Complementary Currencies: An Analysis of the Creation Process Based on Sustainable Local Development Principles

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Abstract: Complementary currencies are a reality and are being applied both globally and locally. The aim of this article is to explain the viability of this type of currency and its application in local development, in this case, in a rural mountain municipality in the province of Almería (Spain) called Almócita. The Plus, Minus, Interesting (PMI); "Flying Balloon"; and Strength, Weakness, Opportunity (SWOT) analysis methodologies will be used to carry out the study. Finally, a ranking of success factors will be carried out with a brainstorming exercise. As to the results, there are, a priori, more advantages than disadvantages of implementing these currencies, but the local population has clarified that their main concern is depopulation along with a lack of varied work. As a counterpart to this and strengths or advantages, almost all the participants mention the support from the Almócita city council and the initiatives that are constantly being promoted.

Keywords: local development; PMI; SWOT; Flying Balloon; currency; local council; society; Almócita

1. Introduction

In recent years, alternative currencies and secondary exchange methods different from legal tender have been developed as mechanisms for stimulating the market [1]. These are so-called complementary currencies (CC). They can be defined as "an agreement to use more than legal tender as a medium of exchange, with the purpose of linking needs not otherwise met with unused resources" [2]. That is, they are an alternative means of payment that, like money, can be exchanged, act as a unit of account, and have their own pricing mechanism.

While official currencies may have structural flaws [3], communities can rely on other mechanisms aimed at creating a more sustainable society [4,5], since all social groups have something they can contribute and offer to the market to promote the well-being of an area [6,7]. The inhabitants who participate in these currency schemes find in their use values such as equality, reciprocity, trust, or voluntariness, an activity which in the past has been underused [8,9].

CCs have been and are, therefore, a point of support for the economy even in depressed regions after periods of crisis (Table 1). These currencies have improved local development, favoring internal economic flow, preventing large accumulations of capital, and maintaining the local environment by preventing capital flight given its territorial limitation. Some examples from the last century would be the Wära, Arbeitswertscheine, and WIR currencies, all of which were created during the Great Depression. The first one we highlight because of its creation of a private nature improving a small

local economy [10]; the second one, on the contrary, was this time of popular initiative guided by the council and it reached very positive results [11]; and the third one, beyond its repercussion at that time, has formed a system so strong that it still exists today [12].

Table 1. Examples of complementary currencies created in the 1930s.

Name	Country	Region	Active	Success Rate
Wära	Germany	Europe	1931–1931	It had a value of 1 wära equal to 1 reichsmark. In a community of 500 inhabitants, it managed to generate between 45 and 60 jobs, being the complementary method of payment during its short period of existence. It had its own shop which operated with Wära. After the ban on the currency, the region's economy was again depressed to pre-war levels [10].
Arbeitswertscheine	Austria	Europe	1932–1933	Its value was also 1 arbeitswertscheine was equal to 1 shilling. Its beginning was favored by the City Council of the municipality of Wörgl, and it had some movements of approximately two and a half million shillings. The profits were destined to multiple social projects and it was noticed that while unemployment in Austria rose by 19%, in Wörgl it decreased by 16%. [11]. One year later it was banned by the Oesterreichische Nationalbank, and with it the rates of unpaid bills and unemployment returned to their previous course [12].
WIR	Switzerland	Europe	1934–present	WIR was founded in 1934 and is referred to nowadays as the WIR-bank. Currently it is a centralized credit system for multilateral exchange, with no physical currency. The WIR system functions as a cashless payment circuit between members and has a value of 1 wir is equal to 1 Swiss franc. It was developed due to the cash shortage of the banks which led to less credit being granted. The WIR system therefore supported small and medium-sized businesses in its early days [12]. Its use became more widespread until personal participation was allowed. The balance sheet of WIR Bank shows roughly CHF/CHW 4 billion (EUR 3,5 billion) [13].

Source: Own Compilation.

However, it can be seen that CCs have not only been currencies with relevance at a historical level; in fact they are tools that can be used, and are used, today. The problem that arises is that there is no database to summarize them. It is difficult to count them from the beginning, since there is no single list to check their operation or efficiency, but this does not mean that they have ceased to be created and coexist with the world's legal currencies (Table 2).

Table 2. Worldwide examples of complementary currencies in use.

Name	Country	Region	Active	Success Rate
Calgary Dollar	Canada	North America	1995–present	The Calgary Dollar is a complementary currency that has experienced several changes. It has recently been re-launched as Canada's first local and digital currency to be updated. It differs from the crypt coins in that they are not purchased or retired. Users can earn it by placing ads for goods or services they want to sell or exchange through their own online store or through the mobile application [14]
Chiemgauer	Germany	Europe	2003–present	It is a CC that has a total number of users of 3922 and was supported by 561 companies during 2015. This gave the Chiemgauer money an approximate base of EUR 787,000 [15].
BerkShares	United States	North America	2006–present	BerkShares can be obtained at participating bank branches in exchange for U.S. dollars. The exchange rate is 95 cents to 1 BerkShare. There are about 400 businesses that accept this CC [16].
Brixton Pound	United Kingdom	Europe	2009–present	This currency is focused on an urban context. It has been designed to maintain and help local exchanges and production in the city. Some 250 companies accept payment via Brixton Pound (B£) [17].
Ora	Orania, South Africa	Africa	2004–present	The Ora is a complementary currency that offers a 5% discount to buyers. About R400,000 to R580,000 worth of Oras were in circulation by 2011 [18]. They are currently updating the platform to e-Ora which is a digital version of the currency. They are not looking for a direct replacement of the physical currency [19].
Better Bartering credits	Tasmania, Australia	Oceania	2015–present	It might be the most recent currency (LETS) of those mentioned and has the smallest number of users. This does not imply that they are inactive, as they carry out many events that they advertise through their website. In exchange, 1 Better Bartering (BB) equals AUD 1 or has the commercial value of a AUD 440 service [20]. It draws attention to that difference in exchange price makes services more influential in the community.

Source: Own Compilation.

Thus, the use of this type of currency makes them a social movement of change from the current system towards a more sustainable, equitable, and human-centered local economic system wherein the motivational importance of these tools is evident [21,22]. They have the ability to stimulate economic development from a local to a more regional level, for example, by fighting against social depreciation or by increasing the relations of the participating society. The interaction that is generated between people helps to strengthen the bonds of belonging that will directly create mutual trust in the community [23].

In consideration of the possibilities of stimulating the sustainable local development in the areas through the use of complementary currencies, this article will analyze Almócita, a specific rural area in the province of Almería, with the aim of trying to introduce a complementary currency to favor its development.

After the present introduction, the complementary currencies will be analyzed from their concept to their characteristics. A classification table of complementary currencies and virtual currencies is included in the study thanks to the updating trend that can be seen in Table 2. Then the geographical area of application will be analyzed to see if it has positive characteristics to its development and to be able to start with the process of creating the currency.

For this purpose, different local checks will be carried out following the phases established in various coins creation guides [2,24] and their recommendations. It should be noted that the first two stages will be treated initially in order to have a solid base on which to work later and that this will not only be based on an external analysis with information relevant to the creation of the currency, but it will also include a verification of the social reality. The lack of communication between the actors and the failure to take into account the socio-anthropological realities of a territory can lead to the failure of the project [25]. This will be materialized during the whole part of the results showing in order the positive, negative, and interesting factors of applying a CC and that it will be taken into account that more will be exposed to the locals. We will continue with a Flying Balloon made to premises together with information extracted from the Sistema de Información Multiterritorial de Andalucía (SIMA) database that will provide relevant information for the project. All this will be completed with a SWOT and a Ranking of Success Factors.

Finally, the central objectives of the project and the concerns of the environment will be presented together due to their joint analysis. This will show the first conclusions about its viability. This first and necessary contact, may have to propose alternatives for a greater future consensus, extend the framework of action to the adjacent municipalities if they have similar characteristics and thus set a greater basis, or simply discard the idea because of the refusal.

2. Literature Review

2.1. Complementary Currencies: The Base

The complementary currency, social currency or alternative currency is understood as a monetary instrument, or exchange system, created and used by communities, groups, and individuals in order to facilitate the exchange of goods and services. As central characteristics, we find that it is a system of neighborhood based on trust and reciprocity among people, and with the passing of time it can lose value to avoid speculation through accumulation. These are mechanisms that we can find within the Social and Solidarity Economy (SSE), in French Économie Sociale et Solidaire, whose base is the systematic understanding of human life while maintaining sustainable consumption, although in this case is based more on environmental factors [26]. In them, society sees how to participate in the decision-making of the political body while preserving democratic sovereignty in socio-economic spaces [27].

As their name indicates, and referring to what has already been mentioned, they are currencies that are used in an accessory way to legal tender. The relationship between these currencies and legal tender is ambiguous. This is an added difficulty when legality comes into play. The needs of the community must be well differentiated and once the intervention schemes are established and the action plans examined if they are indeed clear and respond to the social needs without the need for major agents to intervene [28]. The rest is then left to the participants in the life of the currency.

These complementary currencies arise and are created with a set purpose. While the aims or purposes of complementary currencies are multiple, it is these very objectives which are at the very heart of their existence [29]. These CCs take on different guises that are adapted and applied to a variety of situations. Although there are multiple causes, the most prevalent purposes are political, economic, and social, although their basic use will always be as a complement to common money [30]. Based on the aforementioned values, we've taken special note of the LETS model called the System of Exchange and Local Transactions (SINTRAL) of Ecuador, which has generated highly valuable resources such as educational services [31], or the "Banco de Las Palmas", considered as a national model that inspired the community development bank system [32].

Complementary currencies are not exclusively promoted as an economic benefit, although they may have profit seeking aims. It is also common that they also seek communal or societal benefits in them, achievement of an end such as commitment to the environment, or even the search for the collective good. Although as stated, the motivations are varied, it seems without a doubt that they are related to economic ends that should not be forgotten [33].

Given their adaptability and flexibility, the objectives of the CCs can mutate and be transferred to others which may prove to be more consistent over time, although it could also be considered the reason for their disappearance as it generates differences among promoters [34].

The most important factor is that their scope of action is highly focused on supporting development. They are a mechanism that can serve different purposes, whether it be economic, social, environmental, or ethical, can generate new patterns of consumption and production, and promote local trade by creating a re-valuation of work and wealth in an equitable way [35,36]. These systems help the community by developing sectors such as SMEs, monetary circulation, cooperation between different economic actors, revaluation of endogenous resources, etc. [37,38], giving back to the community some of the power they felt they had lost [39].

The experiences on which the CCs are based clearly show that they are tools that strengthen and develop the economy and the territory in which they are implemented, although they will greatly depend on the area applied [40]. This does not mean them being analyzed as a measure clearly inserted in the framework of the solidarity and social economy [41].

The promoters and participants of complementary or social currency initiatives are usually individuals, professionals from different sectors, and institutions that unite in order to create a network in which the currency will operate. They are in charge of determining the overall functioning and operation of the system. The important thing is that the entity in which all the parties will intervene is created and that the level of societal participation is maintained to be as high as possible at all times. The complexity of the control and diffusion mode influences the durability of the CC, going so far as to show its difficulty in integrating with the other forms of exchange and transaction [42].

As part of the creation process, characteristics such as value, shape, location, and possible legal repercussions are established, since not all CCs are exempt from taxes [27,43]. The use of the currency itself will also be conditioned by what has been agreed [44,45]. In principle, and in a generic way, people can earn and use the complementary currency freely as well as the legal tender, as long as the established limitations are met.

Having explained the concept, the relationship with legal tender, the purpose they follow, and the people involved in their development, it remains to talk about their structure or design. This is possibly one of the most complex sections since there is not a single way to define them. While we remember that there is no database that collects them, there is not a single classification to be able to typify them. This is one of the most complex and previously considered aspects: the design of the currency itself. There is no official classification that meets or covers all the requirements since, being a mechanism created with a specific purpose in mind, the possibilities for development are practically endless. This has resulted in a multitude of typologies of which we can highlight that of Bernard A. Lietaer and Margrit Kennedy in 2004, Siglinde Bode in the same year, or Jérôme Blanc in 2011, which outlines one of the most current classifications based on whether their typology is considered being territorial, communal, or economic.

Having seen numerous examples and their development and starting from a simpler classification system, two typologies will be taken into account to differentiate the currency schemes according to their structure. Thus, virtual currencies, recently incorporated, and local-territorial-social currencies, with a more classical vision, have been selected. The differences between them are several, although their purpose may be similar (Table 3). This classification will be necessary to take into account from the outset, because depending on various local factors, the scale may decline to one side or the other.

Table 3. Comparison of virtual currencies vis-à-vis local–territorial–social currencies.

Virtual Currencies	Local-Territorial-Social Currencies
The European Central Bank defines them as "a medium of exchange and a unit of value accepted by a virtual community" [46].	Facilitate exchanges, satisfy a need, or simply as financial aid.
Based on security, integrity, and balance thanks to the protection that has been provided by people who, in exchange for obtaining an advantage / tip, collaborate in the security of the currency by providing algorithm processing.	Based on a principle of development and cooperation, they are currencies that do not have the limitations of legal currencies and that help achieve social and economic ends [47].
Its operation resembles a classic means of exchange with the advantage that payments are made immediately without intermediaries and low transaction costs and exchange is expedited in time.	Their operation is based on trust and reciprocity [48]. They tend to be based on endogenous resources that the formal economy often ignores.
Its regulation is more complex since, at first, currencies were classified as "raw materials" [49]. Since then their classification has varied with each country deciding for itself.	There are multiple problems with this type of currency, including temporal, personal, and their impact on the market [50]. They are factors that need to be constantly testes, from the moment of their development to their latter activation.
This also leaves them at the mercy of significant fluctuations in their price which can be subject to speculation or be use by other parties [51].	Currency valuation can vary depending on whether the purpose of the same is to match legal currency or if it is attempting a temporary match. It defining feature is that they cannot be services that are directly exchanged for legal tender such as Time Banks [52].
It is usually obtained through so-called mining, which is broadly based on the resolution of complex algorithms that depend on a previous one.	The LETS are basically non-profit initiatives that attempt to promote the exchange of goods and services in a limited community.
All transactions are recorded in a blockchain which is open to everyone. This generates global and transparent exchanges that have a reliability determinant which is deemed to be one their great advantages. Those based on this technology can cause problems if they are analyzed from the environmentally sustainable point of view in contrast to the most basic digital ones [53].	For its development, an entity is usually created to maintain an operational record. This records in detail all the operations carried out or pending credits. These usually take the form of exchange or barter of minor short-term services separate from their usual provision of professional services.
Can be used at any time.	It is particularly used if the legal economy is paralyzed and its reactivation is complex.

Source: Own Compilation.

2.2. Study Region

Once the characteristics of the complementary currencies have been considered, together with the form they should take, it is necessary to analyze the geographical context in which they are applied in case there is any precedent in the area. Here we will distinguish two sections: the first will be dedicated to existing complementary currencies or those that have existed in the area, while the second will be an introduction of the selected rural area.

In the case of the province of Almería, the tools with the greatest weight in the territory have been the Pita and the Banco del Tiempo (BdT) (Time Bank). In addition, the chosen town of the province has been Almócita, a small rural town with a total of 169 inhabitants [54].

Pita is a great example of a complementary currency. It was established in Bajo Andarax during 2012 and had nearly 200 participants. It was born as an initiative of the CCOO Agro-Food Federation (Workers' Commission) and was developed by the Asociación Trotamundos Animado (literal translation: Association of Animated Globetrotters) [55]. The currency had a value similar to one Euro in legal currency or the equivalent of six minutes in the Time Bank that was already in use

in the area. A surplus was established that could not exceed the threshold of 200 pitas and it was impossible to have a deficit greater than 100, in addition to an oxidation of 10% of its value in three months without being used and loss due to the obsolescence of the currency if it had not been used for a year. At the end of each day, each private account was adjusted to maintain proper accounting.

Time banks are clearly structured as a means to promote sustainable economic development [56] and the Time Bank of the Almería City Council is another example that is already on the way to celebrating its eighth anniversary. During its first years it managed to account for a total of more than 4000 exchange hours thanks to more than 400 partners [57]. Due to its link with Municipal Women's Centers, it is spread throughout the municipality and it has multiple services that can be exchanged such as advice, DIY, or social care of people [58]. The BdT continues working today.

Almócita is a municipality in the province of Almería with an extension of 30.83 km2, located some 54 km from the capital of the province. It was founded by Arabs and has the typical Moorish urban architecture with one of the best-preserved historic town centers in the province. The town is comprised of simple houses and narrow streets. It is a pueblo blanco (white village) with 171 inhabitants, many of who are concerned about their ecological footprint. The town´s economy is predominantly based on agriculture, mainly in the cultivation of grapes and oranges.

It located in the Alpujarra region (Figure 1) and shares characteristics with the rest of the municipalities that make up this territory. As an identifying feature, we can highlight that the town has a choir which aims to preserve classical folklore, the celebration of the Night of the Candles, an annual initiative in which the town is illuminated with old lamps, torches, etc., while simultaneously turning off all modern lighting. It is also known for demonstrating a high level of concern for environmental matters which is the basis for the celebration of events such as Ecoencuentro (EcoMeet) in which people gather from all areas to attend conferences or organic and "green" markets. However, it is worth mentioning that although the basic characteristics of the village may, at first sight, be similar to those of the surrounding municipalities, the selection of the village has been thankful to have had among its inhabitants people who have previously had contact with the Pita. This fact, explained in one of its EcoMeets, suggests that the population is active in the use of these figures.

2.3. Creation Process

To conclude this section and given this introduction, and for the correct functioning and use of the social currency, it is necessary that the creation process be carried out in as detailed a manner as possible [2,24]. The following steps should be followed:

Step 1. A detailed analysis of the region/territory must be carried out and the needs and resources available must be studied. These resources can support the issuance of the coins. Once this is carried out, the objective of the social currency should be established together with identifying unmet needs, the resources, and the people to whom it is directed. Once these basic characteristics are established, the broad type of social currency is selected: Time Banks, LETS, physical social currency, commercial barter, etc. Goals and specific deadlines should be set to systematically collect all the information in such a way that it can easily be used in the subsequent steps.

Step 2. A highly representative group should be created which involves all the important sectors in order that they can contribute their ideas and see themselves reflected in the proposed currency. The community that will use this payment method must be developed and updated at all times. It is necessary that the process of creating the currency is communal and that everyone feels involved and part of the project. The training received must always be maintained and it is recommended that there be spaces available wherein the community can be updated or learn about the current state of affairs.

Step 3. The type of currency and its representation are definitely chosen, along with the accompanying merchandise, currency, or electronic media. A design is tailored to the purpose of the coin. Once this is done, the form with which it will be supported and the value that will be minted are selected: official money, provision of services, etc.

Step 4. Once there is a general outline of the currency´s structure, the manner in which to execute it must be determined, including a mechanism for covering all related costs. These costs can range from the most basic, such as facilities to be developed, to other more direct costs, such as the printing of the currency. Its implementation can be supported by other institutions, such as foundations, the premises themselves, or public entities such as municipalities that may be willing to contribute. In order to recover the expenses, it may be necessary to establish fees such as transaction or interest for the use, oxidation to avoid its accumulation, or a participation fee.

Step 5. Finally, it is important to establish a scheme that shows how this tool is going to be issued, put into circulation, and how withdrawals will be made. It is a tool that must satisfy the needs of consumers at all times. Following this, a testing phase should be carried out to check whether it works or not.

Step 6. Similar to any other action, an evaluation process of the basic indicators must remain open at all times, and, if necessary, the system should be recalibrated in order that its launch be as smooth as possible.
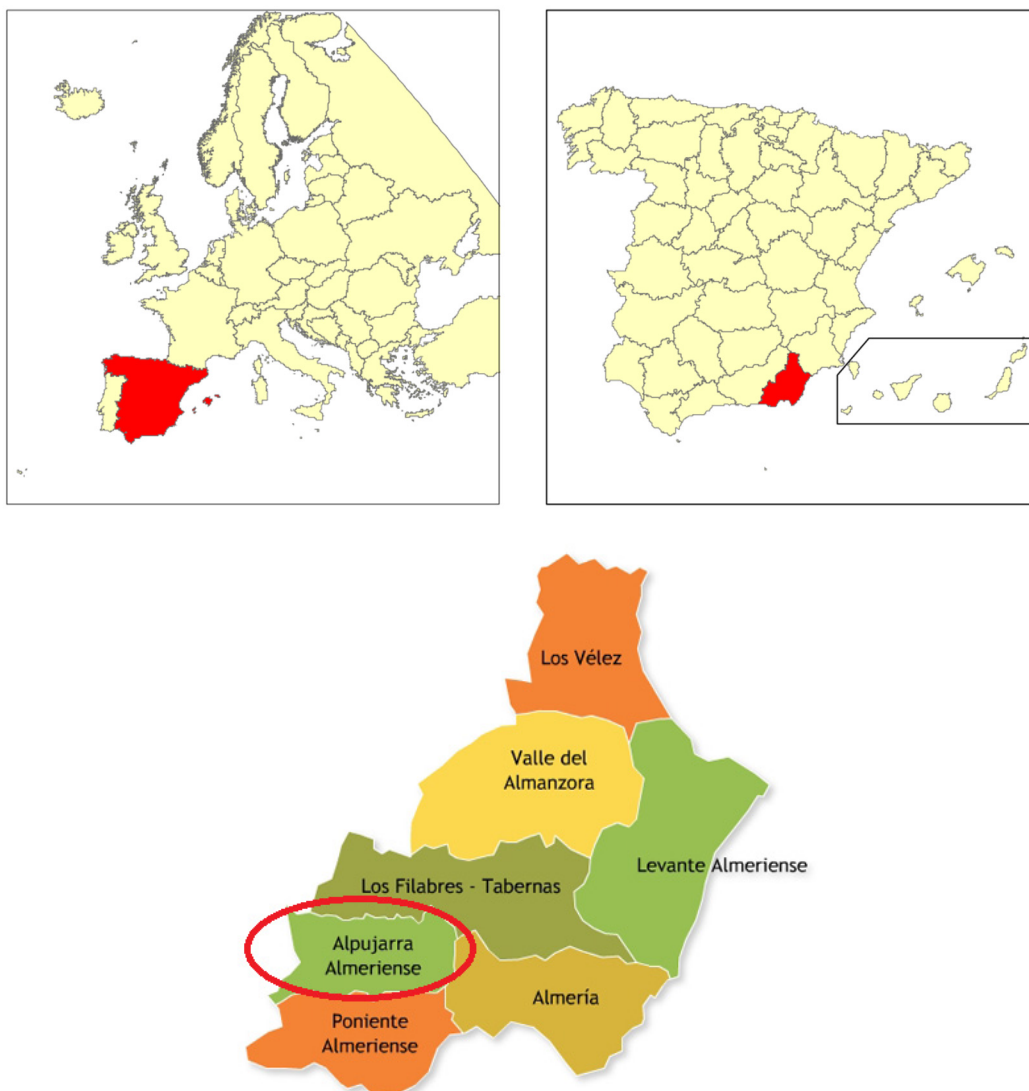
Figure 1. Location of Almócita. Source: Diputación de Almería (Almeria Provincial Council).

3. Methodology

Our research consists of four types of methodology that will help clarify ideas.

Starting from the previously stated assumptions analyzed in the province and in order to take into account both positive and negative aspects, the Plus, Minus, Interesting (PMI) analysis delves into the local implementation of a social currency. This analysis consists of constructing a table or matrix that includes positive, negative, and interesting aspects about a specific topic, allowing innovative conclusions to be drawn. It has been used in research articles that deal with education [59,60] or health [61,62], in order to answer questions through lateral or alternative thinking.

Secondly, an attempt will be made study the current state of the municipality through a "Flying Balloon" analysis together with a series of short questions regarding the local population's knowledge of complementary currencies. It involves a description of the context of a local development project from an illustration (Figure 2), which defines the main components [63].

Figure 2. Illustration of "Flying Balloon". Source: De Pablo Valenciano et al., 2018.

In the center of the illustration is a balloon, which represents the main territory which is the subject of the diagnosis. To the right of this is another smaller balloon which represents other territories with similar characteristics. The helicopter represents other regions with higher socioeconomic development, whose more ambitious goals may reduce the ability of the main balloon to attain financing. The crow atop the large balloon symbolizes the weaknesses of the territory, while the people flying in the basket represent all the actors involved in local development. The mountains depict current dangers, while the eagle indicates potential threats. Clouds show whether adversity or ease prevail, and the birds around them represent unsuccessful contingencies. The crocodile refers to those groups that benefit from the plan failing, since it would be able to feed should the balloon deflate and drop. Finally, the bags that hang from the basket are a representation of all those expendable actors in the plan which could be considered a burden.

This is an innovative methodology that facilitates the participation of all citizens of a territory due to the intuitive nature of the illustration. Indeed, no reference to this technique has been found in scientific articles from the main databases: Web of Science and Scopus.

The sampling carried out through surveys is summarized in ten assumptions of which:

- Eight show local opinion: five from the habitual residents and three from relevant businesses and economic weight in the municipality.
- The remaining two are the opinion of people domiciled in the municipality but who are not residents.

During this stage, a series of common interviews and visits to the municipality were carried out in order to observe the relational structure of its inhabitants. During the months of April, March, May, and June 2018 a total of approximately eight visits took place, each lasting between 1 and 2 days.

Subsequently, based on data obtained from the Andalusian Multi-territorial Information System (SIMA), the municipality's own website and that obtained directly from interviews, we proceeded to create a SWOT matrix evaluating the state of the municipality to establish the priorities needed to be rectified. This matrix includes the internal elements of the municipality that are either an advantage or disadvantage (strengths and weaknesses respectively), as well as elements from outside the territory (opportunities and threats). The combination of these factors gives rise to four possible strategies: offensive (related to strengths with opportunities), defensive (related to strengths with threats), reorientation (related to weaknesses and opportunities), and survival (related to weaknesses and threats). In the scientific literature, this tool has been used in articles on various topics such as economics and business [64–66], environmental sciences [67,68], or education [69–71].

Finally, a ranking of success factors is carried out with a brainstorming exercise.

4. Results

Taking as a reference the experiences with social currencies, a natural synthesis is proposed via a PMI analysis that shows both positive and negative generic aspects as well as interesting aspects that should be taken into consideration (Table 4). The continuity of the currency project depends on which of these three aspects would vary depending on whether the positives outweigh the negatives.

Table 4. Application of Plus, Minus, Interesting (PMI) Analysis.

Positive	Negative	Interesting
1. A general increase in purchasing power. 2. Simplicity of payments, similar to using legal tender. 3. Promotion of social projects. 4. The endogenous economy is motivated and supports job creation. 5. They support normal monetary infrastructure. 6. They are an additional source of income. 7. Strengthens relational ties. 8. It is difficult to suffer from oversupply and cause inflation. 9. It is based on the original idea of money. 10. In principle, it retains and keeps wealth within the area. 11. Promote an idea of honesty and trust. 12. In its most recent implementation, it favors equality as all draw from equal conditions. 13. It promotes social justice, equality and the rest of the values that it aims to protect.	1. The monetary system is made more complicated due to additional payment options. 2. User may be faced by additional commissions or fees. 3. Training is required to use the currency. 4. The number of users is very limited, and its use is very localized. 5. The massification of some currencies in particular can undermine them. 6. The high cost of developing the currency. 7. High level of volatility of some types such as virtual currencies. 8. The ease with which they can be counterfeited. 9. If they are not based on the needs of the people.	1. Analyze nearby municipalities to see their point of view and see if there is interest in participating. 2. Check social acceptance. 3. Study how the proposed new economic approach can help in the repopulation of the area. 4. It could be taken as a reference municipality. 5. Carry out analyses that show the increase in general well-being.

Source: Own Compilation.

It has been shown that a well-implemented social currency helps the economy as stated by Bernard Lietaer in his multiple works already mentioned. Despite this, there are a number of failed currencies; even in areas which pioneered CCs should be known and borne in mind [72].

Having observed, a priori, more advantages than disadvantages along with the possible interesting applications, the "Flying Balloon" analysis was implemented by means of a series of questions about the municipality put to 50 local people in order to collate opinions about their locality and complementary currencies in general. The results obtained are summarized in Tables 5 and 6. The results are differentiated

in the two tables: one shows the more general thoughts of local inhabitants and the second shows the thoughts of local inhabitants who carry out economic activities (local business people) and non-residents.

Table 5. Information obtained from Local Participants 1 to 5.

	Local 1	**Local 2**	**Local 3**	**Local 4**	**Local 5**
Keep	Lack of work	Lack of interest in the town	An ageing population	Environmental Problems	Lack of varied work
Failures	Maintaining population levels	An ageing population	Maintaining population levels	The development of interesting activities, but that were only temporary	Maintaining population levels
Concerns	An ageing population in the town	Maintaining population levels	More populous neighboring town centers	Loss of heritage	School closures
Competitors	Economically stronger and larger neighboring municipalities	Economically stronger and larger neighboring municipalities	The capital city	Neighboring provincial centers	The capital city
Opportunities	Local Festivals	Natural Resources and Local Festivals	Natural Resources	Natural Resources and Local Festivals	Initiatives of the Local Council

Source: Own Compilation.

Table 6. Information obtained from Local Business People and Non-Residents.

	Business Person 1	**Business Person 2**	**Business Person 3**	**Non-Resident 1**	**Non-Resident 2**
Threats	Lack of varied work	Ageing population	Average age of townspeople	Better situated towns with better access	Other competitors in same business activity
Failures	Population	Measures taken to combat depopulation	Population	"Always seeing the same people"	Badly developed policies
Concerns	Ageing population	Maintaining population levels	Average age of townspeople	Sale of their property in the area	Loss of a second job in the municipality
Competitors	The capital city and nearby coastal areas	The capital city	The capital city	Municipalities located in Sierra Nevada but with better facilities	Municipalities closer to the coast
Opportunities	A Local Council and Associations with Initiatives	Good social relationships	Initiatives promoted by the Local Council	Nearby hunting preserves	Local Festivals

Source: Own Compilation.

The local population remarked, before going into detail about the complementary currencies, that their basic problem is the shortage of population along with the lack of varied work. As a counterpart to this and when speaking of its strengths, almost all mention the support from the local council and the initiatives that are constantly being promoted.

That said, for a better understanding of the answers and based on the tables above, the information from the interviews are displayed according to specific categories. These categories include Entities and Services due to the high level of trust in them, Society and the General Economy as personal assessment surveys and Resources with regards to the variables considered to be opportunities.

Entities and Services:

- The local council promotes activities to avoid depopulation and favor the settlement of new people in the municipality.
- In addition, it is amenable and actively participates in the discussions. The local inhabitants have great trust in this entity.

- The local council listens to new proposals without rejecting them outright even when financing is required. They state that one of these proposals is related to social currencies and has been discussed on more than one occasion, albeit superficially.
- The town has a health center, a school and a pharmacy.
- The small retail businesses in the municipality speak of problems for their subsistence, although they do not have direct competition around them: lack of change due to sales, complicated maintenance of some types of products, etc.
- Of the two bar/restaurant services that exist, the bar, which recently reopened following a change of ownership, is the only establishment that consistently remains open. The restaurant only opens on weekends except for in the summer months when it is opened on a daily basis.
- The owners of the bar have known complementary currency initiatives.
- There are good public transportation links to the capital which run approximately three times a day.
- Nearby municipalities are well connected and include various hiking trails and a bike path.

Society and Economy:

- The residents take an active part in municipality events and matters and detect depopulation as a factor that must be eradicated.
- There is no direct rejection of people from outside the municipality.
- The average age of the population is quite high.
- The inhabitants highly value the cultural programs in which they participate.
- There is a lack of significant generational replacement, a problem that also exists in neighboring municipalities.
- There is a strong feeling of belonging to the locality, although limited employment possibilities make it difficult to maintain the population.
- The real population does not coincide with the official census population.
- In terms of average income, their amount is greater than expenses incurred.
- The municipality has people who have knowledge of the issue of social currencies, for example, of the drivers of la Pita. In turn, some have reacted positively to whether or not they knew of the existence of websites such as "vivirsinempleo.org", which highlight, among others, issues related to CC.

Resources:

- The ecological approach which is established in the municipality is promoted as a resource which can attract newcomers to the area.
- The state of heritage preservation of the town is very good.
- There is little exploitation in the tourist potential of the town, and its denomination as a pueblo alpujarreño (mountain town).
- The town possesses its own unique resource, the largest lamp in the world.

To summarize, the local inhabitants focus their attention on the lack of generational replacement and the aging of the population. Depopulation is a central issue in the municipality.

To prepare the SWOT matrix, the previous results and information provided by SIMA were taken into account. Taking 2006 as the base year for some of the variables, it has been possible to perceive record progress and the evolution of some of the most interesting concepts. Consequently, we will first analyze the composition of the population to later delve into more economical aspects.

As can be seen in Table 7, the population of the neighboring municipalities seems to be static, with Almócita arguably presenting the most favorable growth rate. In particular, although it is true that in terms of number of inhabitants, this figure has increased since 2018 by 18 new residents, the current trend is one of decline. The population during the years 2006 to 2011 experienced a significant increase,

growing from 156 inhabitants to 191, although later decreasing to the current 174 registered in 2018. In fact, broadly speaking, there has been a relative increase in the population of approximately 10% in the last ten years. However, this rise occurred exclusively during the first six years observed. The average age of the population is 53 years, not the highest in the area as Beires has an average of 59 years. Without doubt, this reinforces the fact that it represents the average age of the population in the region.

Table 7. Evolution in the Population of Almócita and surrounding towns.

	2006	2011	2018	Population Change Between 2006 and 2018
Almócita	156	191	172	10%
Beires	128	118	114	−10%
Dalías	3807	3991	3978	4%
Fondón	950	976	1017	7%
Padules	523	510	449	−14%

Source: Own Compilation.

The community has a municipal unemployment rate of 20% with a total of 20,186 people out of work, the highest rate of its kind in the area. The remainder of the municipalities have an unemployment rate of between 14% and 18%. Registered unemployment is comprised mainly of people aged between 45 and 64 with a higher ratio of women among them. This is followed by people aged 30 to 44, wherein the ratio of women who are unemployed in this age bracket is 2 to 1. The lowest unemployment rate was registered in ages between 16 and 29, with the gender trend already mentioned also present in this age range.

The most prevalent professional activities carried out in the municipality are those related to Division five and six of the SIMA classification dedicated to construction and commerce, restaurants, lodging, and repairs with a total of five and six, respectively. The next most common economic activities are those related to the extraction and transformation of non-energy minerals and their derived products, industries for the transformation of metals and precision mechanics, transport and communications, and financial institutions, insurance, and services provided to rental companies with one business in each sector (Division two, three, seven and eight). There are no businesses from the remaining divisions in the area. It can also be affirmed that the number of establishments has grown significantly by four new businesses since the population increase took place.

The most common economic activity in the municipality is agricultural, with several hectares of land classified and dedicated to organic production. Regarding the tourism sector, the number of rural houses in the area is scarce, but it does provide a small number of services related to the tourism sector.

Almost all the companies in the area are small in size, since the majority, 12 out of 16, are companies with no employees and another two employ fewer than five people. The two business with the highest levels of production employ between six and nine workers.

An analysis of the numerical data displayed in Table 8 shows that the area is financially healthy. Income per inhabitant, as seen in Figure 3, is the highest if we take 100 as the reference number.

Table 8. Budget of Local Businesses in 2018 *.

Final Budgeted Income	451,862
Final Budgeted Expenses	450,083
Income by Inhabitant	2611
Expenses by Inhabitant	2601

* The reference currency is the Euro. Source: Own Compilation.
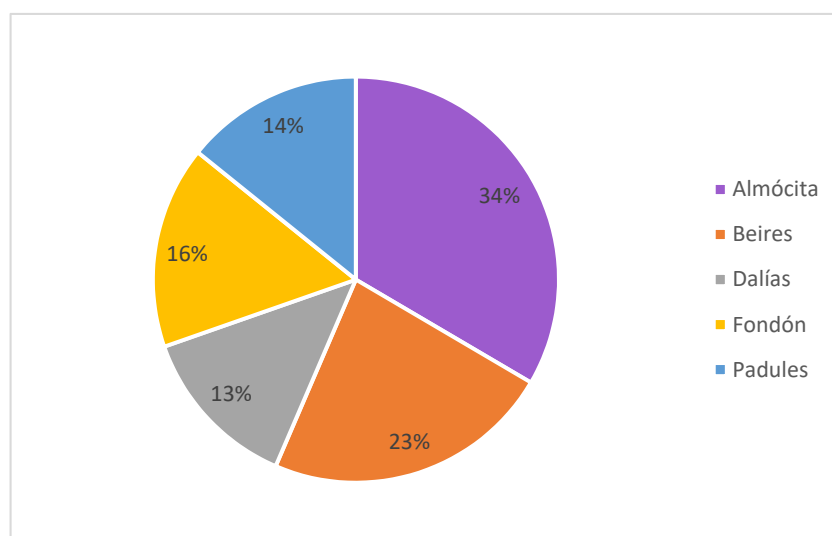
Figure 3. Income by Inhabitant in Almócita and surrounding areas [1,1]. As data was available for 2016 for all municipalities except Beires, it was decided 2015 would be used as the relevant year for data collection. In general, income decreased in Almócita and increased in the remaining areas. Source: Own Compilation.

With regards to taxes and based on the return filed for 2018 (Table 9), income does not show entirely positive results as the average income remains fairly low.

Table 9. IRPF (Personal Income Tax) for 2018 *.

Number of Tax Returns	56
Employment Income Tax	268,774
Actual Net Taxable Income	7771
Estimated Net Taxable Income	6155
Other Types of Income	26,538
Average Net Taxable Income	5522

* The reference currency is the Euro. Source: Own Compilation.

Table 10 shows a SWOT analysis which highlights the lack of population as the principal negative axis. This analysis agrees with the perception of local residents, who see this and the lack of varied jobs and services as the most pressing problem for their economy. In contrast, a positive attitude is evinced by their concern for the environment and the acceptance of new initiatives as long as they have the support of an important entity such as the local council.

Table 10. Strength, Weakness, Opportunity (SWOT) Analysis of Almócita.

Weaknesses	Threats
Aged population	
Lack of financial resources	Excessive bureaucracy
Lack of entrepreneurial culture	Lack of generational replacement
Lack of services in the area and difficulty in maintaining existing ones	Limited employment
	Climate change and desertification
Lack of financial subsidies to carry out activities	Rural exodus
Apathy and lack of motivation among young people: desire to leave	Disinformation and lack of recognition of the area
	Lack of public or private economic resources
Unused resources	Political changes
Scarcity of variety in tourist offer	Rejection of abrupt economic changes
Initial negative reactions to mention of a new currency	
Strengths	**Opportunities**
General climatology	Increased awareness of the natural product consumption.
Rise of environmental awareness	Promotion and campaigns with a more human touch that create greater social sensitivity.
Heritage	Local Council support for the development of a local currency.
Existence of the Natural Preserve and National Park of Sierra Nevada	Rural development programs with justifiable outlay.
Quality of life	Boom of Themed tourism based on the social and environmental factors as an extra source of income.
Programs initiated by the Local Council	Improvement of the economic situation focused the ecological and tourist factors while stimulating the economy using social currencies.
Participatory and active women	
Eagerness to excel	
Excellent local environmental awareness	Ability to attract new residents who share same values.
Assimilation of environmental awareness	Retain the existing population through the use of an exclusive currency in the area.
Innovative spirit that assimilates the proposals and participates in them	

Source: Own Compilation.

Finally, a ranking of success factors is carried out and displayed in Table 11.

Table 11. Ranking of success factors.

	Weaknesses	Threats	Strengths	Opportunities
	1. Ageing Population	1. Rural Exodus	1. Heritage	1. Promotions and Campaign
	2. High economic costs	2. Employment	2. Citizen Engagement	2. Exclusivity
	3. Initial negative reactions	3. Disinformation	3.Institutional Support	3.Economic recovery
Cost	D1–D2–D3 Unprofitable and unaffordable costs	A2–A3 Alternative, non-competing payment methods	F1 Possible private barter	O2–O3 Increased purchasing power
Local Support	D1–D2–D3 Lack of support without explanation or demonstrable interest	A3 Lack of acceptance	F1–F2–F3 Promotion of the feeling of "belonging" to the town	O1–O3 High levels of participation as long as there is a perceived common benefit
Labor Force	D1 Need of re-population	A1 Lack of human resources	F2 Participation in activities	O2–O3 New ways to prosper economically and support the existing economy
Municipal Plan: Development of Complementary Currency	D1–D2–D3 There is currently no assigned market	A1–A3 Lack of population that supports the plan	F1–F2–F3 Greater value placed on "local"	O1–O2–O3 In general terms, it improves the municipality

Source: Own Compilation.

Based on the above, two objectives can be obtained (Table 12).

Table 12. Objectives.

Objective 1: Development of Social and Environmental Campaigns.	Objective 2: Development of a Social Currency.
Provide greater social awareness	Investigate and explore additional objectives in
Explain the possible approaches for	creative meetings
economic development	Unite local environmental awareness philosophy
Approach and attract new participatory residents	Sample the situation after its development
Highlight existing institutional support	Be a pioneer in social thought

Source: Own Compilation.

5. Discussion

The experiences have been collated in the province of Almería. The assumptions presented in Table 13 were the basis of the investigation.

Table 13. Research Approach.

Location	Almócita
Objective	Assess the viability of a social currency through a multi-level analysis
Innovation	Use a different tool as a way to analyze local development in the area
Insights	Establishment of a local development approach that could be extrapolated to surrounding areas
Expected Impact	Improve the health of the municipality in general: from economic to cultural strengthening

Source: Own Compilation.

Although the main focus of our analysis has been the issuance of complementary currencies, from the results obtained, it can be deduced that the basic concerns of the municipality are consistent with other recent studies and strategies they are following [73–75]. These concerns, which relate to the problem of depopulation is the central focus of many of the initiatives that have been carried out in the municipality. Concerns about depopulation and the lack of work are determining factors for maintaining the economy of this area. Given these circumstances and seeing that the loss of rural areas is a global problem, an analysis of other social currency initiatives, such as the case of Hokkaido in Japan, which has been successful in mitigating the effects of depopulation, would be useful [76]. In the aforementioned case, the socio-cultural strengthening in addition to the increase in commercial and non-commercial transactions of these networks favor rural development.

Although the advantages for the municipalities are small and the expected economic benefits are lower, the CC will create a social capital that they did not have before [77]. This makes money seem more social and moves it away from the vision of money as only a means of exchange and reserve of value [78]. In this way money will transmit the value of strengthening society showing it as what we call "social commons" [79].

The sustainable development initiative with the new CC in Almócita should be focused on the exchange of goods and services that would keep the local economy active in a traditional manner. This is what we mean in terms of form; given the number of inhabitants and the average age of their community the principal scheme should be based on a physical currency or some kind of log book of transactions for ease of assimilation that can later be updated.

The local council's continual commitment to its population encourages the development of these proposals. After reluctantly responding to the use of this currency, those who were initially surveyed reconsidered their position when it was mentioned that the local council supported the scheme, even going on to attend the most recent development meetings. The multitude of social and ecological events, together with the mindset of the inhabitants, have created a culture of strong sustainable development that should, leveraged by this initiative which is promoted by both the

local council and residents, make it much more stable [80]. The concern for the council along with having its financial backing, makes this currency more similar to the English ones, such as the Brixton Pound and Bristol Pound, than to those that were initially taken into account as Pita, whose support was private [81]. At the same time, they are currencies that have lasted longer because Pitas were suspended while this project was being carried out.

As there are no banks present within the municipality, and the inhabitants of Almócita and its surrounding area find it difficult to access cash. The inhabitants and businesses themselves consider this as a major inconvenience. Although the neighboring towns are quite close and accessible, commuting to those towns for purchases or investments of low value is an inconvenience that the residents end up resolving by alternative means. Payments for available municipal services, such as the entrance fee for the swimming pool, are subject to the same inconveniences. Certain CCs have their own network of entities which participate in their exchange scheme and position this currency as a secondary way of overcoming these hurdles. An example of this is the Bristol Pound, which has been analyzed to verify its impact on the local economy, although with varying results [82,83].

Incomes are not as high if they are compared with other town centers. There are many small orchards in the municipality and surrounding areas that, together with the minimum income earned, support the local economy. The new and complementary form of payment would mean the reactivation of jobs or even generate new ones that would be incorporated into the economic cycle. If the local infrastructure is sufficient, policies focused on economic factors should be created that are the most appropriate to combat depopulation and the possible extinction of the municipality [84].

6. Conclusions

In general, the complementary currencies that have been implemented have garnered several advantages during their lifecycle that should be taken into account. Creating a sound baseline during its development phase will not only help the local economy by reactivating it, but as these schemes could reinforce the legal currency, they could also be a support measure to mitigate the consequences of possible financial problems.

The support from the local council for these currency schemes has positively influenced the local population´s level of acceptance for them. The local residents´ knowledge of this type of currency, together with the aforementioned support of the local council transforms, their society into one wherein there is a high probability of implementing these schemes.

The mode of tourism currently being exploited together with the environmental resources in the area could be of interest and could attract new members to the community who would be motivated by similar communal thinking. Motivated by the same idea, they would actively participate in the lifecycle of the CC.

The local economy would be reactivated, and income would be generated in new ways that had not previously been taken advantage of.

The local initiatives that have been developed have strengthened the thinking and feeling of belonging to the area and contribute to the realization of these initiatives and increases the chances of meeting the projected objectives.

The resources in the municipality are considered to be adequate for now, and although the transport links with neighboring towns are relatively rapid given the short distance between them, they can often complicate the life of the local residents, particularly older inhabitants. These inconveniences could be alleviated by the new payment method and should be highlighted in the development meetings.

Having one of the highest unemployment rates in the area, the development of economic activities which the new currency could facilitate could thus employ more people and stimulate the local economy.

First, and in a more practical way, it creates a window of opportunity for the real and effective development of a social currency in the municipality, always bearing mind the steps previously outlined. Given this sound foundation, and with the information that has been obtained from and

supplied to the local inhabitants, the launch of a social currency is possible. The population has been made aware of the proposals and there is a first draft that specifies a series of advantages for its town.

On the other hand, and this time in a more theoretical way, a generic analysis of complementary currencies has been carried out. However, it should be borne in mind that a clear and obvious typology does not currently exist given the complexity of identifying the relevant factors and characteristics of a given municipality or territory. Further specific research could also be conducted on complementary currencies.

The work has been largely limited by analyzing a very specific area over a short period of time. During the year of meetings, interviews, and raising the issues, two very different municipal viewpoints have emerged. However, the results obtained from the databases have passed the first cut.

With regard to the social perspective, the development of a complementary currency is not still possible since, although the economic weight of the municipality sees its application and use as feasible, there is a large percentage of users who do not see the need at first sight. There is a necessity to balance the percentages more, and emphasis needs to be placed on the population to see if their perspective changes. An action group (from phase/step two) should be defined so that, together with the City Council, they can have municipal meetings to explain the objective further.

At the same time, and as a contingency plan, it would be possible to analyze the four neighboring municipalities to see if they have similar characteristics and offer them participation in the common project.

To conclude, and no less importantly, this work has tried to verify the feasibility of introducing a complementary currency in a small municipality as a method of sustainable local development, but during this process, and since the introduction, it has been shown that these mechanisms have been and are quite useful for multiple purposes. Thus, complementary currencies are a tool that can reduce the harmful effects of global monetary and financial crises [12], leaving open new lines of research that highlight the possibility of relating the CC with the currency crises in emerging countries [85]. The single currency model creates a super-efficient monetary system on a macroeconomic scale, but it also reveals the lack of resilience in our economy. This "dual feeding" increases the resistance to the effects of the crises, providing stability to the whole system. At a more micro level, it also opens up the possibility of making a greater and deeper "case study" which has already been included as a limitation.

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