

Introduction of a Digital Community Currency in Rural Cameroon: Insights from a Field Study

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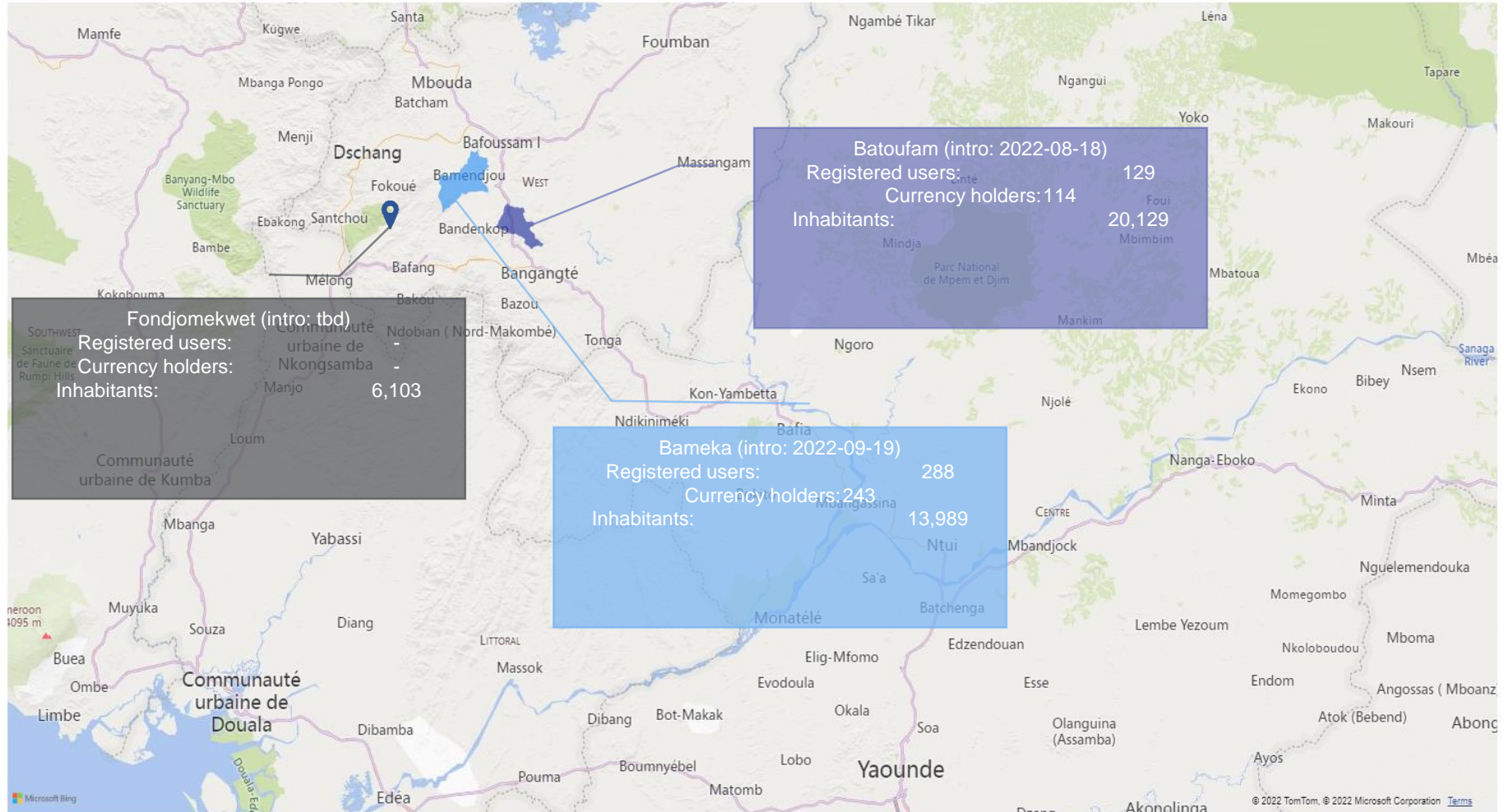
1. Background
2. Objectives and Design
3. Motivation
4. Impact Evaluation
5. Resilience
5. Preliminary Conclusions

- GIZ project *OurVillage – Digital innovations for the promotion of endogenous economic development in Cameroon* (2020-2023, 2023-2026*tbc):
 - Introduction of a local means of payment, in rural communities in NW Cameroon
 - Project commissioned by German Federal Ministry for Economic Cooperation and Development and Ministry of Finance (MINFI) in Cameroon
 - Partial phase-in with physical jetons in all 3 communities
 - Digital solution: blockchain-based; introduction in 2 communities for the time being
 - At this stage: 3 communities, of which 2 have already started the digital means of payment

Introduction of digital means of payment in 2 of selected 3 Communities



Village ● Bameka ● Batoufam



1. Background – cont'd



- Monetary Policy Context in Cameroon:
 - National currency: CFA Franc of Central Africa
 - Currency union within Central Africa with 6 member countries
 - Peg to the French Franc from 1948
 - Peg to the Euro since 1999 unchanged
 - Currency union plagued by overvaluation and restrained income generation
 - French Treasury finances current account deficits
 - 50% of CFAF countries foreign exchange with the French Treasury

1. Background – cont'd



- German-Tunisian team to support GIZ team (BSEL & Université El Manar Tunis)
 - On board since the beginning of 2022
 - German-Tunisian cooperation since 2018 on Fintechs
 - Our tasks:
 - Development of a monitoring and evaluation system
 - Impact evaluation of social and economic effects
 - Applied research on institutional design (e.g. acceptance, demand)
 - Dissimination of research and results into scientific community

2. Objectives and Design



■ Objectives

- Increasing available liquidity across harvest cycles
- Income smoothing
- Economic and social improvement

■ Design

- Allocation of a lump sum per person (1500 CFAF = 2€)
- Without backing
- Blockchain-based digital means of payment
- Currently: expiation fee of 1% on the deposit per month, deducted on a minute basis - disguised demurrage
- Fees are collected in a community fund wallet with one SIM card –
- Local administration by a board of elders (Organe locale d'animation et de suivi – OSA)

3. Why this digital solution?



- High expectations for developmental potential – similar to mobile money:
 - Outreach into remote areas: tackle exclusion by location
 - Technological requirements for individuals: low, only mobile network and electricity
 - Speed and security: overcoming deficiencies of physical currencies

- Differences to the digital solution of mobile money:
 - Income generated out of nothing
 - No regulation for the time being – mobile money requires financial market and telecommunication regulators
 - Costs for the maintenance system: at this stage unclear
 - For legal reasons: no full community currency or voucher possible

3. Our Motivation and Leading Questions



- Blockchain-based community currencies
 - Some advantages
 - Yet: many endeavours to start CCs ceased to exist
- Resilience of digital CCs – what are decisive factors and features?
 - Stability
 - Sustainability
 - Technical operation and functionality
- Economic and social improvement – to what extent does the digital CC contribute to it and who are the main beneficiaries?

4. Impact Evaluation



- Can we identify an economic and social improvement?
 - Classical multiplier effects: higher demand for labour; higher turn-over by peasants and SMEs; higher income; better income distribution
 - GIZ OurVillage goals: poverty reduction; increase of social inclusion; increase of social cohesion
 - **Only limited data for these communities available**

■ Surveys and Questionnaires

- USSD Survey Questionnaire: Registration in the system
- Light Survey Questionnaire: Receiving 1,500 CFAF (=2€)
- Full Survey Questionnaire: pre-selected village of 500 inhabitants

- After at least 3 months continuous and uninterrupted use: qualitative and in-depth interviews in the pre-selected village
- Follow-up of in-depth interviews after 12 months

4. Impact Evaluation – Indicators



- Poverty reduction
 - Debt reduction
 - Increased saving
 - Seasonal income smoothing
 - Liquidity increase

- Social Inclusion
 - Female participation
 - Change of income distribution

- Social Cohesion
 - Increased voucher acceptance
 - Increased community solidarity

4. Impact Evaluation – Data OurVillage



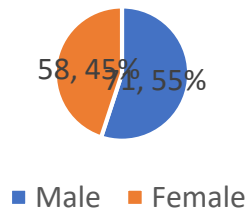
- Current data is available via a dashboard on
 - Transactions
 - Correlated to location
 - Correlated to personal features (m/f, age,...)

- Current data is not robust, yet
 - Due to limited time of the digital means of payment circulating in the communities
 - Due to the limited number of participants until now
 - The following charts give only an indication and are not fully meaningful

- Next spring /summer achieving a critical mass of participants
 - Robust and reliable data on transactions
 - Then comprehensive impact evaluations

Batoufam insights

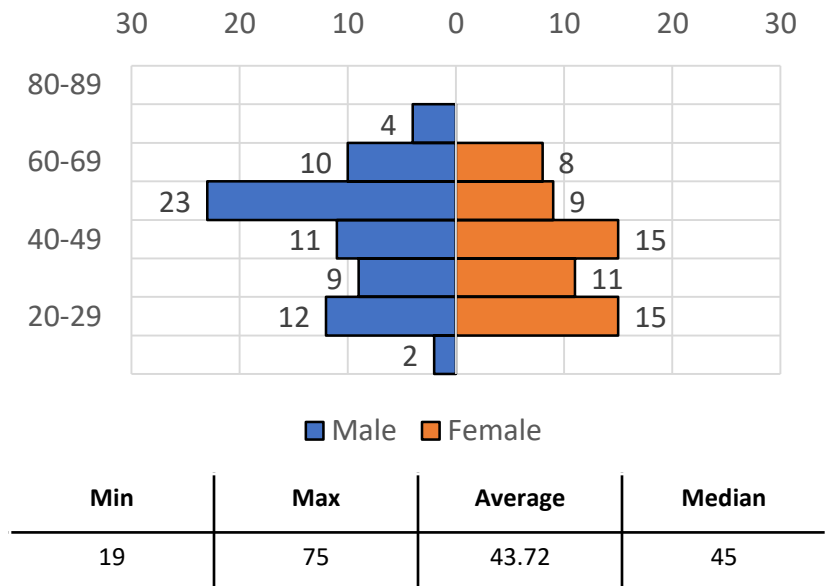
Gender distribution



Transactions per week

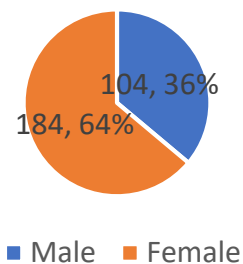
Week_Group	Total tx value	Tx count	Average tx value
2022-08-22 - 2022-08-28	1450	7	207,14
2022-08-29 - 2022-09-04	550	3	183,33
2022-09-05 - 2022-09-11	4300	14	307,14
2022-09-12 - 2022-09-18	2100	7	300,00
2022-09-19 - 2022-09-25	1350	5	270,00
2022-09-26 - 2022-10-02	1050	3	350,00
2022-10-03 - 2022-10-09	760	4	190,00
2022-10-10 - 2022-10-16	1879	8	234,88
2022-10-17 - 2022-10-23	200	1	200,00

Age pyramid



Bameka insights

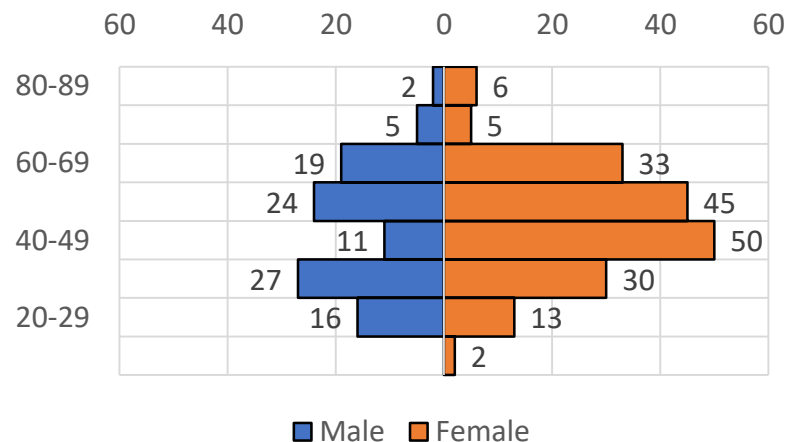
Gender distribution



Transactions per week

Week_Group	Total tx value	Tx count	Average tx value
2022-10-03 - 2022-10-09	850	3	283,33
2022-10-10 - 2022-10-16	550	5	110,00
2022-10-17 - 2022-10-23	100	1	100,00

Age pyramid



Min	Max	Average	Median
19	87	47.78	49

Village

Select all

(Blank)

Bameka

Batoufam

Sex

Select all

Female

Male

Age selection

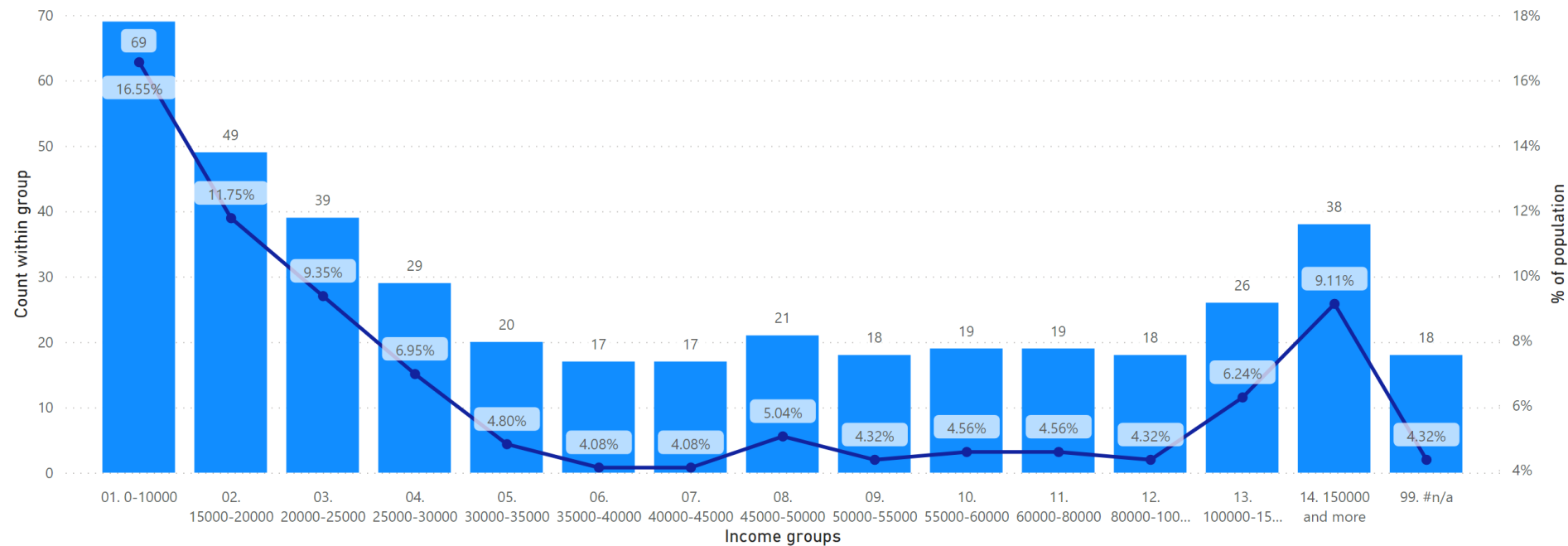
10

80



Monthly income distribution

● Count within group ● % of population





Village

Select all

(Blank)

Bameka

Batoufam

Sex

Select all

Female

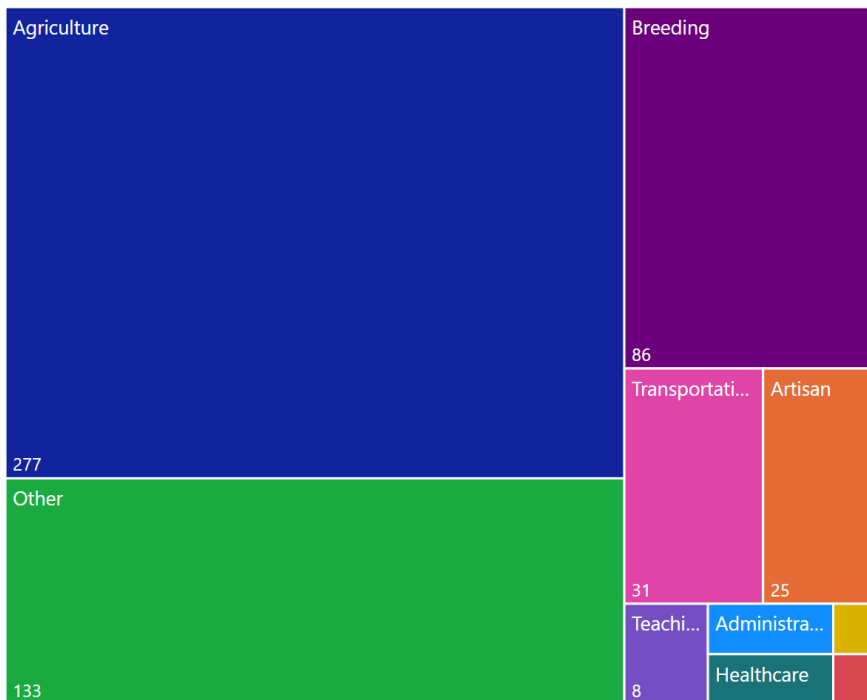
Male

Age selection

10

80

Professions



3.76

Average of children under 18 in one household

3.42

Average of persons over 18 in one household

4.11

Average of persons enrolled in school per household



Village

Select all

(Blank)

Bameka

Batoufam

Sex

Select all

Female

Male

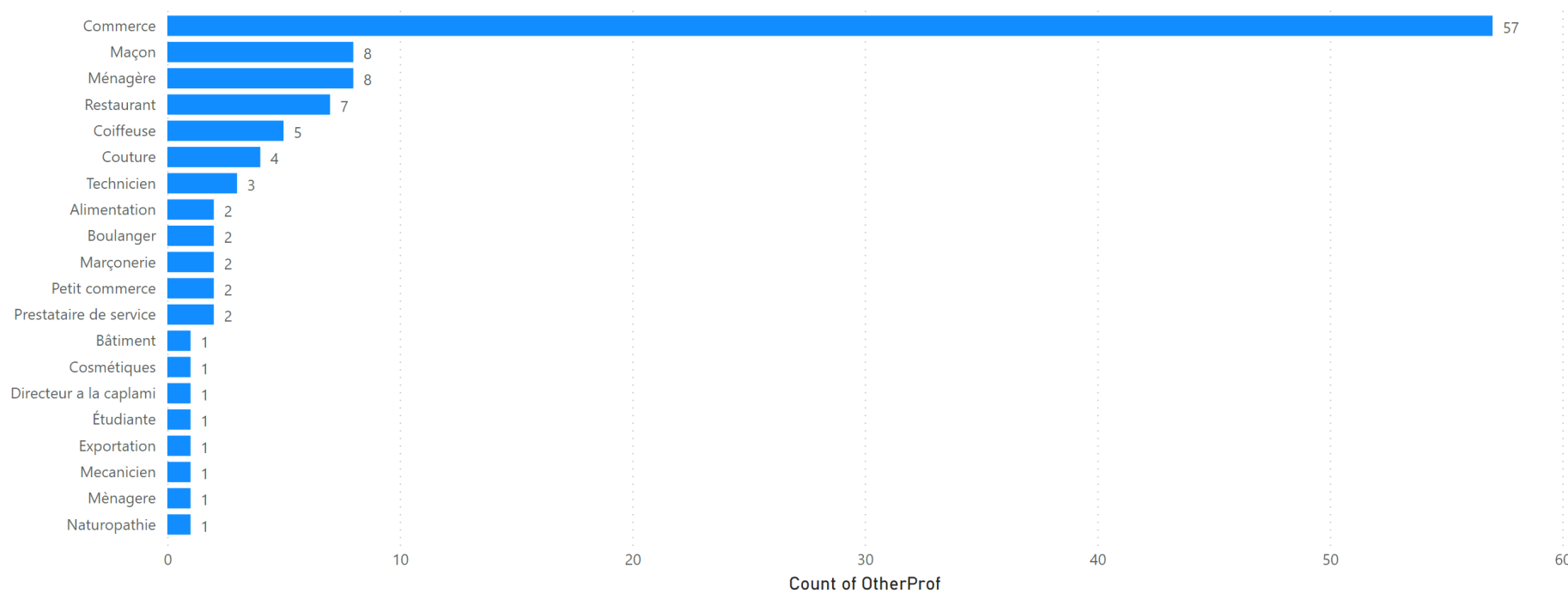
Age selection

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Other professions



Village

Select all

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Bameka

Batoufam

Sex

Select all

Female

Male

Age selection

10

80

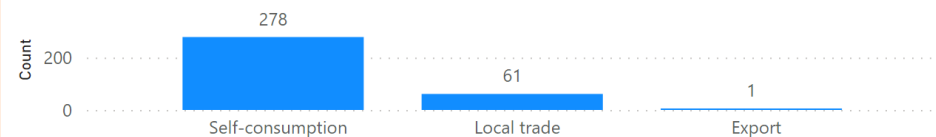


Economic activities

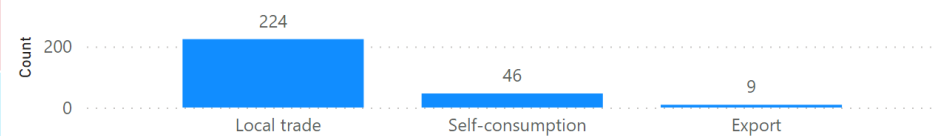


Why do you grow food?

1. Choice



2. Choice



3. Choice



5. Resilience - Stability



- Demand for digital means of payment
 - CCs often operate in the non-profit and voluntary sector
 - High demand for and low supply of social activities
 - GIZ OurVillage: over-whelming majority of population in agriculture with similar harvest cycle
- Supply of digital means of payments
 - Hoarding: voluntary or involuntary?
 - Involuntary: see demand – purchaser of last resort or other stabilising mechanism necessary
 - Voluntary: Savings
 - Demurrage undermines purchasing power

5. Resilience - Sustainability



- Business model
 - Transparency of maintenance costs
 - Geographical limitations – why not involving those who migrated to the cities and hence national diaspora?
- Governance structure
 - Some CCs: automatised increase of supply
 - If not – like in OurVillage: Who manages the system?
Who decides on increase of means of payments?
 - Creation of a Community Fund: increase legitimacy
 - Who will decide about allocating the community fund?
 - How to prevent fraud?

5. Resilience – Technical Functionality



- Familiarising – keep it simple
 - Phase-in with physical jetons
 - Blockchain vs e-wallet
 - No additional issues in the introduction phase: fees, taxes, community fund aka seignorage
- Introduction - focus on the essential
 - Address data security issues
 - Develop and apply quality control
 - Have a trial run in a secure environment
 - Focus only on the “simple” operation of the system
 - Develop a risk strategy addressing issues of maintenance, electricity interruption and provision of services and funds

6. Preliminary Conclusions



Regulation of the system:

- Key issues to be addressed by clear, transparent and general accepted rules and regulations: either locally or by regulators, in particularly
 - Consumer-protection concerns: loss of money, data confidentiality
 - Financial-integrity concerns: fraud
- Introduce accepted control mechanisms and supervision

Sustainability of the system:

- Ensure local ownership and participation
- Transparency in governance structures (management of the system, access to the community fund) and business model
- Do not disguise costs and fees



6. Preliminary Conclusions – Cont'd



Stability of the system:

- Critical mass in terms of participants and suppliers necessary
- Diversification of production structure in terms on goods and services and in terms of time is an advantage
- Urban areas are favoured over rural and remote areas
- When production structure is not diverse enough: purchaser of last resort required
- Alternatively: other stabilisation mechanisms as e.g. involvement of diaspora, municipal fees
- Most promising: tontines use it as a medium of deferred payments
- To address: environmental concerns linked to technology

6. Preliminary Conclusions – Cont'd



Technical operation:

- Phase-in period with physical jetons
- Introduce digital means of payment only when system is technically mature and running
- Risk mapping is essential
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- GIZ OurVillage Project website:
<https://www.giz.de/en/worldwide/108971.html>
- Questionnaire data will be published by BSEL in a later phase of the OurVillage project
- Please do not hesitate to contact me: martina.metzger@hwr-berlin.de



Thank you!