

# Solidarity Economy and Ecologically Based Agriculture: An action plan for the development of educational materials

Wellington Dantas de Sousa<sup>1</sup>, Carla Saturnina Ramos de Moura<sup>2</sup>, Elielma Santana  
Fernandes<sup>3</sup>, Jorge Luis Cavalcanti Ramos<sup>4</sup>, Lúcia Marisy Souza Ribeiro de Oliveira<sup>5</sup>,  
Vivianni Marques Leite dos Santos<sup>6</sup>.

<sup>1,3</sup>Professor of the Instituto Federal Baiano - IFBAIANO. Doctoral student in Agroecology and Territorial development UNIVASF - Juazeiro-BA.

<sup>2</sup>Professora of the Universidade de Pernambuco - UPE. Doctoral student in Agroecology and Territorial development UNIVASF - Juazeiro-BA.

<sup>4,5,6</sup>Professor of the Universidade Federal do Vale do São Francisco-UNIVASF - Graduate Program in Agroecology and Territorial Development.

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**Keywords**— *Solidarity Economy, Sustainability, Educational Videos, Action Plan.*

**Abstract**— *In view of the need to support social entrepreneurship and promote territorial development, the purpose of this text is to describe and discuss an action plan for the development of educational material on Solidarity Economy and Ecologically Based Agriculture. The 5W2H method was used for the action plan for the preparation of the educational material. Methodologically, the research has a quantitative and qualitative approach, with market research involving students from higher education courses (Agrarian Sciences) and High School Integrated to Agricultural Technicians, from the Federal Institute of Bahia - Campus Senhor do Bonfim and professionals who work NGOs, educational institutions and rural extension bodies. From the data analysis, it was concluded that the elaboration of the action plan using the 5W2H method in the production of an educational video was shown in a positive way, allowing an expanded view of the best strategies for the planning of actions and the acceptance of the product by the target audience, as an intelligible language material and accessible online, which can promote sustainability in local production units, adding value and strengthening the identity of crops originating from family farming; and territorial development, with the socialization of information that favors collaborative networks, the economy and integrates actions and partnerships in a collective and solidary way.*

## I. INTRODUCTION

By using natural resources, man has been leaving a trail of environmental destruction in large proportions. In this process, nature has been exploited in a maximized way, and there is no satisfactory national management

acting in this movement. Given this, problems of a social and/or environmental nature, they can present their effects quickly or on a large scale of time (RODRIGUES, 2011).

In this sense, a change in posture is needed in the way of producing and marketing products, using agricultural

practices that respect natural resources, as well as obtain a fair market for the sale of products. In this perspective, Solidarity Economy and ecologically-based agriculture act in a complementary way, providing principles and values that strengthen sustainable development.

It is from the perspective of complementarity that it is possible to implement an agricultural activity that deals with the preservation and conservation of natural resources, in a scenario in which the natural ecosystem provides subsidies for a significant improvement in the quality of food and the environment. For De Molina et al (2019), sustainability in food agroecosystems is based on the organization of agricultural work in synergistic interactions of mutual transformation between human work and nature's work, which contributes to the management of practices to converge with the dynamic ecological ecosystems; in valuing ecological capital that reduces dependence on inputs; in the conception of natural assets as patrimony of the peasant family; in the management of complex and biodiverse agroecosystems - ecological flows at the level of the rural territory;

In this context, Solidarity Economy emerges as an alternative mode of production, distribution, consumption and coexistence to capitalism, marrying the principle of unity between ownership and use of the means of production and distribution, thus organizing workers in cooperative projects, such as such as: self-managed production units, or union of small producers for joint purchase and sale, fair trade networks, business incubators, exchange clubs, among many other experiences, supported by income generation in a fair, solidary and sustainable manner (SANTOS, BORINELLI, 2010).

In the decision-making process, the proper use of a management tool can significantly help the interpretation of qualitative information and support future decisions. In this sense, according to Rodrigues Júnior et al. (2017), 5W2H is a management tool that allows you to predict uncertainties and unforeseen events in the process unknown by the manager, while helping to collect, organize and analyze data.

The 5W2H method improves the planning of activities in a project. According to Moraes and Costa (2013), 5W2H is used in the mapping and standardization of processes, in the preparation of action plans and in the establishment of procedures associated with indicators. For Freitas (2013), this tool is summarized in answering seven questions - detailed in the methodology - about an action to be taken in order to obtain information that will support planning in general.

Seeking preventive measures to improve management, some studies in the social area are being developed with

the aim of contributing to the decision-making process in social enterprises. Like Peres et al. (2015) who carried out a project to implement a family-based horticultural cooperative in the city of São Miguel do Oeste-SC. According to the authors, the relevance of the project was due to the fact that cooperatives help to reduce rural exodus, strengthen small farmers, making them competitive. Among the strategies outlined to develop the project, the authors used the 5W2H tool as a methodology for the action plan.

The results of the elaborated plan showed that it is feasible to implement a family fruit and vegetable cooperative in the city of São Miguel do Oeste-SC, emphasizing that the aim is to guarantee food production, expanding family farming, in addition to expanding the productive capacity to in order to supply the existing demand and reduce the rural exodus, keeping young people in the countryside.

The article by Silva et al. (2016) dealt with the experience report and the methodological process of incubation of Solidarity Economic Enterprises, which had been carried out at the Solidarity Economy, Development and Social Technology Incubator – Itecsol Unijui. The authors developed a bibliographic and documental research, in addition to an action research to systematize and socialize the practices developed by solidarity enterprises using the 5W2H tool.

The aim was to meet the demands of groups belonging to the handicraft, recycling, family farming and sewing sectors, making them available to different interested audiences for evaluation and contribution. The results showed that the incubation of solidary enterprises is a didactic, pedagogical and methodological process, which requires permanent planning, monitoring and feedback.

Servat (2016) conducted a study that aimed to propose and apply a diagnostic tool for family farming cooperatives advised by Emater/RS. The action research also used, among others, the 5W2H method to outline diagnostic actions. For the author, cooperatives play a fundamental role in the economic and social context of the communities in which they are inserted.

Therefore, a diagnostic instrument was developed covering the areas of organizational management, people management, finance, costs, marketing, planning, production control, environmental and sanitary management that met the characteristics of the cooperatives in the study and thus provided for the development of same and subsequent applications by other institutions.

Among the results, the author identified that the proposed instrument meets the organizational

characteristics of family farming cooperatives, both for the initial diagnosis for planning, and for the elaboration of a plan for improvement and development of specific actions in each area of a cooperative, thus achieving better performance.

The research by Weide (2016) aimed to develop an action plan to minimize damage to the production of the Rural Association of Lajeado. Therefore, the author used the exploratory-qualitative methodology with interviews and observation. The study addressed concepts and characteristics of materials management, such as: internal logistics, receiving, storage, packaging, processes, process improvement, training and the 5W2H methodology. The research results showed that it is a relevant tool for the enterprise, as opportunities were developed to seek strategies for planning, understanding and managing internal logistics processes, in order to minimize costs.

The "Pedagogical Rural Tourism in the Community of Marrecos in Lagoa de Itaenga-PE" is the study carried out by Silva et al. (2017). The research was carried out in a participatory manner with the community of Marrecos. Thus, a Pedagogical Rural Tourism project was presented to the community as a possible source of extra income for its residents and a didactic proposal for students from the 5th to 9th grades of private schools in the city of Recife. Management tools, such as 5W2H, were used to support the planning of actions, such as the visual identity, the financial and economic-financial feasibility plan, the marketing plan and the execution plan.

The study's conclusions show that Pedagogical Rural Tourism can become an opportunity for the balanced and sustainable growth of the community, as it includes: proposals that seek the most efficient use of resources; greater community involvement in the developed actions and encouragement to form partnerships that contribute to the project's success.

Oliveira Filho (2018) developed a qualitative exploratory research and aimed to analyze conceptual and methodological elements that contribute to the planning of agroecological production based on management tools such as the 5W2H. In addition, a literature review was carried out on agroecology and production management, as it is understood that these are areas with great potential to contribute to training strategies and organization of cooperative work in the field. The author noted that the study was emancipatory, creative, in which the activities of conception, planning and execution are inseparable, as well as an imminent need to articulate agroecology and production administration for self-management.

Viana et al. (2019) developed a study that aimed to present the development of an organizational strategic plan

with the purpose of identifying and solving problems existing in the Centro Mulheres de Barro cooperative, located in Parauapebas in the state of Pará. The methodology adopted in the study was the interview, and management tools were worked on to support strategic planning, including the 5W2H.

The results of the study by Viana et al. (2019) indicated that, through planning, it was possible to identify the difficulties of the cooperative as well as its qualities. In view of this, strategies and an action plan were drawn up that will enable better management and direction of processes and activities, cooperating for growth, strengthening and the solution of future problems.

Given the above, It is important for society to have access to information regarding the conduct of more sustainable agricultural practices and self-management tools, as well as the marketing and production of products based on the principles of Solidarity Economy. To this end, techniques that help the process of inserting educational materials that deal with such topics help in the dissemination of knowledge. In this context, this study aims to prepare an action plan for the development of educational material on Solidarity Economy and Ecologically Based Agriculture as a contribution to territorial development. For the action plan for the development of educational material, the 5W2H method was used.

## II. RESULTS AND DISCUSSION

To support the action plan, the "preparation and implementation of an educational video to strengthen the Solidarity Economy and Ecologically-Based Agriculture" was used as the META, using the 5W2H method, including the stages of development of the initial prototype, analysis of circumstance for validation, with intervention in a real environment, and changes in the prototype to obtain the final product, whose details of the actions are shown, according to the method, in Table 1.

Table 1: 5W2H method for educational video

What to do? What action will be taken?	Who? Who will execute/participate in the action?	Where? Where will the action be taken?	When? When will the action be taken?
Market research and analysis	03 PhD students from PPGADT/Univasf and Students from the Agricultural and Agricultural Sciences Courses at IFBaiano, Senhor do Bonfim.	Instituto Federal Baiano – IFBaiano, Senhor do Bonfim campus (online)	November 2020
Conducting bibliographic research to build the video script	03 PPGADT/Univasf PhD students	Databases of scientific articles and booklets available related to solidary enterprises	December 2020
Script writing with lines and characters	03 PPGADT/Univasf PhD students	Individual studio of the three PPGADT doctoral students	December 2020
Creation of scenes, with selection of images and speech recordings	03 Doctoral students of PPGADT/Univasf	Individual studio of the three PPGADT doctoral students	December 2020
Joining the scenes and creating the video opening vignette (part of the prototype)	Doctoral Student 1 of PPGADT/Univasf	PPGADT doctoral student 1 central studio	December 2020
Application of questionnaires to experts to analyze possible changes in the material or prototype.	03 PPGADT/Univasf PhD students and PPGADT professors/students (Agronomers, Pedagogues, Biologists, etc.)	During the seminars of the discipline of Basic Agroecology and Markets	December 2020
Establish partnerships	03 Doctoral students of PPGADT/Univasf, CESOL / Pro Semiárido / Bahiater de Senhor do Bonfim	Through contacts with representatives of the aforementioned organizations	February 2021
Disclosure of the video	03 PhD students from PPGADT/Univasf and	Conversation wheels, radios, blogs and	March 2021

Why Because? Why will the action be taken?	How Like? How will the action be carried out?	How Much How much? How much does it cost to perform the action?
To understand the needs of the target audience	Google form online forms (contact maintained by the classroom teacher (Wellington Dantas)	No expenses involved
To support the theoretical support of the theme. Materials were collected with authors and reference entities in the subjects	Search on websites of non-governmental organizations and databases of scientific articles	No expenses involved
Subsequently simplify the dissemination of technical content in a language accessible to the target audience.	Through Zepeto apps and voice recorders	Investment in application subscription, R\$50.00
Subsequently simplify the dissemination of technical content in a language accessible to the target audience.	Through Zepeto apps, voice recorders.	Investment in application subscription R\$50.00
Later post on video platforms, distribute on social networks and scientific events, in order to facilitate the understanding of the themes for the communities (target audience)	Through Zepeto apps, voice recorders and Kinemaster Video Editor	Investment in application subscription R\$50.00
For technical and scientific validation of material/content	Online quiz (google forms)	No expenses involved
To enable communication and inclusion of the target audience in the project	With lectures and seminars on the themes	Travel and food expenses R\$150.00
To expand project actions	Radio interviews, blogs and dissemination of materials on social media	Travel and food expenses R\$150.00
To monitor the dissemination and breadth of content	Access control and partner feedback	No expenses involved (online)
Seek to understand the perception and acceptability of the material made available	Google form online forms (contact maintained by the classroom teacher (Wellington Dantas)	No expenses involved

The research was carried out by three doctoral students from the Postgraduate Program in Agroecology and Territorial Development (PPGADT) at the Federal University of Vale do São Francisco (UNIVASF). The action plan started in November 2020 and will be completed in June 2021. The first stage took place during the month of November with a market survey (first item of the 5W2H method) to understand the needs of the target audience. The online questionnaire with the market research was answered by 60 students from the Higher Course in Agricultural Sciences and the Technical Course in Agriculture, both from the Federal Institute of Bahia (IFBaiano), Senhor do Bonfim campus.

In addition, 06 professionals who work in Non-Governmental Organizations, Educational Institutions and Rural Extension Agencies participated in the survey. It is noteworthy that a significant part of the participants did not fill in the justifications for the answers "YES" and "NO", thus a summary with the main open answers will be presented. The questionnaire was carried out through a circumstance analysis, as shown in table 2:

**Table 2: Circumstance Analysis for the Implementation of the Educational Video**

<b>DESIGNER(S):</b> 03 PhD students from PPGAD I/UNIVASF	<b>MONTH:</b> 11/2020
<b>CIRCUMSTANCE</b>	
<ul style="list-style-type: none"> <li>• <b>Family farmers/Solidarity Economy entrepreneurs:</b> When I want to improve productivity on my site, I have difficulty finding information to help me apply more efficient alternatives to earn income and conserve nature. I also have obstacles to commercialize my products and form partnerships with other farmers, strengthening our production process.</li> <li>• <b>State/Social Organizations:</b> When we carry out interventions in rural communities to contribute to: improving the quality of life of rural people; to encourage the appreciation and permanence of young people in the countryside, we need educational materials with a language that facilitates the understanding of the themes addressed.</li> <li>• <b>Country youth:</b> When I think about my future, I am unsure of continuing to work in the field with no prospect of growth I feel like having more knowledge in my formative process, about more current changes on how to progress in my place of origin.</li> </ul>	

The questionnaire was initially directed to students. Thus, when asked about "the difficulty in finding information about ways of living in the field", question 1 brought 58% of students reporting difficulties and 42% reporting no difficulties. Students who answered "NO" were analyzed in two categories and the summary of the main answers is shown in sequence:

- Category 1: They consider they have no difficulties in finding information about living in the semiarid region, stating that they can easily find these materials on the internet and in books:
- Category 2: They consider that they have no difficulties in finding information about coexistence in the semiarid region, as they live in the rural area, which leads to the understanding that, in a way, they already understand some production techniques that are passed on by family members.

Students who answered "YES" were analyzed in three categories and the summary of the main answers is presented as follows:

- Category 1: They claim that there are few materials on the subject on the internet:
- Category 2: They claim that there are few materials and they also present a language that is not easy to understand:
- Category 3: It is not interested in looking for this type of materials:

Regarding question 2 on the question "do the educational materials you find about agriculture and entrepreneurship present an understandable language?", 43% of the students answered "NO" and 57% answered "YES". Thus, the negative responses were analyzed into 3 categories, and the summaries of the main evidence are presented as follows:

- Category 1: The material as a whole has a formal language, as they are academic texts, such as: scientific articles, Course Conclusion Work, among others.
- Category 2: The materials are difficult to understand as they have technical terms that are not yet familiar.
- Category 3: Materials are difficult to understand in general, this category covers different materials.

Regarding the students who answered "YES", it was only possible to extract the results of the open question from the information that summarizes to this statement: "books and blogs demonstrate that they have a very accessible language for all audiences".

When asked if "they received stimuli to stay in the field", question 3, more than half of the students answered "YES" (58%) and 42% answered "NO". In this sense, it was possible to extract additional answers only for the "YES" respondents, and their answers were analyzed in 4 categories:

- Category 1: He receives the encouragement to stay in the countryside through his family.
- Category 2: Self-motivated, as he enjoys country life.
- Category 3: Stimulus through knowledge gained through the educational institution or other sources.
- Category 4: Stimulus to stay in the countryside due to good infrastructure conditions or financial assistance.

Finally, the students were asked as follows in question 4: "If you could choose ways to access information on topics related to living in the countryside, which of these would you choose?" As participants could mark more than one option, the answers that stood out the most were: Videos (92%), Manuals (37%), Booklets (27%), Scientific Articles (23%), in addition to books, conversation circles, reports, among others, which revolved around 2 and 3%.

In this item, it is observed that most students prefer video as a source of learning for living in the field. It is therefore concluded that the product in video format will have a good acceptance by the young people in the field, as evidenced in the market research.

The second part of the research presents the answers of professionals who work in Non-Governmental Organizations, Educational Institutions and Rural Extension Agency, totaling 6 responses collected, however it is important to highlight that in some items the total of responses is less than this amount.

Question 1 asked whether the participants had difficulties in finding information about ways of living together in the field. 5 interviewees said they had no difficulties, only one respondent answered "YES", but he did not justify it. This facility to find material is due to the function they play in their respective work, working directly with rural extension. Continuing, question two asked whether educational materials on agriculture and entrepreneurship present an understandable language. In this regard, three professionals answered "YES", the main points being justified as follows:

- I use booklets and folders made directly for this audience.
- Especially material produced by NGOs that provide advice to family farmers.
- There is an effort by people who write about this theme to make themselves understood by their readers because of their basic training (the vast majority)

Regarding the professionals who answered "NO" only one justified that "language is always accessible". Based on the answers shown in question 2, it is clear that the materials found have accessible language, and the booklet is an example of this modality of access to information.

Question 03 asked the interviewees "What do you consider as a motivator(s) for the permanence of farmers and young people in the field?". The open question collected the main answers:

- Generate their own income and better quality of life.

- Public policies for social inclusion focusing on rural youth.

- New ways of generating income, working with beekeeping, working with cooperation for animal processing, etc.

- To guarantee the permanence of families and young people in the countryside, it is essential that a set of actions, programs and public policies are implemented aimed at meeting the needs of families. In this process, it is essential to ensure access to land, so that these families can be advised (by ATER entities), it is also essential for young people to have access to contextualized education.

- Putting myself in the place of young people in the countryside, I don't see motivation.

- Agricultural and non-agricultural activities that generate income, cultural and sports activities.

Thus, it can be inferred that income generation is presented as the main motivation for the permanence of farmers and young people in the countryside, as well as the implementation of public policies focused on rural youth. Finally, the participants were asked about the resources (videos, manuals, booklets, scientific articles) that they consider to present accessible language for training on living in the field. The results are presented below:

In this item, it is observed that most professionals prefer video and booklet as educational materials, to be used in training on living in the field. It is then concluded that the product in video format will have a good acceptance and recommendation by professionals who work in Non-Governmental Organizations, Educational Institutions and Rural Extension Agency. The results of the second part of the research corroborate the findings of the first part of the circumstance analysis, showing, in this case, the educational video as a recommended instrument to meet the needs of the researched population.

Given the results, it was evident that there is indeed interest in the proposed material. This step is extremely important to avoid efforts and costs to produce something that the target audience will not absorb. This happens when it is considered only an idea that the target audience is interested, but the circumstance analysis for validation is not performed.

Thus, after proper analysis of the circumstances for the validation process, the action plan outlined through the 5W2H was continued, following the steps established in the methodological proposal, with the educational video being validated during the seminars of the discipline of Basic Agroecology and PPGADT/Univasf Markets in the last school week of the year 2020.

Finally, the future steps, as shown in table 5W2H, are related to establishing partnerships to enable communication and inclusion of the target audience in the project; promote the educational video through conversation circles, radios, blogs and social networks aimed at expanding the project's actions; monitor the acceptability of the product and carry out new market research to make the necessary decisions to streamline the action plan.

That said, the action plan allowed a macro and prior vision of the actions needed to develop educational material for the purpose of promoting ecologically-based agriculture, including actors involved, identification of possible infrastructure or financial resource needs, and also containing descriptions of how to carry out and who can be responsible for each action to be developed in a manner fast and simple. In addition, the action plan contributed to the success in achieving the goal, with the elimination of rework or failures due to limiting steps that are the basis for the next steps, that is, it promoted the self-management of this socially-based project, whose methodology and results can serve as a reference for achieving new goals, especially those linked to solidarity economy and ecologically-based agriculture.

### III. CONCLUSION

Contemporaneity demands, from society, a way of thinking and acting that lead to more sustainable existential behaviors and attitudes, which are allied to the processes of economic and social development. It is a fact that the construction of a more aware society involves access to information and knowledge, from the various sectors that meet the daily demands, for the continuous improvement of the quality of life.

In this study, it was possible to verify that the elaboration of a proposal for a Social Base business model, using the 5W2H method, for the production of a video as educational material, on the themes of Solidarity Economy and Ecologically Based Agriculture is shown to be positive considering that it allowed to define the best strategies for planning each action to be performed, whose prior vision enables the anticipation and solution of challenges that could make the proposal unfeasible or generate rework, when identified only in the long term.

On the other hand, it was possible to verify the acceptance of the product by the target audience, as an educational tool that meets their needs for a material that presents an intelligible language and can be accessed online on free digital platforms; as well as promoting sustainability in local production units that add value and strengthen the identity of crops originating from family

farming; and territorial development, with the socialization of information that favors the creation of collaborative networks, the economy and integrates actions and partnerships in a collective and solidary way.

Furthermore, it is expected that the methodology and results, described and discussed in this chapter, can contribute to the success of new social projects, especially those aimed at promoting the solidarity economy and/or ecologically-based agriculture, which in fact constitute necessities communities, as this directly impacts the acceptance of new social technologies. It concludes with the following sentence: No matter how complex and beautiful a technology is, there is no merit in producing something that the community is not interested in, that is, that it does not need at that moment in their lives or in those circumstances.

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