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Article

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Abstract

This research investigates how community participation can be enhanced to support the sustainable reconstruction of residential heritage in the Old City of Aleppo. In the aftermath of the Syrian war, reconstruction interventions on traditional courtyard houses have been affected by several issues, such as a lack of knowledge among junior architects and craftsmen (regarding houses' conditions, relevant regulations, and residents' needs), and limited residents' participation in decision-making processes. Drawing on international experiences in similar post-war contexts that highlight the role of education and a participatory approach as critical components for sustainable reconstruction efforts. This research conducts a comparative analysis of several international capacity-building and co-creation initiatives to identify effective methods of stakeholder engagement. Building on these findings, the study proposes an education programme tailored to the socio-cultural and regulatory context of the Old City of Aleppo. The proposed programme integrates academic knowledge with community perspectives using validated teaching and participatory methods, such as photovoice, walkthrough, and lectures etc., within a co-creation framework. It aims to raise awareness, build capacity, and enable residents through participation in all phases of the programme: co-diagnostic, co-design, co-implementation and co-monitoring. This way, residents are empowered to play an active role in interventions on residential heritage and to align these interventions with their needs and current regulations. Thus, the research presents a scalable model for cultural and socially sustainable residential heritage reconstruction.

Keywords: residential heritage; post-Syrian-war; reconstruction; the Old City of Aleppo; education; capacity building; co-creation; participation

1. Introduction

Since 2012, the Syrian civil war has caused huge destruction in the Old City of Aleppo, threatening its residential heritage and resulting in the displacement of its residents [1,2]. Residential heritage "traditional courtyard houses" form the majority of the 16,000 buildings in the Old City of Aleppo [3]. The houses represent the only type of historical residential buildings in the Old City of Aleppo. These houses are organised around an internal courtyard and comprise one or two floors, featuring a design marked by the simplicity of the external facades, with the richness of the internal facades. These houses vary in size and historic significance. However, international organisations and local authorities in the Old

City of Aleppo have paid attention mainly to its iconic monuments, neglecting its residential heritage. After the end of fighting in the Old City of Aleppo in December 2016, there was an urgent need to reconstruct the traditional courtyard houses to provide shelter for returning residents and refugees. Since 2017, residents have implemented various interventions in the traditional courtyard houses, often without the required licences. Unfortunately, these interventions have not succeeded in preserving the value of residential heritage [4]. Next to the urgency of reconstruction, the main reasons for this circumstance are a lack of documentation of the traditional courtyard houses' conditions and values, and a lack of information about the residents' needs, exacerbated by the lack of residents' participation in the decision-making process. Both factors align with a lack of awareness of the value of traditional courtyard houses and the associated regulations among residents [5]. The lack of technical and legal knowledge among junior Syrian architects (licensed architects and practitioners) and the lack of knowledge of traditional construction methods among Syrian craftsmen have further compounded these difficulties [5]. The current situation of the residential heritage in the Old City of Aleppo highlights the urgent need for targeted solutions to tackle these reconstruction[1] challenges.

In [6], the authors reviewed and analysed international approaches that address post-war reconstruction of residential heritage in comparable situations, to gain insights into the legal, administrative, social, and economic factors that influence such a process, specifically best practices, potential solutions, and lessons learned, that can support the post-Syrian-war reconstruction of residential heritage. The international comparative research showed that, in most cases, these solutions have involved the residents taking a central role and have applied specialised training programmes to share knowledge of traditional techniques and build capacity [6]. More specifically, in the cases of Dubrovnik and Mostar, a survey of the damage and the creation of an archive that includes architectural details, texts, photographs, maps, and surveys of historic buildings has provided a valuable reference for reconstruction efforts and intervention criteria [7,8]. In the cases of Mosul and Kabul, records of oral history, dialogue about residents' past, traditional knowledge, and communal memories associated with the site have been effective solutions to preserve valuable heritage [9,10]. Other important solutions that have had a positive impact on understanding and solving problems are attention to residents' needs and involving them in decision-making through questionnaires, surveys, interviews, and consultation, as in the cases of Nablus and Kabul [9,11]. Similarly, participatory planning exercises with municipal staff and community representatives have been shown to be an effective way of identifying priority issues, as in the case of Kabul [9].

Involvement of different stakeholders through training programmes has been shown to be particularly effective. For example, the partnership between local groups and international organisations, as done in Dubrovnik, has ensured that restorers possess the necessary knowledge and skills to undertake damage assessments and restoration work [7]. Similarly, in the case of Mostar, the collaboration between different stakeholders had a positive role in the dissemination of knowledge of traditional construction methods among residents and professionals through training and helped to preserve the traditional building techniques and materials [12]. In the case of Kabul, the appointment of skilled craftsmen for the training of young professionals has resulted in the successful transfer of traditional knowledge to younger generations [9]. A similar training program had a positive economic impact in the case of Mosul, by creating employment prospects [10].

In summary, the adoption of inclusive, community-driven solutions that prioritise education and active participation has played a crucial role in the reconstruction process.

Starting from this evidence of the relevance of the need and efficacy of community driven approaches, this research reviews capacity-building programmes and co-creation

projects (Section 3 and 4) and it proposes an educational program for the empowerment of relevant stakeholders (residents, architects, and craftsmen) [13], aiming at improving the quality of interventions in the traditional courtyard houses in the Old City of Aleppo. The main aim and distinctive character of this program is co-creation, by connecting education with the active participation of residents in all phases of the program.

2. Methodology

The research methodology consisted of a review and analysis of annual reports, catalogues, funded projects, summary documents, research publications, and the websites of capacity-building and co-creation courses and projects. The research was conducted in two distinct rounds (Figure 1).
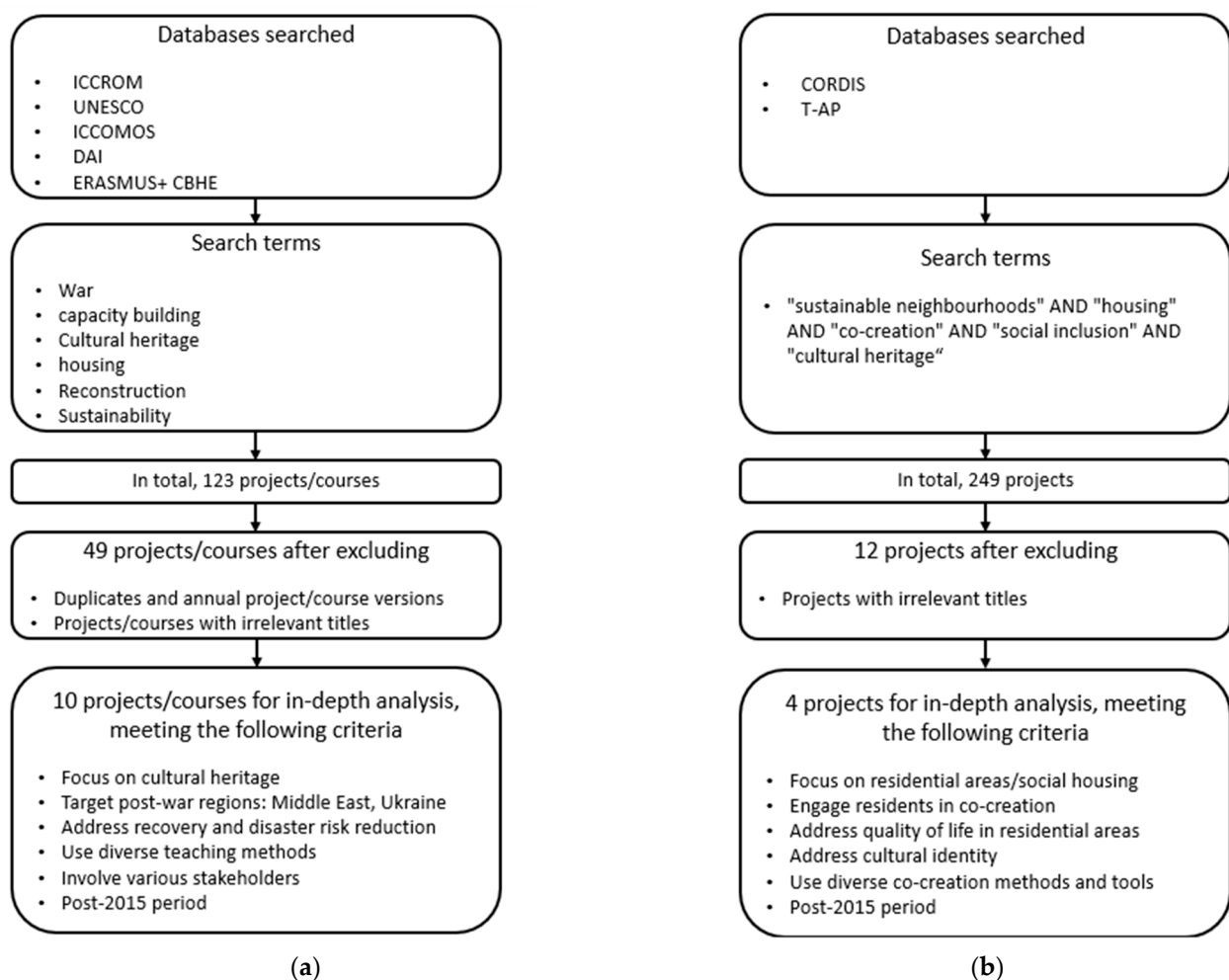
Figure 1. (**a**) First review and analysis round: selection of international capacity building projects and courses; (**b**) second review and analysis round: selection of international co-creation projects.

The first round of review and analysis involved screening capacity-building projects and courses developed in the framework of international initiatives that promote cultural heritage preservation through education and building capacity. The databases searched included ICCROM, ICOMOS, UNESCO, German Archaeological Institute (DAI), and ERAS-MUS+ Capacity Building in Higher Education (CBHE) official websites, and the search terms used were as follows: war, capacity building, cultural heritage, housing, reconstruction, and sustainability. These terms were used separately to ensure comprehensive coverage of the literature. In total, 123 projects were identified. After excluding dupli-cates and sources with irrelevant titles, 49 were left, which were screened based on the

abstract/summary. Among these, ten projects and courses were further selected for a more in-depth analysis; the criteria behind this selection of these projects were the following:

- focus on cultural heritage; target post-war regions, mainly the Middle East and Ukraine;
- address recovery and disaster risk reduction;
- use diverse teaching methods, including digital formats, online lectures, workshops, practical sessions, and field visits;
- involve various stakeholders;
- focus on the post-2015 period, as it follows the Arab Spring and marks a period of initiatives to protect Middle Eastern heritage.

During this analysis, it became clear that, although these initiatives addressed different stakeholders, they often lacked a strong participatory approach and did not actively involve residents. Therefore, the research was expanded with a second round of review and analysis, in which participatory co-creation initiatives were considered. In this second round, projects were identified among international initiatives that implemented participatory co-creation practices and empowered local communities (participatory design process) in the process of designing interventions in the housing sector (residential areas and housing projects). The databases searched were Community Research and Development Information Service (CORDIS) and the Trans-Atlantic Platform for Social Sciences and Humanities (T-AP). The following search terms were used: co-creation, social inclusion, housing, sustainable neighbourhoods and cultural heritage. These terms were combined, e.g., "sustainable neighbourhoods" AND "housing" AND "co-creation" AND "social inclusion" AND "cultural heritage" to capture specific intersections relevant to the research focus. A total of 249 projects were identified; after excluding projects with irrelevant titles, twelve projects were left, which were screened based on the abstract/summary. Among these, four projects were further selected for a more in-depth analysis; the criteria behind this selection were the following:

- focus on residential areas and/or social housing;
- engage residents in co-creation;
- address quality of life in residential areas
- address cultural identity
- use diverse co-creation methods and tools
- focus on the post-2015 period.

The results of this review and the knowledge of the specific situation in the Old City of Aleppo gained in previous research [4,5] were the basis for the educational programme developed in this research.

3. Results from the Analysis of Capacity-Building Projects

The curricula of ten capacity-building projects and courses were selected (Table 1), according to the criteria specified in Section 2. The curricula were analysed by considering: the methodological framework, the stakeholders addressed, the teaching methods used, and the educational scope.

Table 1. Overview of reviewed capacity-building projects.

International Initiative (Project/Course)	Year	Scope	Organized/Funded	The Geographic Area Addressed	Reference
Traditional Craft Heritage Training, Design and Marketing in Jordan and Syria (HANDS)	2019–2022	Traditional vocational crafts	ERASMUS+	Syria and Jordan	[14]
Heritage: Beyond Walls	2021	Cultural heritage recovery, peacebuilding, and development	Fondazione Santagata and UNESCO	Syria	[15]
Cultural Heritage Documentation Using Qfield	2021	Software for cultural heritage documentation in crisis	German Archaeological Institute (DAI)	Middle East and North Africa	[16]
First Aid and Resilience for Cultural Heritage in Times of Crisis (FAR) Project/Courses: International Training	2021	Reduce disaster risk for cultural heritage during crises for early recovery	ICCOROM and ICOMOS	Global	[17,18]
Heritage Recovery Programme in Mosul	2021–2022	Building back better	ICCOROM, UNESCO and Fondazione Santagata	Global (Arab States)	[19]
Documentation of Cultural Heritage Using GIS	2022	Software for cultural heritage documentation in crisis	German Archaeological Institute (DAI)	Middle East and North Africa	[20]
International Training Course (ITC) on Disaster Risk Management of Cultural Heritage	2023	Develop disaster risk management plans for cultural heritage sites	ICCOROM	Asia	[21]
Capacity Development in Ukraine	2023	Disaster risk reduction, emergency preparedness, and documentation	ICOMOS, ICCROM and UNESCO	Europe (Ukraine)	[22]
Capacity Building (CB) for Holistic, Sustainable and Resilient Heritage Recovery of Mosul	2024	Co-creation for cultural heritage recovery in crisis	UNESCO and ICCOROM	Mosul (Iraq)	[23]
International Training Course on Post Crisis Recovery of Cultural Heritage	2024	Protect and restore cultural heritage in conflict and disaster-affected areas	ICCROM, Fondazione Santagata and ALIPH Foundation	Global (Africa, Asia, Europe, and the Middle East)	[24]

3.1. Methodological Framework: Educational Structures in Capacity-Building Projects

The analysis shows that all courses share a common methodology. They cover both formal and non-formal educational types: formal education, which takes place within universities and is organised by age groups, and non-formal education, which takes place outside universities but still involves structured learning. Generally, each course is divided into modules or units, and, in turn, each module or unit covers specific topics related to the course objectives. Foundational concepts are introduced first, before moving on to more

complex or advanced topics. Each course has clear learning objectives and specifies what participants should know or be able to do by the end of the course. In this context, most of the analysed projects and courses follow a top-down approach. However, the "First Aid and Resilience for Cultural Heritage in Times of Crisis (FAR) Project: international training" stands out by combining research, training, and field applications, though its overall structure remains a top-down and expert-driven approach [17,18]. This project aligns with the design thinking model and its five phases: empathise, define, ideate, prototype, and test, which together emphasise understanding user needs through empathy, generating solutions collaboratively, and improving them through iterative testing and refinement [25]. Another example is the "Capacity Building (CB) for Holistic, Sustainable and Resilient Heritage Recovery of Mosul" course, which aligns with the design thinking model and its five phases [23] (Figure 2).

Design Thinking Phases	Empathize	Define	Ideate	Prototype	Test
FAR for Cultural Heritage in Times of Crisis	Concept and policy	Research and development in the field	Training community of practice	Training instructor+ application	Feedback and co-creation
CB for Holistic, Sustainable and Resilient Heritage Recovery of Mosul	Orientation	Fundamental recovery tools + Expertise	Recovery planning	Recovery implementation	Recovery monitoring

Figure 2. The application of design thinking phases in the "First Aid and Resilience for Cultural Heritage in Times of Crisis (FAR) Project: International Training" and the "Capacity Building (CB) for Holistic, Sustainable, and Resilient Heritage Recovery of Mosul".

This first round of review and analysis highlights the potential of the design thinking model as a promising methodology in the development of a participative approach for the reconstruction of residential heritage in the Old City of Aleppo. This model is valuable as it offers a structured and flexible approach, ensuring that reconstruction efforts address both physical aspects and community needs, which are often neglected in top-down approaches.

3.2. Stakeholders in Capacity-Building Projects

The "First Aid and Resilience for Cultural Heritage in Times of Crisis (FAR) Course: international training" provides two key criteria for identifying relevant stakeholders: (1) their level of influence on decision-making (low, medium, high) and (2) the strength of their relationship with the community (weak, moderate, strong). These criteria will be adopted in this research as well.

The different courses/projects reviewed address different stakeholders (Table 2). For example, the (FAR) course considers professionals with three to five years of professional experience in the field of cultural heritage (mid-career). The teaching team delivering the (FAR) course consists of international experts who have experience in the rescue and safeguarding of heritage during emergencies [17,18]. The "Traditional Craft Heritage Training, Design, and Marketing in Jordan and Syria (HANDS)" targets undergraduate students in architectural design, interior design, and conservation and preservation of architectural heritage, and the teaching team includes faculty of the partner universities [14]. The "Capacity Building (CB) for Holistic, Sustainable and Resilient Heritage Recovery of Mosul" targets (non-resident) stakeholders, including early-career experts, mid-career professionals, university students, graduate students, and local government authorities [23].

Table 2. Overview of stakeholders involved in the reviewed capacity-building projects (grey shading indicates the stakeholders targeted in each project).

International Initiative (Project/Course)	Stakeholders				
	Experts	Professionals (Incl. Architects, etc.)	University Students (Incl. Architects, etc.)	Representatives of the Municipalities, etc.	Craftsmen
Traditional Craft Heritage Training, Design and Marketing in Jordan and Syria (HANDS)			■		
Heritage: Beyond Walls			■		
Cultural Heritage Documentation Using Qfield	■				
First Aid and Resilience for Cultural Heritage in Times of Crisis (FAR) Project/Courses: International Training		■		■	
Heritage Recovery Programme in Mosul		■			■
Documentation of Cultural Heritage using GIS	■				
International Training Course (ITC) on Disaster Risk Management of Cultural Heritage		■			
Capacity Development in Ukraine		■			
Capacity Building (CB) for Holistic, Sustainable and Resilient Heritage Recovery of Mosul	■	■	■	■	
International Training Course on Post Crisis Recovery of Cultural Heritage		■			

Summarising, it can be concluded that these capacity-building initiatives are adapted to different stages of professional development, including professionals, experts, and students. However, an approach to involving residents as active stakeholders, especially in knowledge exchange, remains limited or underdeveloped.

3.3. Teaching Methods

Most of these projects/courses use a variety of teaching methods to transfer knowledge (Table 3). For example, the "Cultural Heritage Documentation Using Qfield" course uses online live lectures and practical training sessions to teach participants how to use the QField software for cultural heritage documentation [16]. These methods are effective for teaching digital tools that require both conceptual understanding and practical experience in resource-limited contexts. The "First Aid and Resilience for Cultural Heritage in Times of Crisis Course: International Training" uses group discussions, demonstrations, interactive lectures, site visits, case studies, and simulation [17,18]. This combination of teaching methods strengthens the participant's learning experience and soft skills, such as working in a team and communication with others in times of crisis, which are often overlooked but are crucial in war-torn contexts. The "International Training Course (ITC) on Disaster Risk Management of Cultural Heritage" course incorporates a hybrid mode comprising both online and on-site methods, such as fieldwork, online live sessions, workshops, lectures, site visits, and mentoring sessions for participants' case study projects [21]. Besides, using a combination of methods, mentoring sessions for case study projects enable (non-resident) stakeholders from various regions to obtain support and participate in contextual case

study development. This adaptability of the case study makes it suitable for application in post-war contexts and private case study development.

Table 3. Overview of the classification of methods used in the reviewed capacity building (grey shading indicates the methods used in each project).

International Initiative (Project/Course)	Methods Used in Capacity-Building Projects/Courses								
	Lecture (Hybrid/Live Online)	Practical Training (Onsite/Online)	Site Visits	Case Studies	Classroom Exercises	Group Discussion	Fieldwork (Analysis/Documentation, etc.)	Workshop	Pilot Project
Traditional Craft Heritage Training, Design and Marketing in Jordan and Syria (HANDS)	▓	▓							
Heritage: Beyond Walls	▓								
Cultural Heritage documentation using Qfield	▓								
First Aid and Resilience for Cultural Heritage in Times of Crisis (FAR) Project/courses: international training		▓		▓			▓		
Heritage Recovery Programme in Mosul	▓						▓		
Documentation of Cultural Heritage using GIS	▓								
International Training Course (ITC) on Disaster Risk Management of Cultural Heritage	▓			▓			▓		
Capacity Development in Ukraine	▓							▓	
Capacity Building (CB) for Holistic, Sustainable and Resilient Heritage Recovery of Mosul	▓			▓	▓	▓			
International Training Course on Post Crisis Recovery of Cultural Heritage	▓							▓	

Most common teaching methods are: (i) lectures (9 out of 10 projects/courses use them), in online, live, interactive, and hybrid form. Lectures are used for structured dissemination of essential information (e.g., legal frameworks, heritage values) to participants; (ii) practical training (6 out of 10 projects/courses) meant to facilitate translation of theoretical content into tangible interventions. This method is especially beneficial in heritage contexts where understanding construction techniques, materials, and site conditions is essential. (iii) Case studies (3 out of 10 projects/courses) aiming at enabling participants' engagement with real-world scenarios.

Despite the large variety of teaching methods, these primarily remain formal and top-down. Residents are not involved as active stakeholders and co-creators of knowledge.

3.4. Educational Scope of Capacity-Building Projects

Each course has been designed to cover a specific educational scope, such as enhancing disaster risk management skills, raising awareness of cultural heritage as a resource for development and recovery, or documenting cultural heritage using various software. For

instance, the "Capacity Development in Ukraine" aims to strengthen the knowledge and expertise of Ukrainian heritage professionals in disaster risk reduction and emergency preparedness [23]. The "Heritage: Beyond Walls" course seeks to break isolation by creating an online platform for Syrian university students to improve access to knowledge resources on cultural heritage [15].

Summarising, the educational scope of the analysed projects and courses reflects the potential of education to meet different learning needs and goals and reach a diverse audience. However, despite the broad variety of educational scope, none of the analysed projects and courses focus directly on residential heritage, but their structural models offer adaptable components, and there is a potential for organised instruction can be made relevant and practical for residents by tailoring these components to the specific historical, social, and residential fabric.

4. Results from the Analysis of Co-Creation Projects

In the second round of literature research, four co-creation projects were selected (Table 4), according to the criteria specified in Section 2. The curricula of these four projects were analysed by considering: the methodological framework, the stakeholders addressed, the participatory methods used, and the educational scope.

Table 4. Overview of reviewed co-creation projects.

International Initiative (Project)	Year	Focus	Organized/Funded	The Geographic Area Addressed	Reference
SUNRISE Sustainable Urban Neighbourhoods—Research and Implementation Support in Europe	2017–2021	Residential neighborhoods	HORIZON 2020	Bremen (Germany), Jerusalem (Israel), Malaga (Spain), Malmo (Sweden), Southend-on-Sea (UK), Thessaloniki (Greece)	[26,27]
CLEVER Cities—Co-Designing Locally Tailored Ecological Solutions for Value Added, Socially Inclusive Regeneration in Cities	2018–2023	Diverse urban spaces, ranging from abandoned lots to residential neighborhoods	HORIZON 2020	Milan (Italy), Hamburg (Germany) London (United Kingdom)	[28]
URBiNAT—Healthy Corridors as Drivers of Social Housing Neighbourhoods for the Co-Creation of Social, Environmental and Marketable NBS	2018–2024	Social housing	HORIZON 2020	Nantes (France), Porto (Portugal), Sofia (Bulgaria), Brussels (Belgium), Høje-Taastrup (Denmark), Nova Gorica (Slovenia), Siena (Italy), Khorramabad (Iran)	[29,30]
uVITAL—User-Valued Innovations for Social Housing Upgrading through Trans-Atlantic Living Labs	2020–2023	Social housing	The Trans-Atlantic Platform for Social Sciences and Humanities	Campinas (Brazil), Leipzig (Germany), Groningen (Netherlands), Northern Ireland (United Kingdom)	[31]

4.1. Methodological Framework: Design Thinking in Co-Creation Projects

The analysis shows that all co-creation projects share a common methodology that emphasises iterative processes that evolve from the initial identification of the problem to the evaluation of implemented solutions. All these co-creation projects were found to closely align with the design thinking model and its five phases, empathise, define, ideate, prototype, and test [25], despite grouping them and/or naming them in a different way [30,31]. (Figure 3). This indicates once again that the design thinking model can support understanding of user needs and the iterative process of design and testing of solutions throughout the co-creation process. These examples illustrate how the design thinking model can be effectively adapted to address real-world urban challenges.

Figure 3. The application of design thinking phases in the reviewed co-creation projects.

4.2. Stakeholders in Co-Creation Projects

Each of these four co-creation projects is designed to target a specific group of stakeholders (representatives of the municipalities, experts, professionals, and university students with different levels of experience), and residents of all ages, including schoolchildren (see Table 5).

In this context, the SUNRISE project provides an interesting way to categorise the influence of residents in participation processes depending on the levels of participation, depending on how much residents' interests are considered, and on the willingness of decision-makers to engage residents in information, consultation, and decision-influencing [26,27]. This classification aligns with the level of participation defined by the International Association for Public Participation (see Figure 4), a widely adopted international framework that aims to support the selection of the appropriate level of public participation in any participation process [32], and it will be considered in this work as well. Similarly, the URBINAT project highlights the four key roles that residents can play in participatory processes: the interacting role, focusing on communication and engagement; the group-oriented role, fostering collaboration and community building; the task-oriented role, centred on achieving specific objectives; and the production role, aiming at creating tangible outcomes [30]. These roles, together with an appropriate participation level, provide a practical framework for guiding residents' participation and ensuring that their participation becomes a real component of the planning and implementation process.

Table 5. Overview of stakeholders involved in the reviewed co-creation projects (grey shading indicates the stakeholders targeted in each project).

International Initiative (Project)	Stakeholders					
	Experts	Professionals (Incl. Architects, etc.)	University Students (Incl. Architects, etc.)	Representatives of the Municipalities, etc.	Residents	Schoolchildren
SUNRISE	▓			▓	▓	▓
CLEVER Cities		▓	▓	▓	▓	▓
URBiNAT	▓		▓	▓	▓	▓
uVITAL	▓	▓	▓	▓		▓

Figure 4. Levels of participation and related aims according to the International Association for Public Participation [32].

4.3. Participatory Methods

In the selected co-creation projects, a total of 55 participatory methods have been identified (as shown on the left side of Table 6). Each project applies its own selection criteria to determine which methods are most appropriate for its specific context. For example, the SUNRISE project selects participatory methods based on factors such as duration, purpose, target group, and the required level of participation for the specific phase of the co-creation process [26,27]. This highlights the importance of contextual adaptation in the selection of methods and the need for a flexible, criteria-driven selection.

After consolidating overlapping and closely related methods, 16 distinct participatory methods, out of a total of 55, were identified (as shown on the right side of Table 6). Table 7 highlights the projects in which these methods have been applied.

Table 6. Overview of participative methods used in the reviewed co-creation projects.

Methods Used in the Reviewed Co-Creation Projects	Main Method
Brainstorming, Brainstorming with experts, Brain Walking, Scenario Shopping Walkthrough	Brainstorming Walkthrough
Workshops, Co-creation sessions, Focus groups, Future Workshop, Mapping workshop, Open Space Event, World Café, Charrette	Workshop Sessions
Venn Diagrams, Living Diagrams	Venn Diagrams
Community Asset Mapping, Illustrative map	Mapping
Thematic and/or Geo-referenced crowdsourcing	Geo-referenced Crowdsourcing
NBS Card Game, Serious Games, Gaming Tools, SuperBarrio, Carousels, Illustrative Cards, Design Patterns, Artistic Approaches for Children	Games
Jury Members, Citizen Jury, Citizen Advisory Committee/Core Groups	Citizen Juries/Panels
Focus Groups, Strategic Mobility Assessment	Focus Groups
Questionnaire, Opinion Survey, Promoting the Living Lab and survey	Surveys/Questionnaires
Problem-tree analysis, Consensus Conferences, Dialogue Centre Tool	Problem-Tree Analysis
Field Trips, Site Visit	Field Trips
Photovoice, Photographic survey	Photovoice
Public Meeting, Round Table, Open Space Event, World Café, Dialogue Events, Information-Publication, Information Centre, Poll "Vote Your Favourite", Transport Visioning Event, Message Board	Public Events
Delphi Method	Delphi Method
Prototype, Physical experiments in place	Prototype

Table 7. Overview of the classification of methods used in the reviewed co-creation projects (grey shading indicates the methods used in each project).

International Initiative (Project)	Brainstorming	Walkthrough	Workshop Sessions	Venn Diagrams	Mapping	Geo-Referenced Crowdsourcing	Games	Citizen Juries/Panels	Focus Groups	Surveys/Questionnaire	Problem-Tree Analysis	Field Trips	Photovoice	Public Events	Delphi Method	Prototype
SUNRISE	▓		▓			▓						▓		▓		▓
CLEVER Cities	▓			▓				▓					▓	▓		▓
URBiNAT		▓			▓		▓							▓		
uVITAL	▓		▓					▓		▓						

These 16 methods have been categorised according to their purpose into six classes: Observation, Data Collection, Idea Generation, Discussions, Analysis and Visualisation, and Joint Practice, referring to the project phases in which they have been most commonly applied (see Table 8). These 16 methods have been assessed concerning their feasibility and level of participation they support, criteria critical for application in post-war residential heritage contexts (see Table 8).

Table 8. Co-creation methods categorised according to their main purpose, effort, required effort (low ● medium ●● and high ●●●, participation level, and phase of the process (1 = phase 1; 2 = phase 2, 3 = phase 3; 4 = phase 4) in which they have been applied; (grey shading indicates the participation level achieved by each method).

Method	Main Purpose	Effort Required	Participation Level and Phase (1–4) in Which the Method Has Been Applied				
			Inform	Consult	Involve	Collaborate	Empower
Walkthrough	Observation	●			1, 2, 4		
Field Trips	Observation	●●	1, 2, 3				
Survey	Data Collection	●		1, 2, 4			
Questionnaire	Data Collection	●●		1, 2, 4			
Delphi Method	Data Collection	●●●		1, 4			
Photovoice	Data Collection	●●		1, 4	1, 4		
Brainstorming	Idea generation	●		1, 2			
Brain walking	Idea generation	●●		1, 2			
Charrette	Idea generation	●●●		1, 2, 4	1, 2, 4	1, 2, 4	
Games	Idea generation	●		1, 2	1, 2	1, 2	
Citizen Jury	Discussions	●●●	1, 2	1, 2			
Consensus Conference	Discussions	●●●			2	2	
Focus Groups	Discussions	●		2	2		
Round table	Discussions	●●		2			
Geo-referenced Crowdsourcing	Discussions	●●			1, 2	1, 2	
Mapping	Analysis and Visualization	●		1			
Venn Diagrams	Analysis and Visualization	●●			1		
Problem-Tree Analysis	Analysis and Visualization	●●●			1	1	
Workshop	Joint practice	●●			1, 2, 3	1, 2, 3	
Prototype	Joint practice	●●●			1, 3	1, 3	

Some of these methods are adaptable and applicable across multiple phases of a co-creation process. For instance, walkthroughs are used in both phase 1 and again in phase 4, serving both initial observation and follow-up assessment. A walkthrough can foster direct dialogue between residents, architects, and craftsmen. It includes observing, asking, listening, making photographs, and taking notes, thus documenting the current conditions on-site. It facilitates visiting each plot individually along a route. It requires medium effort, minimal skills, and short preparation time, making it suitable for the early phases of the co-creation project. Similarly, surveys are used in phases 2 and 4, with the purpose of needs identification and program evaluation. This method is particularly suitable for gathering feedback, thanks to its cost-effectiveness, short preparation time, moderate effort requirement, and ability to quickly reach a broad group of residents, making it ideal for late phases to gather feedback. Methods such as photovoice, Delphi method, focus groups, brainstorming, and games show up in multiple phases to collect data and generate ideas. For example, photovoice enables residents to visually capture and share their concerns and understand the context by gathering/sharing photos, and it requires moderate preparation time and effort. Likewise, brainstorming encourages creative input from participants in an informal and open environment, while being a quick and low-effort method to implement. In the same context, games are good to simplify complex topics and make participation attractive to all age groups. With medium effort and preparation, games can enhance involvement and collaboration effectively, especially during early and mid-phases. Workshops and prototyping are used in phases 2 and 3. Prototype helps

identify practical challenges and improve solutions before full-scale implementation. Its cross-phase applicability supports the participation of residents, architects and craftsmen by re-engaging them through familiar methods at each phase of the project. None of the reviewed methods achieves, in selected projects/courses, "empower" as a participation level. This is likely because the initiatives examined have not yet advanced to a stage where full decision-making power is transferred to residents (see Table 8).

4.4. Educational Scope of Co-Creation Projects

Considering the educational scope, all projects are centred on enhancing residential neighbourhoods. Many of these projects specifically target the improvement of living conditions and the promotion of social inclusion within these communities. An essential aspect of several of these ventures is their focus on cultural enrichment. For instance, the CLEVER Cities project is particularly noteworthy as it prioritises the development of public spaces that not only reflect but also amplify the unique cultural identity of the local community [28]. These examples focus on residents' involvement but do not specifically address heritage.

5. Proposal for an Education Program to Support the Sustainable Reconstruction

In this section, building upon the result of the review and analysis presented in Sections 3 and 4, and on the knowledge of the specific situation in the Old City of Aleppo [4,5], an educational programme is proposed. This educational programme aims to improve the quality of reconstruction interventions on traditional courtyard houses in the Old City of Aleppo following the Syrian civil war by stimulating the active participation of residents. It attempts to favour the transition from traditional top-down approaches common in Syria to a more inclusive, bottom-up approach that supports democratisation of decision-making processes. A key aspect of this proposed shift is the concept of co-creation, in which residents work together with architects and craftsmen to shape the interventions in post-Syrian war residential heritage in the Old City of Aleppo.

Following the classification proposed in [15], this research categorises the stakeholders according to their roles, seniority as follows:

- Residents of different ages: Elderly (65+ years), Middle-aged (35–64 years), Youth (19–34 years) and Schoolchildren (6–18 years)
- Architects with different levels of expertise: Senior architects in residential heritage, junior architects, and final-year architecture students.
- Craftsmen with different levels of expertise: Senior craftsmen in stonemasons and carpenters, junior craftsmen and trainee craftsmen.

It is important to note that these categories are not always mutually exclusive. For example, some craftsmen are also residents of the Old City of Aleppo, and certain resident architects may be actively involved in both professional and community roles.

Taking inspiration from other participatory programs (see Figure 3), the co-creation process proposed is structured into four phases: co-diagnostic, co-design, co-implementation, and co-monitoring. Each phase requires different levels of resident participation, which include informing, consulting, involving, collaborating, and empowering [32]. Each level of participation demands different roles for residents: interactors, coordinators, task-oriented contributors, and producers [30]. These roles reflect varying degrees of resource commitment, skill requirements, and involvement intensity (Figure 5).
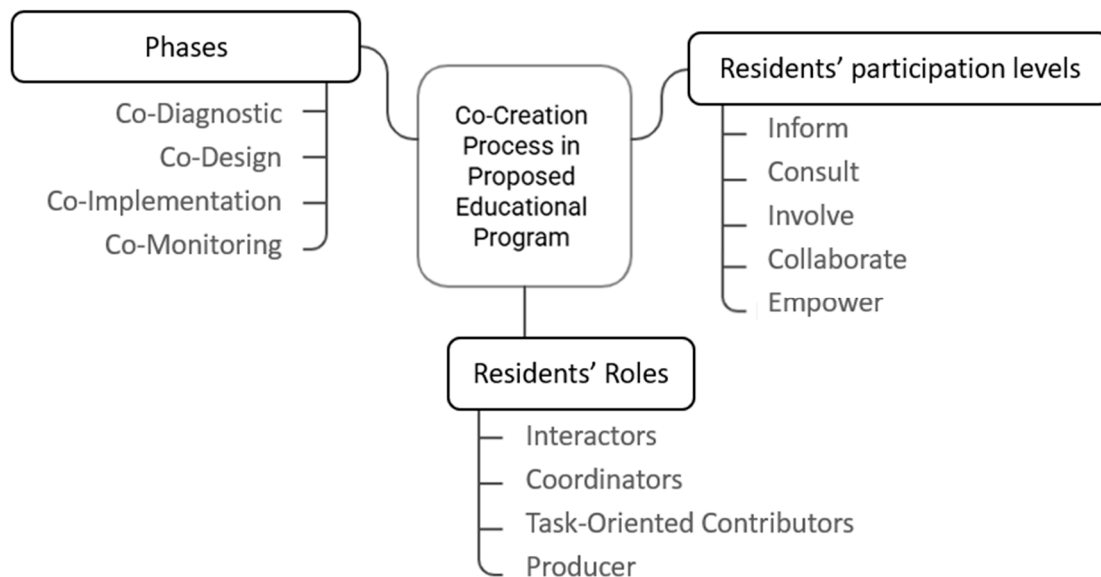
Figure 5. Co-creation process (phases, residents' roles, and residents' participation levels).

Each phase uses specific participative methods, selected among those applied in capacity building courses and projects (see Section 3) and co-creation projects (see Section 4), based on their feasibility, in terms of time and costs, suitability to satisfy specific purposes and participation level (Table 8). This way, the internationally recognised capacity-building approach relevant to post-war World Heritage contexts is integrated with a participatory co-creation approach applied to housing and community development.

In the following sub-sections, the different phases of the proposed co-creative educational program are presented and discussed in detail.

5.1. Co-Diagnostic Phase: Documenting the Conditions of Traditional Courtyard Houses and Identifying Residents' Needs

The co-diagnostic phase focuses on documentation and assessment of residents' needs related to traditional courtyard houses in the Old City of Aleppo. This phase ensures that the interventions will be formulated to satisfy the residents' needs while aligning with the permitted interventions as regulated by Syrian regulations. In this phase, the level of participation achieved by the resident is "involved" (see Figure 6).

Walkthrough and photovoice are identified as suitable methods for this phase. Through these methods, all residents (elderly, youth, middle-aged, and schoolchildren) act as interactors to identify their needs. For example, elderly and middle-aged residents, who have strong social networks, such as the mukhtar (the head of the neighbourhood), could serve as coordinators in the walkthrough and facilitate the connection between residents and architects (junior architects, and final-year architecture students). Youth residents who have specific knowledge or digital skills could serve as task-oriented contributors to observation and data collection activities by teaching other residents how to use cameras or smartphones to document the state of their houses. All residents, including the elderly, youth, middle-aged, and schoolchildren, could participate in creating visual and audio materials such as photographs, videos, and recordings to establish an archive.

The walkthrough aims to engage residents (elderly, youth, middle-aged and schoolchildren), initiating an on-site dialogue about their residential neighbourhoods and traditional courtyard houses. Emphasis is placed on collecting residents' knowledge of what has already been tried to solve the problems; for example, residents might be invited to document what they see and tell their stories about the courtyard houses. The walkthrough could

follow a structured sequence and could include setting objectives, identifying action areas and targeted neighbourhoods, establishing the route to be followed, and listing the specific traditional courtyard houses to be visited. Architects (junior architects and final-year architecture students) will be in charge of leading the discussions, taking notes and taking pictures along the way.
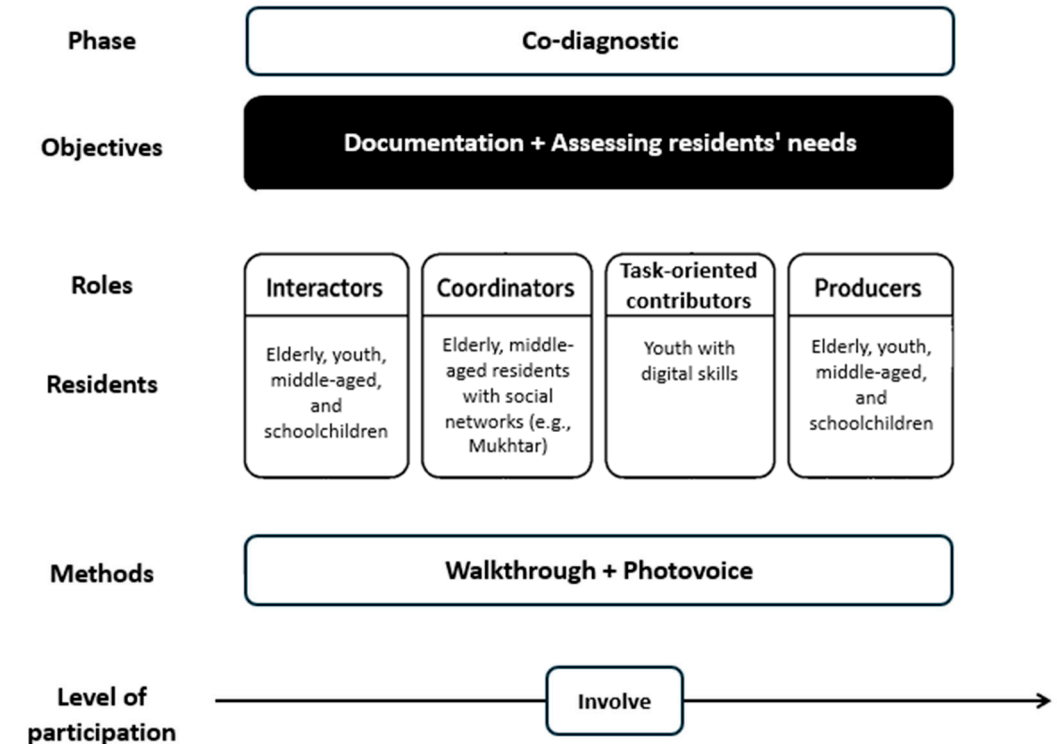

Figure 6. Co-diagnostic phase and related residents' roles, methods, and level of participation.

Photovoice allows residents, with facilitation/support by junior architects and final-year architecture students, to share their lived experiences and memories through images. This could be implemented by using existing photos of courtyard houses before the Syrian war to stimulate dialogue between architects and residents, as well as by capturing real-time photos that represent the destruction or residents' interventions on their traditional courtyard houses. In this case outcome of the walkthrough method could serve as a base for the photovoice session. The photovoice begins with a preparation step, defining the objectives and identifying key topics to explore (neighbourhood safety, interventions in courtyard houses, and the lack of infrastructure, etc.). The photovoice might take place in a courtyard house in the Old City of Aleppo, being this is an accessible location. All residents (elderly, youth and middle-aged, and schoolchildren) can bring photos of their courtyard houses and neighbourhoods. During the photovoice sessions, all residents can share their photos and describe what they mean or answer questions about them. The photovoice sessions can involve discussions that emphasise valued elements, areas of improvement needed, and potential interventions. The sessions could also be tailored to different target groups, such as children, elderly residents, or mixed generations, encouraging interactions and discussions across age groups, like between schoolchildren and grandparents.

5.2. Co-Design Phase: Collaborative Design of Educational Materials and Interventions

The co-design phase focuses on building a foundational understanding among all stakeholders before generating ideas, in order to develop actionable proposals for well-informed interventions. This phase involves learning from residents, architects and crafts-

men, as well as developing educational materials to facilitate dialogue. This phase encourages residents to transition from merely identifying problems to actively contributing to the creation of solutions. Additionally, architects can use the collected data to develop structured educational materials. In the context of this phase, inform, consult, involve, and collaborate reflect the level of participation achieved (Figure 7).
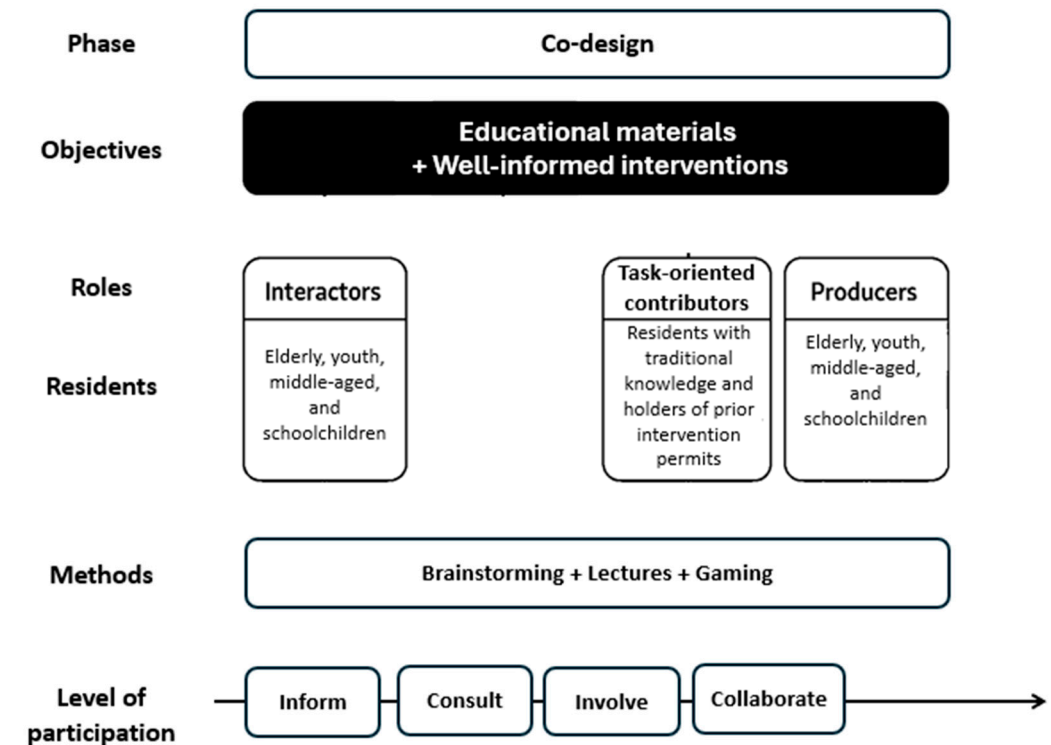

Figure 7. Co-design phase and related residents' roles, methods, and level of participation.

In this phase, brainstorming sessions are facilitated by the participation of senior architects specialising in residential heritage, and junior architects, who may help guide the discussions; final-year architecture students could contribute, e.g., by recording the residents' answers, etc. Brainstorming sessions serve as a preparatory stage that empowers residents to make informed contributions later on in the process. During a brainstorming session, a general list of solutions (potential and preliminary interventions) is generated, e.g., for adapting elements like roofs or walls, based on regulatory limitations and community needs.

Lectures are offered to all participants, particularly residents, and are delivered by senior architects to support knowledge exchange and provide a shared foundation. These sessions introduce essential topics, such as permissible interventions in traditional courtyard houses and the licensing procedure currently in place [4,5]. For example, a matrix could be proposed to help clarify which interventions are allowed and what type of license may be required, based on the classification of residential buildings and the state of conservation of the house. Lectures help ensure that residents, architects, and craftsmen begin with a common knowledge base; this, in turn, helps ensure that proposed reconstruction interventions are grounded in clearly defined principles, rather than being driven by unverified assumptions or personal interpretations of what the residents might prefer.

Residents (elderly, youth, and middle-aged) participate in lectures led by senior architects. In this context, residents might act as interactors, by asking questions, and providing feedback, etc., and gradually becoming more aware of the technical and regulatory aspects related to the interventions. This helps them understand the possibilities and constraints of

the proposed interventions and better integrate their needs into the educational materials. Residents (elderly, youth, and middle-aged) who have previously obtained intervention licences may act as task-oriented contributors by sharing their lived experiences related to their case studies (their traditional courtyard houses) and the interventions they implemented. Additionally, residents (elderly and middle-aged) with experience in local building practices, materials, and spatial customs could also share their insights.

Through gaming methods, residents of all age groups, including schoolchildren, act as producers and visualise, discuss, and co-create solutions related to the traditional courtyard. The gaming methods build on the knowledge gained during earlier brainstorming and lecture sessions, allowing residents to easily engage with permitted intervention ideas. Residents (elderly, youth and middle-aged and schoolchildren) act as interactors and debate potential solutions and evaluate the feasibility of different interventions in a gamified setting. For example, the game might include a large, illustrated map or a 3D model of a neighbourhood with traditional courtyard houses. It could feature "Intervention Cards", each representing a proposed solution, such as adding a bathroom or subdividing space. Each card might display an icon, a brief description, and a list of potential impacts to help participants weigh the benefits and challenges of each option.

5.3. Co-Implementation Phase: Implement Resident-Driven Interventions

The co-implementation phase involves transforming the potential solutions proposed during the co-design phase into tangible interventions. At the beginning of this phase, each participating resident (elderly, youth and middle-aged) is encouraged to bring forward his/her own traditional courtyard house as a case study and to express the need for e.g., reconstructing damaged walls or roofs, etc. The focus during this phase includes both the exploration of a feasible and specific plan for interventions and the licensing process. Later on, in a practical training session, a selection of these proposed case studies, showing diverse conditions, different levels of destruction, unique elements, or significant heritage value, is chosen by the organisers for partial implementation. In this phase, involve, collaborate, and empower reflect the level of participation achieved (see Figure 8).

In more detail, this phase might involve preparing licensing applications for interventions related to traditional courtyard houses (case studies). As part of this phase, a plan for the proposed intervention could be developed, refined, and evaluated in collaboration with authorities before moving toward full implementation. In this way, the initial stage of the application process for obtaining a licence [5] becomes simpler and feasible for the residents. Residents would no longer need to visit the Old City Directorate to gather information about the required documents or to obtain a copy of the forms to be filled in. Instead, a simplified explanation of the licensing procedure would be introduced during the co-design phase, with the necessary forms potentially distributed directly to residents. Furthermore, approval from the relevant authorities would become more feasible, as the forms would be completed by licensed and practitioner architects, who are familiar with the regulations through their involvement in the co-design phase.

Besides, the case study method could be used in implementing the interventions during practical training sessions led by skilled craftsmen. In this phase, residents (elderly, youth and middle-aged) can participate as interactors. Besides, those elderly and middle-aged residents with relevant traditional knowledge can participate as task-oriented contributors, offering local expertise. They might also be engaged as producers in on-site construction and maintenance activities.
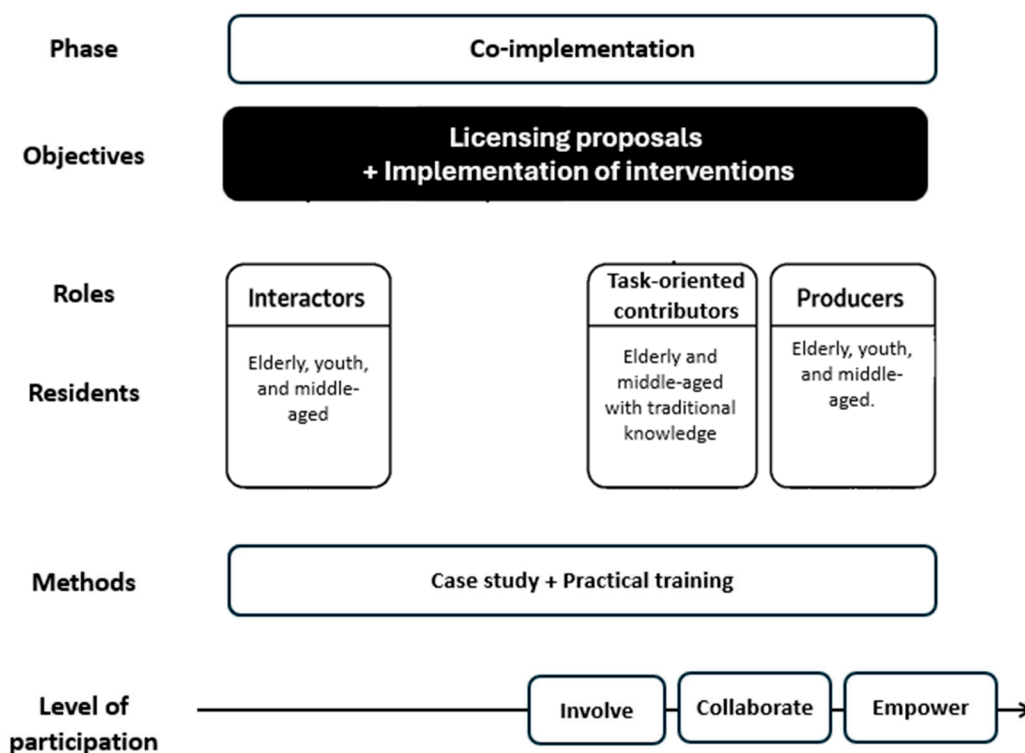
Figure 8. Co-implementation phase and related residents' roles, methods, and level of participation.

5.4. Co-Monitoring: Co-Enhancing the Program

The co-monitoring phase marks the final phase of the proposed educational program following the completion of all other phases. Its purpose is to assess the effectiveness of the interventions implemented during the co-implementation phase, while also knowing that the educational process continues to run smoothly and remains reflective of the residents' needs throughout all phases of the project. In the context of this phase, consult reflects the level of participation achieved (Figure 9).

One of the methods suitable for this phase is photovoice, which engages residents in assessing the outcomes of the interventions implemented during the co-implementation phase. For example, in these sessions, residents of different ages can present photographs of their courtyard houses, documenting the physical changes resulting from the interventions. These images could then be shared and discussed, allowing residents to reflect on whether the problems and needs identified during the diagnostic phase have been adequately addressed through the interventions. This visual method helps residents identify shortcomings and propose further improvements based on everyday use and experience. Therefore, by integrating photovoice into this phase, residents are encouraged to engage more actively in the iterative cycle of co-creation.

In addition to photovoice, feedback on the educational components of the program could be collected through surveys, which help capture residents' perceptions of the training content, delivery methods, and applicability of what they have learned. Such a feedback loop serves as a valuable mechanism for continuously shaping and enhancing the educational approaches.

Within this co-monitoring phase, residents, including the elderly, youth, middle-aged, and schoolchildren, participate as interactors, offering input, observations, and reflections based on their everyday engagement with the built environment.
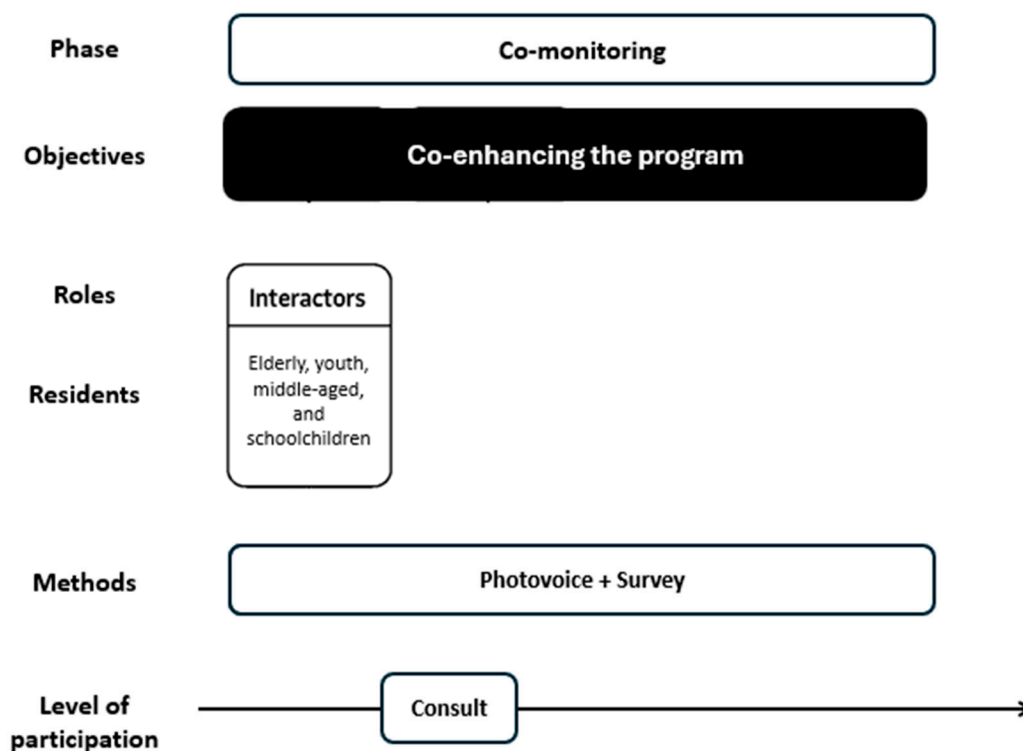
Figure 9. Co-monitoring phase and related residents' roles, methods, and level of participation.

6. Discussion

Post-Syrian-war efforts for the reconstruction of traditional courtyard houses have faced several challenges, including a lack of knowledge about the conditions of these houses, the residents' needs, and the relevant regulations, as well as limited community participation in the decision-making processes. International examples from similar post-war contexts show that education and community participation are crucial for sustainable reconstruction. By examining collaborative initiatives internationally, including capacity-building and co-creation courses and projects, this research proposes and investigates the potential implementation and contextual adaptation of capacity-building and co-creation approaches to support the reconstruction process of residential heritage in the Old City of Aleppo, in particular following the Syrian war. Specifically, it examines how co-creation (participatory) methods, such as walkthroughs, photovoice, surveys, games, and brainstorming, etc., can be integrated with structured (teaching) capacity-building methods like lectures and case studies, etc., throughout various phases of an education programme to actively involve residents, architects and craftsmen in all phases of the programme. In this way, data gathered through participatory activities is converted into organised educational content. Besides, residents are enabled to play a more active role in interventions on traditional courtyard houses, aligning these interventions with their needs and current regulations, and promoting the sustainable reconstruction of the residential heritage in the Old City of Aleppo. This process supports long-term knowledge transfer and facilitates informed residential heritage reconstruction efforts.

The research draws on capacity-building and co-creation frameworks to identify parallels between several real applied projects and the proposed programme for Syria. The methods used in the proposed education program are selected based on specific criteria, such as their ability to foster inclusivity, support skill development, and take into account the limited timeframe and scarce financial and human resources, which are typically found in post-war contexts.

The validation of the applicability and effectiveness of participatory methods within the context of the post-Syrian-war will be a critical aspect in the actual implementation of the proposed program in the field. However, several limitations constrain the implementation of this educational programme. Due to ongoing political instability in Aleppo, organising and overseeing participatory activities on-site is not currently feasible. Furthermore, unclear administrative procedures, the closure of numerous government departments, and limited financial resources present additional barriers to implementation. Besides, the cost of permits, construction materials, and professional services (e.g., architects, craftsmen) presents a considerable challenge for many residents in the Old City of Aleppo.

It has to be considered that most co-creation projects have been developed in stable European contexts and might not be directly translated to contexts impacted by war, displacement, and a breakdown of institutional trust, like in Syria. However, by incorporating feedback loops (co-monitoring phase), the program may ensure that both the process and the outcomes remain relevant to the Syrian socio-cultural realities and the up-to-date needs of the residents.

7. Conclusions

This research contributes to the field of participatory post-Syrian-war reconstruction of residential heritage in the Old City of Aleppo. It presents a co-creation model that integrates validated teaching and participatory methods, shifting the focus from merely physical reconstruction to a more holistic, socially inclusive, and participatory approach. This model proposes the involvement of residents not as a one-time event, but as a phased and evolving process.

The structure of the proposed educational program consists of four key phases: co-diagnostic, co-design, co-implementation, and co-monitoring, which are crucial to ensure that the entire reconstruction process is shared with the residents who are most affected by the war, while attempting to bridge the gap between top-down Syrian policies, related to residential heritage, and the bottom-up needs of the community.

Although the implementation of the full program in the field remains a prospective task due to socio-political and resource challenges, the study lays the foundational groundwork for future field applications and testing.

This research does not explore detailed financial models; future research may investigate potential funding mechanisms, including subsidies, international aid, NGO involvement, and diaspora contributions. Additionally, this research applies to the design thinking model as a guiding framework for structuring participatory educational interventions. It is important to note that design thinking is one of several possible models, with multiple formulations of its phases, and future research could explore the subject in more depth.

Finally, this research contributes to the broader discourse on participatory residential heritage reconstruction in post-war contexts, highlighting the transformative potential of co-creation processes in the reconstruction not only of traditional courtyard houses but also in the reestablishment of social and cultural resilience.

Data Availability Statement: The data presented in this study was carried out as part of PhD research at Delft University of Technology and Technische Hochschule Ostwestfalen-Lippe University of Applied Sciences and Arts (TH OWL). It was conducted under the responsibility of Christine Kousa and the supervision of Uta Pottgiesser and Barbara Lubelli.

Conflicts of Interest: The authors declare no conflict of interest.

Note

¹ Reconstruction refers not only to the physical rebuilding of traditional courtyard houses in the Old City of Aleppo, but also to their improvement and adaptation to residents' current needs, while safeguarding their heritage values.

References

1. UNESCO. UNESCO Reports on Extensive Damage in First Emergency Assessment Mission to Aleppo. 2017. Available online: http://en.unesco.org/news/unesco-reports-extensive-damage-first-emergency-assessment-mission-aleppo (accessed on 15 February 2023).
2. UN-HABITAT. City Profile Aleppo. Multi Sector Assessment. City Profile Aleppo, p. 28, 2014. Available online: https://alnap.org/help-library/resources/city-profile-aleppo-multi-sector-assessment/ (accessed on 30 July 2025).
3. Windelberg, O.A.; Kelzieh, J.; Hallaj, T. *Development Plan: Rehabilitation of the Old City of Aleppo*; Municipality of Aleppo: Aleppo, Syria; GTZ: Bonn, Germany, 2001.
4. Kousa, C.; Pottgiesser, U.; Lubelli, B. Post-Syrian War Residential Heritage Transformations in the Old City of Aleppo: Socio-Cultural Sustainability Aspects. *Sustainability* **2021**, *13*, 12213. [CrossRef]
5. Kousa, C.; Lubelli, B.; Pottgiesser, U. Historic development of policies and regulations concerning residential heritage in the Old City of Aleppo. *J. Cult. Herit. Manag. Sustain. Dev.* **2023**. [CrossRef]
6. Kousa, C.; Lubelli, B.; Pottgiesser, U. Towards a sustainable approach to reconstruction of residential heritage: Insights from international case studies. *Herit. Sustain. Dev.* **2023**, *5*, 315–338. [CrossRef]
7. Mahečić, D.R. The Case of Dubrovnik, UNESCO World Heritage Site Under Siege 1991–1992. In *Architecture and Armed Conflict The Politics of Destruction*; Mancini, J.M., Bresnahan, K., Eds.; Routledge: London, UK, 2014.
8. Aga Khan Trust for Culture. *Historic Cities Support Programme Conservation and Revitalisation of Historic Mostar*; Imprimeries Réunies Lausanne: Lausanne, Switzerland, 2004.
9. Aga Khan Trust for Culture. *Aga Khan Historic Cities Programme Urban Conservation and Area development in Afghanistan*; Imprimeries Réunies Lausanne: Lausanne, Switzerland, 2007.
10. UN-HABITAT. *Mosul Old City Reconstruction Priorities*; UNHABITAT: Mosul, Iraq, 2018.
11. Rantisi, A.S. Post-Conflict Reconstruction Following the Invasion of Nablus Old City, Palestine, April 2022, pp. 1–11. Available online: https://www.academia.edu/113523791/Post_Conflict_Reconstruction_following_the_invasion_of_Nablus_Old_City_Palestine (accessed on 30 July 2025).
12. Makaš, E.G. Rebuilding Mostar: International and Local Visions of a Contested City and Its Heritage. In *On Location Heritage Cities and Sites*; Ruggles, F., Ed.; Springer: New York, NY, USA, 2012; pp. 151–168.
13. International Federation of Red Cross and Red Crescent Societies (IFRC). *Project/Programme Planning Guidance Manual*; IFRCP: Geneva, Switzerland, 2010.
14. Traditional Craft Heritage Training, Design and Marketing in Jordan and Syria (HANDS). Zarqa University. Available online: https://www.zuj.edu.jo/HANDS/index.html (accessed on 30 July 2025).
15. Re, A. *Heritage Beyound Wall Report of the I Edition–2021*; Fondazione Santagata: Torino, Italy, 2021.
16. KulturGutRetter. Online Course | Cultural Heritage Documentation Using Qfield Online Course | Cultural Heritage Documentation, Archeological Heritage Network. 2021. Available online: https://www.archernet.org/en/2021/06/01/online-course-cultural-heritage-documentation-using-qfield/ (accessed on 16 February 2024).
17. ICCROM. *First Aid to Cultural Heritage in Times of Conflict*; ICCROM: Rome, Italy, 2012; pp. 1–6.
18. ICCROM. *Aparna Tandon, First Aid to Cultural Heritage in Times of Crisis 1. Handbook For coordinated Emergency Preparedness and Response to Secure Tangible and Intangible Heritage*; International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM): Rome, Italy, 2018.
19. ICCROM. Heritage Recovery Programme in Mosul. 2022. Available online: https://www.iccrom.org/courses/heritage-recovery-programme-mosul (accessed on 27 January 2025).
20. KulturGutRetter. Online Course (Arabic) | Documentation of Cultural Heriage Using GIS, Archeological Heritage Network. 2022. Available online: https://www.archernet.org/en/2022/09/27/online-course-arabic-spatial-database-and-analyses-for-cultural-heritage-protection-in-open-source-gis/ (accessed on 16 February 2024).

21. Ritsumeikan University in Collaboration with ICCROM. International Training Course (ITC) on Disaster Risk Management of Cultural Heritage, ICCROM. 2023. Available online: https://www.iccrom.org/courses/international-training-course-itc-disaster-risk-management-cultural-heritage-2023?mibextid=zxz2cz (accessed on 16 February 2024).
22. Yurchenko, Y. UNESCO Trains Managers of World Heritage Sites in Ukraine in Disaster Risk Reduction, UNESCO. 2023. Available online: https://www.unesco.org/en/articles/unesco-trains-managers-world-heritage-sites-ukraine-disaster-risk-reduction (accessed on 16 February 2024).
23. UNESCO; ICCROM. *Training Guide for Post Conflict Recovery of Cultural Heritage Based on ICCOROM-UNESCO Capacity Building Project in Mosul, Iraq*; UNESCO: Paris, France; ICCROM: Rome, Italy, 2024.
24. ICCROM. International Training Course on Post-Crisis Recovery of Cultural Heritage (PCR 2024). 2024. Available online: https://www.iccrom.org/courses/international-training-course-post-crisis-recovery-cultural-heritage-pcr-2024 (accessed on 23 January 2025).
25. Meinel, C.; Krohn, T. *Design Thinking in Education: Innovation Can Be Learned*; Springer Nature Switzerland AG: Cham, Switzerland, 2022.
26. Franta, L.; Haufe, N.; Dangschat, J.; Witthöft, G. D2.1 Handbook for Participation Strategies for Mobility Issues in Neighbourhoods. 2017. Available online: https://www.rupprecht-consult.eu/fileadmin/migratedRupprechtAssets/Documents/SUN_D2.1_Participation_handbook_final.pdf (accessed on 30 July 2025).
27. Brand, R.; Koucky, M. Sustainable Neighbourhood Mobility Planning-Synergies Between City-Wide SUMP and Neighbourhood-Based Planning. 2021. Available online: https://civitas-sunrise.eu/resources/ (accessed on 6 January 2025).
28. Morello, E.; Mahmoud, I.; Gulyurtlu, S. CLEVER Cities Guidance on Co-Creating Nature-Based Solutions: PART II—Running CLEVER Action Labs in 16 Steps. Deliverable 1.1.6, CLEVER Cities, H2020 Grant No. 776604. Milan, Italy. 2018. Available online: https://clevercitiesguidance.wordpress.com/wp-content/uploads/2019/09/20190913_cocreation-guidance_part-ii.pdf (accessed on 30 July 2025).
29. Moniz, G.C.; Andersson, I.; Hilding-Hamann, K.E.; Mateus, A.; Nunes, N. *Inclusive Urban Regeneration with Citizens and Stakeholders: From Living Labs to the URBiNAT CoP*; URBiNAT: Coimbra, Portugal, 2022; Volume Part F4.
30. Leader, T. *URBiNAT Healthy Corridor Participatory Process Toolkit, No. 776783*; URBiNAT: Coimbra, Portugal, 2021.
31. Bridi, M.E.; Argenton Freire, R.; Catharine Cornelie Knatz Kowaltowski, D.; Granja, A.D. Co-creating solutions with social housing users: A Living lab case, CoDesign. *Int. J. CoCreation Des. Arts* **2024**, *20*, 645–665. [CrossRef]
32. Michaelson, L.; Rozelle, M.; Sarno, D. *IAP2 Spectrum of Public Participation*; IAP2: Vancouver, BC, Canada, 2024.