Wray 2000). John Maynard Keynes (1930:4) thought the battle was won years ago when he concluded that “all the civilised money is, beyond the possibility of dispute, Chartalist”. The Chartalist and Neo-Chartalist believe that the advantage of money issued by the state is that it would never become insolvent, which is predicated on the use of state force to uphold the value of one currency. In recent years so called neo-Chartalists, who espouse Modern Monetary Theory, have found that governments may not actually have had such power after all, and focus on critiquing the current mainstream monetary systems for giving private banks, not governments, the pleasure of issuing the vast majority of our money supply at interest. It is important to note that all the schools of thought we have just described have been heterodox and therefore in recent decades have had marginal influence on economic policy advice to governments or intergovernmental institutions.

### ***The growing trend for currency innovation***

Since 2013, with the rise of the Internet money system, Bitcoin, economists and financial regulators have been paying more attention to currencies that are not legal tender. Bitcoin is a payment system released as open-source software in 2009. The system is peer-to-peer, so users do not need an intermediary to carry out transactions. Transactions are recorded in a public ledger called the block chain, which is maintained by any computers that download the software and attempt to maintain it. The ledger uses its own unit of account, also called Bitcoin. It is sometimes called a cryptocurrency or a digital currency. The high profile of Bitcoin creates the space within which to explore financing for development in ways that do not assume the only money and currency is national legal tender. That is helpful, as the field of alternative currencies is huge and has a long history, and has been ignored by the mainstream profession and development assistance community. For instance, today there are thousands of currencies that are created and maintained by local communities worldwide. A few of these systems, like the WIR in Switzerland, have existed for many decades, and involved thousands of businesses (Bendell and Greco 2013). In corporate circles, these systems are often referred to as Reciprocal Trade, or Barter Networks. According to Z/Yen (2011), they have been a key tool in improving cash flow, increasing working capital and providing a source of interest free credit. Stodder (2000) concluded that the

WIR currency in Switzerland promoted economic stability by producing a counter-cyclical effect against the Swiss franc.

Many of these are what we call “collaborative credit systems” which involve participants monetizing their trust in each other by creating new agreements and symbols concerning exchange of value, something we will examine closely in this paper. Apart from the specialist *International Journal of Complementary and Community Currency Research*, the first ever event on community currencies at the United Nations organized by the United Nations Research Institute for Social Development (UNRISD), United Nations Non-Governmental Liaison Service (UN-NGLS) and the Institute for Leadership and Sustainability (IFLAS) in 2013,<sup>4</sup> and a large biannual international conference, innovations in this field have yet to be acknowledged by the international development assistance community.

The notoriety of Bitcoin has led to many claims, both positive and negative, about its implications for economy, society, environment and good governance. However, most of these discussions are not based on a conceptually clear and well-articulated understanding of the nature of money or currency. It is important before discussing the development implications of one set of currency initiatives in Kenya to outline our working understanding of money and currency. Therefore, in the next section we introduce a framework for understanding types of money and currency.

## The Nature of Monies

What is money? In answer to this question, most economists describe the functions of money as a medium of exchange, measure of value and store of value. A good medium of exchange enables someone to sell something today and buy something else from someone else tomorrow. Heterodox economist, Silvio Gesell said in 1916 that money should be a medium of exchange and nothing else: “it should be secure, accelerate and cheapen the exchange of goods”. A good store of value is something that can be exchanged for as much in the future as it is now, or more. A good measure of value does not have to have value in itself, but it provides a way to compare the price of one thing against another, consistently over time.<sup>5</sup>

These functions of money tell us what money can do, but do not define what money is. Our interest in defining money is not to aspire to a correct definition of what “is” but to provide as comprehensive and useful a definition as possible. That is because money is an evolving social concept. We offer a new definition of money as *a system of agreements and symbols which influences the creation and exchange of value and power*. We believe the agreements, whether explicit or implicit, about the relationship between the symbols of money and when the actual value of what was monetized changes hands, (before, during, or after) is the most important signifier of money types.

Money is often understood “a claim on goods and services”. The claim is understood to be as valuable as the likelihood that others will honour that claim for real goods and services at a later date. We see three bases for that claim, illustrating agreements about

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<sup>4</sup> Held on 6–8 May at the International Labour Office (see [www.unrisd.org/sseconf](http://www.unrisd.org/sseconf)).

<sup>5</sup> Critics argue that legal tender money do not perform any of these functions well. As a medium of exchange it is subject to fees, delays, surveillance and security checks; as a store and measure of value, it should be consistent but inflation decreases its value by a few percent every year. In fact some of these functions work against the other functions. You would want a store of value to increase over time, a measure of value to stay the same, and a medium of exchange, for reasons which will be explained, to decrease over time.

how the symbols of money relate in time to value or power. One type of money offers present value, as a value-in-itself which can be exchanged for like value. It is sometimes referred to as commodity money and typically includes precious metals (Zarlenga 2002). A second type of money offers a promise of future value. People accept it because they know that someone else will give them something valuable for it later. They do not need to trust the person paying—the money comes with a guarantee from the issuer. This means that the money is not valuable in itself, but represents a promise of future value, like a cheque or an IOU. It is sometimes referred to as credit money (Zarlenga 2002). There is a third type of money that offers past value as proof of past value created. People accept a type of money because they know it represents value created, and with that money, they are paying for whatever value was created. We call this type of money acknowledgment money, and it involves a new way of thinking about money to which we will return later.

Given that that bearers of the symbols of money make a claim on value and that there are three temporal dimensions to that claim (present, future or past), we will call this the Value-Sequence Typology of money. We believe that this typology helps describe and thereby understand the nature of a money system's relationship to actual value in the economy. The social and economic importance of the distinction between monies that claim to have value as commodities, and those that claim value on the basis of being credit from trusted issuers has been argued by a many experts in history (Zarlenga 2002), anthropology (Graeber 2011) and Chartalist economics (Wray 2007). Studies on these two types have been described as the commodity theory of money and the credit theory of money (Zarlenga 2002). Since the Western financial crisis that began in 2008, the commodity theory of money has become more widely discussed in popular media. In economics this “value-in-itself” concept of money is promoted by a field of economics called the Austrian School, after some of its major intellectuals such as Ludwig Von Mises (1912) who argued for forms of money free of state control. Today proponents of a return to the gold standard or the purchase of precious metals often cite arguments from the Austrian School.

Commodity money is subject to fluctuations in price, which includes market pricing of its utility as a commodity as well as the current market sentiment towards it as a currency. Commodity money can be hoarded, or a limited supply can restrict economic activity. Moreover, some commodity money requires a large amount of resource to be put into its production, with implications for economic efficiency as well as wider sustainability, for instance the problems with gold mining. Using a commodity as a means of payment is also cumbersome. First the commodity must be acquired, checked for quality, securely stored with a trusted party until needed for settlement, and then securely transported to the payee. Therefore, in reality, proponents of commodity money are arguing for systems of promises (or credit) of gold and silver, where these promises, either in paper or electronic, are transacted. As such, one would not avoid the dependence on institutions that secure the metals and issue and redeem the promises.

### ***Credit and Acknowledgement Currencies***

As mentioned earlier, the earliest forms of money known to us, from ancient history, is credit money (Davies 2002; Graeber 2011). Credit money is useful to human communities because, if well managed, it enables far smoother exchange and cooperation than commodity money. One advantage is that the quantity is elastic rather than fixed, and so can fluctuate with the need for exchange within any economy. In addition, many debts never need to be settled, because they can cancel each other out, saving a lot of effort. For instance I owe Jane one unit of currency, but Jane owes you

one, and you owe me one, so nothing needs to be exchanged. People holding large quantities of such currencies are wealthy not because the promises are wealth, but because they have a large but unrealized claim on the community's wealth. A risk with credit money is that if the economy changes direction or if trust in the issuer is lost, then a lot of outstanding promises are suddenly called upon. The people holding those promises can lose everything as the promises become worthless.

One of the functions of banks is to reinforce an individual's promise-to-pay with the bank's own institutional promise to pay. So a person gives their credit to the bank in form of a contract, and the bank underwrites their credit with its own name. In banking language this is called "making a loan", although nothing is really loaned, but new bank credit money is created. Existing scholarship suggests that commodity monies like precious metals have been favoured over credit monies in history during times of conflict and empire, as they do not require networks of trust to be stable, and can be transported between regions (Graeber 2011). Given the potential of commodity monies to be hoarded or stolen, and their correlation with times of war and exploitation, one might assume that credit monies have a more positive relationship to society. However, the history of credit money is littered with abuses of issuance by banking families, who, for instance, funded warring royal families and triggered massive collapse in confidence in Europe since the thirteenth century (Davies 2002). The Value Sequence Typology of money suggests that monies claiming to be commodities or backed by commodities are fundamentally different from credit monies, and will be limited in their function in enabling exchange, yet it is clear the societal value of credit monies depends on the issuer and how the process is governed.

In recent years there have been criticisms of how governments have managed the issuance of legal tender. Contemporary legal tender is not commodity money, and apart from very few countries in the world it is not a credit or IOU for precious metals. Government-mandated monetary systems are called "fiat" money, which is Latin for "let it be so" (Wray 2000). The implicit idea is that the value of money comes from a legal declaration. Yet on what basis does a government claim that the cash that it issues from its mint is a claim on value? The promise from a treasury or central bank that is printed on many countries' cash, such as the British pound, is merely circular, promising more of the same cash, so cash is not credit money. Rather, when a government spends newly created cash on employees' wages or in purchasing goods or services, it is acknowledging the value they have created by work, goods or services that the government desired. The useful work being valued is less clear when the government swaps the cash with banks in return for a higher bank balance, that is in return for bank credit. Several other factors account for the value of legal tender but the main one is that a demand is created for it for the payment of taxes (and legal settlements).

As described earlier, the vast majority of money in circulation in economies today is bank-issued debt, denominated in the national currency, and treated as if it is as the same money as the cash equivalent. Over 90 percent of British pounds, US dollars, euros, Swiss francs, and Japanese yen are digital bank-issued credit (Ryan-Collins et al. 2012). In practice, this credit money is treated in the same way as cash, supported therefore by legal tender laws (so that it must be accepted) and accepted for the payment of taxes. Therefore, according to the Value-Sequence Typology of money, cash forms of legal tender are Acknowledgement Money while bank-credit issued money is a form of credit money. The typology therefore highlights the fundamental difference between

forms of money that are treated the same by most governments and the general public today.

Acknowledgement Currencies, where money represents value already created, are reportedly widespread in the past (Graeber 2011). Today, there are some interesting innovations in this space. For example, the BoyaBoya currency in Australia is a certificate issued in acknowledgment of carbon emission reductions. One could imagine similar certificates being issued for any socially valuable work. People accepting payment in acknowledgment currencies are honouring the act of value creation that the certificate denominates. People holding large quantities of such currencies are wealthy because of the value creation they are being acknowledged for. A useful way of explaining this is a hypothetical case. I could plant a tree and earn a certificate indicating the community's gratitude. You could provide me a meal in exchange for that certificate. Who, then, is the community grateful to? Since I have been "paid" with a meal, the kudos for planting the tree now resides with you, the holder of the certificate. Contemporary economies acknowledge and appreciate not the people giving the most to society but the people who have the largest unspent claims on our future work and resources. The lack of non-governmental Acknowledgement Currencies in societies today may reflect fears of scarcity and competition, so that people prefer claims on future value.

### ***Analysing Bitcoin according to the Value Sequence Typology***

The terminology in Bitcoin called "proof of work" refers to the work done by a computer to crack a cryptographic code, before it is then allowed to add the latest block of worldwide Bitcoin transactions to the ledger, called the blockchain, and receive 25 Bitcoins as reward. Therefore it is an Acknowledgment Currency, as it acknowledges at random those machines (and their owners) that have lent their processor power to secure the network. It is remarkable in the history of currencies for a non-governmental Acknowledgment Currency to be as widespread as Bitcoin. That is because the market value of Bitcoin comes not from the gratitude of its users to those who have sustained the network until now, but from the speculative aspirations of those who anticipate future demand for a currency with a limited supply. That belief is based on a number of factors, related to the currency being the first cryptographic currency of its kind, the utility of the payment technology, the potential for it to disrupt normal banking and payment oligopolies, and an extremely clever but disingenuous use of "commodity money" language to describe why it is valuable. For instance, the issuance system is often called "mining" and people equate it to "digital gold" and emphasize that the software determines there will only ever be a fixed number of Bitcoin units produced. There will only be a fixed number of authors of this paper—three—but that does not mean that we deserve a global market capitalization of over a billion dollars. Limited supply means nothing if there is not a demand for ownership.

If we are to interpret Bitcoin as a commodity money, then we must ask what is the actual use value of Bitcoin, in its physical essence. The answer would be the use value of a record on a global database, and so the value depends on how widespread the use of that database is. Yet that is not likely to lead to answers that price it as hundreds of dollars per unit. Therefore one can only logically interpret Bitcoin as a digital commodity money if we accept that the value ascribed to commodity monies is far beyond the actual use value of the underlying commodity. Gold, for instance, is not that useful as a metal, and its value as a commodity money is far beyond its utility as a thing. However, if we accept that the value of commodity monies is ascribed by society for their roles as monies, not for their use as commodities, then the notion of commodity

monies is baseless. Instead, they are monies of habit and custom, valued because they are valued. The solidity and soundness that economists of the Austrian School were looking for suddenly evaporates, and money returns to the reality of being a social construction.

Applying the Value Sequence Typology of money to an analysis of the nature of Bitcoin demonstrates the usefulness of seeking to categorize currencies according to how they are issued, in particular whether the money embodies value, promises value or acknowledges value. It highlights some inadequacies in the way Bitcoin is often argued to have value, and invites a clearer look at the basis for its value. However, our discussion of the nature of monies demonstrates that we should be cautious when people try to tell us what money “is”. As a social construction, we decide what money is in the way we talk about it, earn it, and spend it. Our exploration of concepts of money and introduction of the Value-Sequence Typology of money is intended to enable to give you an insight into the assumptions that shape people’s views of what is important about money, monetary policy and currency innovation. With that conceptual grounding, we will now explain the field of currency innovation that we are participating in to achieve sustainable development goals.

## **Collaborative Credit Systems**

In this paper we have described how mainstream money consists mostly of bank-issued credit. Mainstream economists, as well as the heterodox Neo-Chartalists, typically equate credit money with legal tender (Wray 2007). Yet as we have intimated at various stages in this discussion, it is not only the banks that can issue credit and neither does such credit need to be denominated in units of legal tender. Instead, for at least 5,000 years, human communities have managed systems for recording debits and credits amongst their members (Graeber 2011). These systems take many different forms and use many different rules, but we offer the overarching term Collaborative Credit Systems (CCS) to describe them, as that emphasizes the way they involve the *voluntary* collaboration between people and organizations, rather than compulsory arrangements between banks and governments, to issue and transact credit.

Some CCS are called mutual credit (Bendell and Greco 2013). Instead of having cash that embodies value and that passes from person to person, a mutual credit system has accounts and payments between accounts. No “money” enters the system and none leaves, as the total of positive and negative balances of members’ accounts is zero. The system is just recording how much all its members owe each other. What makes the credit “mutual” is that members agree that the value of each member’s credit is the same, and therefore that all credit cancels out all debit. It also means that if a member defaults, which means stopping trading without returning to zero, then the inflationary losses, or gains, are spread across the whole system.

The implicit assumption in mutual credit is that, since, in order to be stable, all accounts close at zero, the purpose of the system is to do accounting for exchange, rather than for accumulating wealth, which should be done with something valuable. Knowing this, all accounts with positive balances are looking to spend, and all accounts with negative balances are looking to earn. Since the sum of all positive balance balances equals the sum of all negative balances we can be sure that, in the long run, the supply of money always equals the demand for making transactions. This guarantees “economic equilibrium”, an impossible ideal in modern economic systems.



There are thousands of mutual credit systems worldwide, some involving businesses and some involving individuals. Most now use software rather than physical book-keeping, and the development of free open software provided by groups like the Swiss-based Community Forge and the South Africa-based Community Exchange Systems is aiding their uptake.<sup>6</sup> The systems use different measures for their units of account, with those using hours often called Timebanks. The term Local Exchange Trading Systems (LETS) is popular in the English-speaking world. Some prefer to describe mutual credit as “moneyless” exchange systems, to emphasize that the currency is not a fixed object of value but a unit in a system. However, we consider them to be a form of money, as we view money as a social technology for enabling exchange. By a social “technology” we mean a set of agreements, assumptions, beliefs, norms and habits as much as sets of physical objects.

Not all CCS are fully mutual, meaning that some of the users of the currency that is created are not able to issue credit themselves, or where some users have by far the greatest permission to issue credit. This different issuance of credit is sensible for where some individuals, as micro-entrepreneurs, and some companies, have far greater assets and spare capacities to justify the collaborative credit issuance than other members (Bendell and Greco 2013; Ruddick et al. 2015). This is the case with the WIR in Switzerland, where issuance of credit in WIR is dependent on assessment of collateral, and in the case of collaborative credit systems that create physical or digital vouchers to circulate in a community of users who may not themselves be part of the credit-issuing community. There are strong arguments for non-mutual CCS, as allowing all members the same credit facilities is unwise if they have vastly different capabilities of providing ongoing value to the community of currency users (Bendell and Greco 2013). That insight informed the creation of CCS in Kenya.

## Currency Innovation in Kenya

Despite being a technological and logistical hub for East Africa, over 50 percent of Kenya’s population lives in extreme poverty (Kristjanson et al. 2010). One manifestation of this poverty is rapidly growing informal settlements (slums). These communities face numerous challenges due to glaring socioeconomic marginalization, lack of property rights, poor education levels and minimal access to infrastructure, health and social services. In developing nations over 50 percent of urban populations live in informal settlements and as much as 70 percent in Kenya (Ruddick et al. 2015). Due to their size and rapid growth all over the world, sustainable development efforts should be directed towards such informal settlements.<sup>7</sup>

Informal settlements may be especially well suited to reap the benefits of Collaborative Credit Systems due to their density and diversity of businesses, acute scarcity of the medium of exchange provided by legal tender (Kenyan shillings), a lack of market stability and absence of public services. In 2013, a CCS was introduced to the Bangladesh slum in Mombassa. This “Bangla-Pesa” was a voucher representing the excess goods and services of participating micro-entrepreneurs. Because the voucher is redeemable at any shop in the network of participants, it creates flexibility not present in direct barter of goods and services. As the value of the voucher is tied to Kenyan shillings, it would allow easy trade of goods at well-known and established prices. For an example, most households in the Mombassa slum use maize flour, vegetables and

<sup>6</sup> See [www.communityforge.net](http://www.communityforge.net) and [www.ces.org.za](http://www.ces.org.za).

<sup>7</sup> This section of the paper is mostly based on Ruddick et al. 2015 .

charcoal (for cooking) every day. Imagine a mother of three selling peanuts, (a high-demand supplemental food in Kenya). Her stock will go bad after a certain period of time. If members of her community do not have sufficient funds to purchase peanuts, she will lose the money spent to purchase her stock, and she will not have money to purchase the goods she needs. The official money supply in an informal settlement is highly volatile and unpredictable which makes it hard for businesses buying stock to know whether customers will have official money on hand, on any given day.

Now, imagine a collaborative credit is introduced into this situation. The woman uses this voucher to purchase maize flour. This voucher is essentially a promissory note (IOU) promising to pay an amount in peanuts or other goods and services equal to the value of the flour. The person selling maize flour can then use the voucher to buy well water. The water vendor can use the voucher to buy vegetables, and the vegetable dealer can use the voucher to buy charcoal for cooking. The women selling charcoal can then return to the original woman in this example and exchange the voucher for the peanuts she promised to repay when she used the voucher to purchase maize flour. In this situation, excess stock that might have gone bad (maize flour, vegetables, and peanuts) and excess services that might have gone unused (well water collection) were purchased through the exchange of a voucher which represented those excess capacity goods and services. From this, the hypothesis of the organizers was that that the introduction of a collaborative credit like the Bangla-Pesa should lead to an increase in sales as people exchange their excess capacity goods and services using Bangla-Pesa and thereby improve their well-being.

The Bangla-Pesa programme was initiated by organizing roughly 200 small businesses into the Bangladesh Business Network (BBN), an association that would govern the issuance of the new collaborative credit currency. A key aspect of the initiative which differentiated it from mutual credit systems, particularly those in Europe and North America, was that they based the initial allotment of Bangla-Pesa on a survey to assess the productive capacity of a participant, and backing by four other members in case of default. The community officially launched the Bangla-Pesa on 11 May 2013. Baseline data was collected in April 2013, and follow-up surveys were conducted in the weeks following the launch. After the launch, more members completed the registration and backing process to reach a total of 109 members that backed the Bangla-Pesa. Each of those members received vouchers so that the total number of individual Bangla-Pesa vouchers in the community came to 1,090, which was equivalent to 21,800 Kenyan shillings worth of goods and service.

Within a week of the launch, business owners reported using around 70 Bangla-Pesa a day at four other member businesses. This meant the total daily exchange was around 5,740 Bangla-Pesa. Eighty-three percent reported that their total sales were increasing, and only two people reported decreases in sales. Research suggested that the 22 percent of daily trade done with Bangla-Pesa represented additional sales that might not have happened without this means of exchange (at least for those people whose sales in Kenyan shillings remained the same). After only a week of circulation, Bangla-Pesa helped community members tap into an estimated 22 percent increase in their sales. This is a substantial increase for a community of people living in poverty. With an implementation time of six months and an implementation cost of roughly 4,000 euros, this system appeared to represent viable and cost effective sustainable development tools.

A detailed study of the Bangla-Pesa experience concludes:

A network of micro-enterprises coming together to co-own and create their own collaborative credit could be considered the next step in cooperatives and microfinance, which can transform the economies of people living in poverty. The positive results in a short time suggest collaborative credits like Bangla-Pesa are promising tools for sustainable development in poverty stricken areas. However, we see an immediate need for both further and more sustained research and international support to promote legislation and understanding amongst policy makers and regulators to avoid future programme disruptions due to confusion and lack of regulation. (Ruddick et al. 2015).

This need for clear understanding of regulation, by authorities themselves, was highlighted when the Bangla-Pesa programme was interrupted by legal action from the central bank of Kenya. After a protracted period of legal dispute, the case was dropped and the initiative became widely and publically accepted as a legal and welcome grassroots initiative.

In 2014 in Nairobi a second programme called Gatina-Pesa was started by the organization Grassroots Economics, which started the Bangla-Pesa. A third programme called Kangmi-Pesa started in 2015. Three more programmes are being launched in Kenya with the cooperation of local municipalities. These schemes are affecting 40,000 people with over 300 local businesses in Nairobi and Mombasa. Though more research needs to be done, initial estimates are that each community currency is already increasing local trade in impoverished communities by the equivalent of USD 100,000 each year. Inter-trading between the Nairobi communities has now started, meaning that they are beginning to accept collaborative credits from other communities that use the same model developed by the NGO Grassroots Economics. In addition, many community activities are now being funded by the community currencies, such as sports programmes, trash collection and educational support. This process works by the community of small businesses that launch and back the collaborative credit system paying a certain amount to their association that governs the currency, which then spends these collaborative credits on needed community work. In the case of the Bangla-Pesa, that is the BBN. In addition to these wider benefits, there is potential positive impact through encouraging local production for local consumption, as the collaborative credits need to circulate within the informal settlements, rather than leak into the wider economy, the way that national currencies can.

The success of these Kenyan initiatives suggest that for CCS to thrive it is important to (i) involve businesses and organizations that are widely used, such as schools; (ii) allocate credit as vouchers to hundreds of businesses according to an audit of their capacity and with backing from other existing members; and (iii) design the system to fund its own upkeep and social service work (like waste collection), using a community fund maintained by the currency rather than external legal tender. The grassroots initiatives in Kenya show there are systems of issuance that can be decentralized and democratic and backed by real goods and services. This is a form of development which does not rely on large donors, banks or governments. Despite multiple funding applications to donors in development assistance, Grassroots Economics has yet to attract grants from such organizations. Instead, it has been the enthusiasm of experts and global networks of friends that have funded the growth of these initiatives, as well as their early defence against misguided legal action.

According to our Value-Sequence Typology, the Bangla-Pesa and sister currencies are credit monies, as they are issued as promises of future value. Despite being represented by beautiful vouchers using local artists, their worth is not in the paper voucher but trust in the organizers and the major participating businesses. Good and accountable governance, especially over the process of allocating the vouchers to participating business, as mentioned above, is therefore key. Unlike legal tender cash, the Bangla-Pesa is not an Acknowledgement Currency. It is not issued as a thank you for work already done, but as a promise of future value from the backers. Therefore, the Bangla-Pesa is closely connected to the real economy, and will not create power imbalances between its issuers and users so long as it is well-governed.

## **Evolving Confusions**

The field of currency innovation is moving so fast that it poses a challenge for international development professionals to assess the positive and negative implications. This paper has argued that to navigate this field of currency innovation in a positive way for sustainable development outcomes, it is important for development professional and researchers to better understand the essence of money itself. For that purpose, it is problematic that mainstream economic thought has ignored the documented history of money and the implications of the current system of money issuance by commercial banks. Meanwhile, the field of banking regulation is quite limited in its treatment of new private currencies. Therefore a process of informing development professionals and researchers on the essence of money will be helpful to their future positive engagement in currency innovation for sustainable development. What are the prospects for increased understanding and innovation?

The recent enthusiasm for financial technology, which is transforming the way we pay for goods and services, may add a new level of confusion when some proponents imply that these innovations represent new forms of money, rather than simply new payment tools. The sales-talk to promote Bitcoin as a form of digital gold may add to the confusion, including among those who work full time in digital currency start-ups and related professions. This miasma of conceptual chaos may persist, with the dominant discussants likely to be those backed by digital currency entrepreneurs, incumbent banks and payments firms that consider themselves threatened by currency innovation, and the banking regulators. The unfortunate implication is that this conceptual confusion could hamper the ability of development professionals and others working on the common good to better understand this critically important field. Not only do such constituents need to better understand in order to better promote innovations, but to also involve themselves in national and international policy deliberations on the future of money and banking in a digital age.

In this paper we have focused on one type of innovation in Kenya that we have detailed knowledge of and which has little international exposure. Internationally, the field of currency innovation is booming. The innovations that gain most attention are related to Bitcoin or are adaptations of the Bitcoin system. There is undoubted potential for Bitcoin-based systems to make international remittances fast and exceptionally cheap, given that they can transmit outside the banking system and without geography being an issue beyond the level of internet connectivity. However, such systems will need to be regulated appropriately, and attention paid to whether they end up encouraging people and businesses to expose themselves to more currency risk than they could manage, for

instance if they started using Bitcoin-denominated units for everyday transactions. Meanwhile, some of the most interesting systems for social development are those that are of the collaborative credit kind. The system Ripple is based on self-issued credit and is rapidly scaling. There are also initiatives to create currencies that are backed by the promise of delivering renewable kilowatt hours from collectives of energy producers.

There are a variety of hybrid types of currency emerging within the field now known as “the sharing economy”. There are many examples, but two highlight the possibilities. Launched in the United States, the company Yerdle enables people to exchange their unused things in a way that eBay did not, that is, by doing it without payments in cash. The system began as a platform for free exchange and then introduced a currency. It did not choose a mutual credit system, as described above, but an Acknowledgement Currency, or fiat system, where it would give people units for joining the platform. The company Impossible.com encourages the giving of time and support between its members, for people to help each other. They introduced a thank you currency, but not based on a strict mutual credit system. The future value of the currencies within these platforms depends on the way these private companies are run and the commercial decisions they make, such as whether to increase issuance to themselves, commercial partners or participants who wish to purchase the currency with legal tender. As with all sharing economy systems, questions of interoperability arise, as people currently cannot discover and transact with people on other platforms. Although many currencies in sharing economy platforms are Acknowledgment Currencies, they often use the language of collaborative credit, or say they are “backed” by the spare capacity of their participants.

The fundamental importance of systems of credit creation that are available and accountable to a broader range of citizens and organizations needs to be understood in order for suitable systems to receive support. On one hand, there is the potential missed opportunity of unutilized currency innovation for sustainable development. On the other hand, there is the risk is that enterprises inspired by and achieving social aims may continue to be marginalized by banking systems based on legal tender and exploited by numerous new currency systems that are unaccountable to their users.

It is in the context of historical and evolving confusion that we offer the Value-Sequence Typology of money, which is at present purely descriptive. However, we believe that in time, as the field of currency innovation expands dramatically, it could be used to predict the longer term sustainability of currency valuations, due to analysis of whether the issuers, regulators and users of currencies are clear about the relationship of a type of money to actual value. It may help reveal fundamental fallacies in the design, understanding and regulation of currencies that could cause volatility. In addition, it may also be able to predict the societal impact of currencies, with well-governed credit monies and Acknowledgement Monies enabling more social progress than commodity monies.

It is clear from the limited analysis of, and support for, the initiatives in Kenya that we described, that development researchers need to do more research into existing programmes, and development donors need to support existing programmes and help replicate them.

## Conclusion

In this paper we have argued that it is essential for development professionals, beyond the field of mainstream economics, to better understand the nature of money and the impacts of modern money on our world, so that they can be more informed about their efforts to finance development and trade for development. Therefore we outlined a new model for understanding money called the Value-Sequence Typology, which categorizes monies based on the process and justification for issuing new units. The sequence in question is future, present, or past, referring to when the act of value creation takes place, in relation to the act of monetization. We described innovations in Kenya that are enabling poor communities to trade more and improve their lives, yet without additional legal tender. This suggests that in a time of declining official development assistance, creative insight into the nature of money could enable a new era in development cooperation through promotion of collaborative credit systems. Therefore a major new commitment to develop and assess Collaborative Credit Systems is needed from innovative grant makers in the development assistance community. Because of this, we support the submission of draft text on the role of complementary currencies, to the United Nations Department for Economic and Social Affairs (UNDESA) for negotiation of the Financing for Development Accord.<sup>8</sup>

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<sup>8</sup> <http://www.unrisd.org/ssf-workshop>

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