Chapter 6
Key Steps of a Regeneration Process

Abstract Because of their inherent complexity, urban brownfield regeneration projects are long-term operations. The study of the evolution from urban brownfield site to a new—and ideally sustainable—neighbourhood through a regeneration process has led to the identification of five key steps: *Backgrounds*, *Initiators*, *Guidelines*, *Legal Basis*, and *Realization*. This chapter highlights the specific issues encountered during these different steps. Thus, our early reflections on the future of an urban brownfield at the regional and metropolitan levels concern the *Background* and *Initiator* steps. The formulation of a coherent project to overcome negative perception and foster a shared vision relates to the *Guidelines* steps. The transition from the urban to the architectural project is dealt with during the *Legal Basis* and *Realization* steps. Finally, issues concerning the multiple forms of participatory processes and the evaluation of sustainability objectives must be taken into consideration throughout the regeneration process. These reflections provide a foundation for developing a series of measures and more concrete lines of action.

Keywords Regeneration process · Key steps · Urban project · Architectural project · Project dynamics · Participatory processes · Civil society · Sustainability evaluation

6.1 Identification of Five Key Steps

A study of urban brownfields at various stages, from early phases of revealing the site potential to completed construction, including first steps of the building site and planning process under development, has led to the identification of five key steps within a regeneration project: *Backgrounds*, *Initiators*, *Guidelines*, *Legal Basis*, and *Realization* (Jaccaud et al. 2009; Lufkin 2010). Each step results in the elaboration of a planning document, which allows the team to validate a segment of the process and proceed to the next step.

The present chapter aims to highlight the specific issues encountered during each of these steps. These reflections will provide a foundation for developing a series of measures and more concrete lines of action, which will be presented in Chap. 7.

6.2   Early Reflections at Regional or Metropolitan Level

The *Backgrounds* step is, not strictly speaking, a phase of the project. Instead, it constitutes a sort of position zero in the regeneration process. It refers to events that are external to the project and have indirectly contributed to its elaboration. In many case studies, the antecedents may be other projects developed on the brownfield's perimeter that, due to various circumstances, have experienced blocking situations and therefore were not taken to their completion.

Thanks to those more or less unfruitful experiences, and provided that they stay involved in the new project, stakeholders acquire an expertise in the local context. This allows them to understand what factors led to the total or partial failure of the previous projects and to identify the positive aspects worth keeping.

As a second step, the phase involving the *Initiators* includes all the events that contribute to triggering the project's development. In most cases, these catalysing events belong to a relatively large planning scale. They define development objectives for the urban or metropolitan area, without necessarily mentioning a specific action for the urban brownfield's perimeter.

In some cases, the reflection focuses exclusively on the concerned urban region, which tends to facilitate the process. The question then becomes to identify the most strategic sectors for intervention, while leaving enough place for the uncertainty associated with the economy and the market. In that configuration, the early discussions often take place within non-institutional or informal frameworks. The meeting between an informed personality (from the political or business world) and a committed architect or urban planner often initiates the launch of the process.

During this step, time constraints can also play a triggering role, especially when linked to funding possibilities. For instance, in the framework of government support, which may be conditional on strict realization deadlines, time constraints can become a strong incentive.

Questions raised during the *Initiators* step are not related to architectural or urban design. The focus is instead on the specifications of the future regeneration project. Although they stay relatively vague in terms of concrete actions to be undertaken, the decisions made at that moment set the rules on cooperation between the main stakeholders. In other words, they give precise indications on "how to do" rather than defining "what to do". Ideally, the selection of processes and regulation modes between stakeholders takes place during that step (more or less cooperative procedure, more or less close cooperation, etc.).

Official documents resulting at the end of this step (regional masterplan or road map, synthetic reports, etc.) are of paramount importance for the next steps of the process. These documents validate the selected options and constitute a long-term reference basis for future developments. Therefore, a statement of intentions helps to launch the formulation of objectives, especially when there is a large number of stakeholders and the decision-making power is diffuse among them.

6.3 The Project as a Basis for Reflection on Urban and Architectural Coherence

Once the site has been identified as a strategic intervention sector at a regional or metropolitan level, the brownfield's evolution potential must be demonstrated by a convincing urban project. This next step aims at defining the regeneration project's main *Guidelines*. This neighbourhood-scale vision will not only help overcome the various previously analysed obstacles (see Chap. 4), it will also reveal the site's potential and act as a detonator.

6.3.1 Overcoming Negative Perceptions

Overcoming negative perceptions associated with the brownfield site is one of the major obstacles when defining the regeneration project's main guidelines. First, the appropriation of abandoned territories by pioneer populations is likely to positively impact the site's image, notably through temporary uses. Thanks to the development of public activities, in particular cultural activities, these once impenetrable territories gradually become accessible to the population. Furthermore, these mechanisms contribute to rebuilding links between the brownfield and its surrounding context. On the topic of temporary cultural uses, it is interesting to mention the TransEurope-Halles network, a European platform for the exchange of information, support, and expertise between cultural sites established on urban brownfields (Bertrand 2018) or the Yes We Camp initiative for the inventive use of available space (Yes We Camp 2020). Other examples are the Saint-Sauveur and Fives-Cail industrial brownfields in Lille (FR) that builds on the co-creation of viable third places on these sites. The latter approach is both the expression of transitory actors participating in the symbolic revaluation of brownfields and those same actors claiming a full role in the making of the urban project (Liefooghe 2020).

The notion of regeneration is understood by analogy with living tissue. It is a modification process that consists of a coordinated and progressive renewal of the brownfield site, aiming at recovering certain lost features. While the impulse given by the project can be triggered by different channels, direct or indirect involvement by public authorities is frequent. Indeed, as highlighted when analysing *Initiators* step-related issues, this type of project contributes to the urban and economic development of the entire urban or metropolitan region. Besides, partnerships with the private sector are not rare, as part of the land is often owned by private landlords.

6.3.2   Fostering the Emergence of a Shared Vision

The vision emerges during the definition phase of the guidelines. It allows decision-makers to formulate what is desirable—and feasible—on the site awaiting redevelopment. The site's image plays an essential role, in the sense that it helps to convey quantitative and qualitative information, which can also influence emotions and atmospheres. The project dynamics, which we already addressed in Chap. 4, are typically implemented during this step of the regeneration process.

The triggering action can occur with the realization of a first sketch, either spontaneously initiated by an urban planning office or in the framework of a study mandated by the private or public sector. Whenever possible, the vision's fabrication process should be participatory, that is, open to all concerned stakeholders. Its definition is of great importance for the next steps of the process. According to the local context and urban planning specificities, many different types of possible procedures exist: urban planning, architecture competition, and mandate for parallel studies or test-study, to name a few.

Multiple recent brownfield regeneration processes across Europe selected the test-study procedure. Essentially, a test-study brings together several teams of urban planners and architects (in general 3 or 4, according to the project), to work on the same site. To foster synergies without the competitive mind that sometimes characterizes architecture competitions, all offices are paid equally for their outputs, regardless of their experience or reputation. Projects are, therefore, developed in a participatory way. The proposals are discussed and evaluated during workshops involving different members: a strategic committee, an operational committee, the clients (or their representative), and the experts. Besides which, representatives from civil society may punctually be invited to share their opinion. At the end of each workshop, guidelines are given to each team so they can orient their work in the direction that seems desirable for the site's future development. Ultimately, the main objective is to elaborate a first analysis that must generate a certain consensus among the involved entities. That consensus becomes the basis for the emergence of a first vision of the site's desired future (plans, models, 3D renderings, etc.).

Beyond this revealing role, the brownfield regeneration project also has the vocation to initiate an evolution of the concerned sector. Symbolized by a global concept for the site, this dynamic gives the project a guiding thread for the different buildings to be renovated or constructed. It also serves as a common basis for all stakeholders during the multiple development phases of the project. Provided it is consensually elaborated, this shared vision contributes to defining various orientations for the site and serves to gather and mobilize the stakeholders towards a common goal.

Indeed, in an urban context marked by the rapid evolution of needs, this notion of dynamics is of particular importance. Considering that urban regeneration projects are in most cases achieved in stages, they must generate, from the first design phases, guidelines that are strong enough to maintain the urban and architectural coherence of the project and flexible enough to absorb the eventual evolutions of needs and circumstances.

Advancing based on a global concept is deeply linked to the project's outcome. This logic is radically different from approaches based on the simple addition of expert reports or the coordination of punctual solutions to juxtaposed problems. The strength of project-based strategies is to enable designers to deal with the uncertainty that is inevitable during the early stages of a regeneration process. Indeed, the study of successful brownfield regeneration projects stresses the catalyst role of such approaches. Projects allow a focus on spatial coherence at an early stage. They have the advantage of acting both as a tool for anticipation (vision embodied in a still approximate pattern) and as a tool for integration for sectorial approaches, necessarily varying according to the stakeholders under consideration.

Taking part in the broader evolution of classical urban planning, project-based approaches enable planners to imagine guidelines for the site that go beyond abstract programmatic data. Even during the earlier stages, they address the notion of space in a comprehensive, concrete, and evolutive sense (Devillers 1994).

In terms of concrete results, the main objective of the *Guidelines* step is the validation of the regeneration project, which will allow to endorse the selected options for the sector's development. The goal is therefore to set guidelines for the elaboration of the legal bases, without freezing the programming. The more complex the situation, the greater the extent of that step.

6.3.3 Identifying Sectors and Phasing Operations

The *Guidelines* phase also aims at defining the perimeter of intervention. This approach involves establishing a finer differentiation inside the sector—often a neighbourhood—and identifying areas with a specific vocation. This sectorization must be done considering the project's temporality. Indeed, the scale and complexity of urban brownfield regeneration projects generally generate an important time gap between the identification of the site's potential (competition, feasibility study, etc.) and the moment when the last built or transformed buildings are put into service. This process will usually take more than ten years. Such a lengthy duration requires a staged process, associating successive stakeholders in an evolutive context. Financial risk for investors can be kept to a minimum by staggering the operation.

The phasing of operations implies that decision-makers and planners must deal with fixed elements, which guarantee the coherence of the initial concept, and with fluctuating elements, which make it possible to absorb contextual changes. Evolution can be linked either to the surrounding context (economic situation, needs, framework conditions, etc.) or directly to the project (entry or departure of a stakeholder, modification of the decision-making structures, details linked to the project's progress, etc.).

When defining the phasing, as reflections become more and more concrete, it is essential not to lose sight of the big picture. The rushed realization of partial projects can give the illusion a faster progress. However, when the *Guidelines* step of the

vision's formulation and validation is neglected, it becomes difficult to generate or maintain interest around the project as a whole.

6.4   The Transition from Urban to Architectural Project

Subsequently, the step establishing *Legal Basis* consists of translating the guidelines into a special masterplan. According to the local context, a great variety of expressions can be used: Neighbourhood Plan, Detailed Development Plan, Partial Land-Use Plan, etc. The main objective is to obtain approval from the public authorities. Indeed, the masterplan represents an official document, recognized by all stakeholders, and is binding in nature for municipalities and landowners. Failure can come in the form of refusal by the municipal council or by oppositions from civil society.

Provided that the project has been conducted in a spirit of cooperation between the partners (public authorities, owners, civil society, etc.), the likelihood of having communal approval denied is rather low. Some parameters nevertheless tend to complexify the situation, especially when a project involves inter-municipal nature, which multiplies potential risks. In parallel, in order to avoid the hurdle of public oppositions, communication and participatory approaches are central elements of the project's steering activities (more on this topic in Sect. 6.5). Overall, the implementation of a specific structure to deal with these issues, in the form of an interdisciplinary urban planning platform, has increasingly proven to be a factor for success.

Once the masterplan is approved (*Legal Basis* step), the project can finally evolve towards the *Realization* step. This step of the development process follows a more classical pattern, which leaves room for architects and investors to maneuvre. However, certain considerations must be taken into account. In order to optimize time management, it is possible—and even desirable—to overlap the *Legal Basis* and *Realization* steps. In other words, it may not be necessary to wait for the final recourses to be dismissed before launching projects or architecture competitions. Reducing realization time increases the project's economic attractiveness by decreasing the financial risk for investors.

The *Realization* step ensures the communication between urban and architectural scales. Thus, it should guarantee the quality, coherence, and continuity of the entire project over the long term. An architectural competition can provide an adequate means to manage the transition between the two scales. The selection of jury members is of utmost importance. It guarantees the competition's outreach and, in a sense, the propositions' architectural quality. The organization of competitions in multiple stages allows for framed interactions between the jury and the participants, which tends to guarantee coherence at the various scales of the project. Besides, the involvement of actors from the process's previous steps is a crucial element to ensure the continuity of the project's development.

6.5   Multiple Forms of Participatory Processes

Depending on the local urban planning context, participation can take various forms. Its definition can vary considerably from country to country, ranging from information to coproduction (co-decision), including consultation and concertation (Da Cunha 2006). Participatory processes are an essential component to creating a form of social pact, or, in other words, support of the project by all stakeholders. The social pact contributes to implementing a virtuous cycle dynamic and reduces risk at each step of the project.

Therefore, optimizing the participatory process is of high importance. The aim should be a transversal and concerted participation, conducted throughout the project, ideally already at the early stages. In order to specify the various issues raised by participatory processes, it is essential to distinguish two types of approaches: the first one, conducted with landowners directly concerned by the regeneration project, and the second one, aiming at establishing a link with civil society.

6.5.1   Participation of Landowners and Land Management

This first approach to participatory processes focuses primarily on the landowners who are directly concerned. It aims at implementing appropriate platforms to ensure their support and involvement in the regeneration project. Often neglected in urban planning, the land management issue is key. Indeed, a total or partial lack of land management can generate obstacles and is high on the list of resistance factors to brownfield regeneration. Hence, it is worth examining this crucial question.

Two notions can help us clarify the land management issue: on the one hand, land-use regulations, and on the other hand, their utilization. Land-use regulations are governed by public law and deal with public interest objectives and measures defined in the framework of territorial planning. They can only be observed through a representation of reality (land-use plans, etc.). The notion of utilization is governed by private law. Directly observable, it reflects the reality of land appropriation by landowners. Therefore, it relates to landowners' level of support and room for manoeuvre, since European legal provisions can make it very difficult to use expropriation for planning purposes.

Urban brownfields are, by definition, emblematic examples of a discrepancy between land-use regulations and land utilization (Rey 2012). Implementing better coordination between territorial planning and land management—in other words, a greater convergence between public and private interests—appears to be the best strategy to overcome this obstacle. Indeed, it is important to keep in mind that a brownfield regeneration project generates financial advantages for landowners. The added value created by the acquisition of building rights, notably land-use change—for instance from industrial to mixed zone—justifies their contribution to planning and equipment costs. It is essential early on in the project to negotiate the allocation

method of these costs and the added value to avoid any blockage or opposition risk in the project's later steps.

While each brownfield has its own land tenure issues, it is nevertheless possible to define two basic patterns: shared and single ownership. Because their scale relates to that of a neighbourhood, the large majority of urban brownfields belongs to the first category, which presents an increased degree of complexity. The multiplication of landowners raises a certain number of challenges when it comes to re-drawing plot boundaries and cost allocation. There is no such thing as an ideal procedure; there exist as many urban planning tools as specific contexts. Overall, the main issue is to define fair distribution rules among the different owners, who do not necessarily have liquid assets that are available over the short term. This is what the project developed during the *Guidelines* phase is all about. It will allow the landowners to unite around a shared vision to overcome land-related obstacles. The involvement of public authorities plays an essential role in dealing with situations of shared land ownership.

As mentioned above, a large array of instruments exists to deal with such issues, but not all are adapted to the specificities of urban brownfields, where the number of landowners can sometimes be considerable. Among the approaches likely to solve particularly complex situations, we can cite, for instance, bilateral contractual agreements between the municipality and each owner. This allows for the resolution of issues related to public equipment financing—for instance, according to proximity to the concerned equipment.

The second category of brownfield includes abandoned sites where a single actor owns virtually all the land, such as military or railway brownfields (see Chap. 2). In this situation, it may be possible to engage in a joint reflection between the concerned public authority and the entity in charge of the site, more specifically, its real estate division. The latter may take the initiative in the planning procedures, and discussions around public equipment financing may be conducted directly with representatives from the municipality. This can potentially make the process significantly easier, but here again, it is important to bear in mind that solutions must be pragmatic and tailor-made in order to be successful.

6.5.2 Integration of Civil Society to Foster Stakeholder Support

The second approach to participatory processes seeks to integrate civil society. First, thanks to their lived field experience, civil society may contribute to better identifying brownfield-related issues that are not easily identified by technical experts. Therefore, the integration of civil society mobilizes local stakeholders and takes into consideration their diverse and specific interests. Here, the main challenge is finding an optimal adaptation of the participatory process according to the type of actor. This requires an integration of their expertise into the regeneration project without

overly slowing down the decision-making process. Moreover, the project's acceptance, as well as its connection to the surrounding city and metropolitan area, can be greatly facilitated by the implementation of participatory processes that enable better integration of future users' needs.

Once again, several forms of participatory structures are possible depending on the specificities of the local context and the stage of the project. We can cite, among other examples, coffee get-togethers with stakeholders from the economic, academic, and administrative worlds, sounding boards gathering interest groups, information sessions or open house events for the population, site visits, discovery trails, etc. Although these approaches constitute a sort of urban planning toolbox for participatory processes, they are not the main focus of this book. Therefore, we will not enter into details but refer the interested reader to the abundant existing literature on the topic.

The nature of communication supports during participatory processes is of high importance because the large majority of them implies a bilateral exchange of expertise between civil society and technical experts in the fields of urban planning. Representation tools which help transfer information to civil society (plans, models, 3D visualizations) aim at presenting the vision developed for the site and the future actions that will be undertaken. To avoid misunderstandings when using these communication supports, it is essential to develop adapted tools, that is, tools that are both understandable for laypersons and updatable according to progress. This subject will be further developed in the following chapters, notably within Chap. 9, which introduce an operational monitoring tool designed to support urban brownfield regeneration projects.

In that sense, despite their reduced accessibility for certain parts of the population (elderly people, disadvantaged socio-professional groups, etc.), websites offer an interesting platform to support participatory approaches, which consistently complement in situ experiences.

Ultimately, these reflections illustrate the complexity of driving forces behind communication strategies in a brownfield regeneration project, but also their essential role in the project's process. Several experts claim that the success of a redevelopment operation is linked to the project's intrinsic qualities as much as to the communication skills of its leaders (Rey and Lufkin 2015). Overall, it appears that successful regeneration projects are characterized by personalities or steering groups that have demonstrated innovation and creativity to experiment with tailor-made forms of participatory approaches. Original initiatives have proven to be efficient and have significantly contributed to the success of the concerned projects.

6.6   Evaluation of Sustainability Objectives

While urban brownfield regeneration theoretically fights against urban sprawl, these projects often integrate sustainability issues only partially or superficially. Moreover, environmental aspects are almost systematically privileged, particularly at the

expense of sociocultural considerations (Laprise et al. 2014). Indeed, to ensure a regeneration project's global quality, an important number of parameters must be integrated into the decision-making process leading to its realization. In order to be efficient, this simultaneous consideration of environmental, economic, sociocultural and governance aspects, which involves a vast array of actors, cannot be conducted superficially nor only on occasion. It must be part of an in-depth evaluative approach, allowing for continuous, iterative monitoring of the project, starting from the *Initiators* steps, and integrated in the *Guidelines*, *Legal Basis* and *Realization* steps.

Furthermore, it is important to stress that brownfield regeneration projects require a specifically adapted evaluation. The latter should take into consideration the particular features of that kind of project, which have been carefully analysed in the previous chapters of this publication. Indeed, urban brownfields are not sites like any other, in the sense that they occupy large areas—often disconnected from their direct environment—involve strategies to transform already built-up areas, and often have a relatively strong identity, which can sometimes be negative (contamination, insecurity, etc.). Regeneration projects are also distinguished by their complex processes: their duration tends to be longer than that of a traditional construction project, framework conditions may vary, and stakeholders may multiply throughout the process. Therefore, a tailored evaluation is required to ensure the rigour and reliability of the results.

6.6.1 The Various Roles of Operational Evaluation

If it is based on a methodology adapted to the issues, the evaluation may play diverse, complementary roles at the service of the project's dynamics. First, operational evaluation provides increased knowledge of the project concerning multiple dimensions of sustainability. The goal is not so much to offer turnkey solutions to decision-makers, but rather to allow them to make a more informed choice. Indeed, it is essential to have precise and structured information on how the project meets the objectives and expectations that have been set. By providing practitioners and decision-makers with indications on the project's performance, the evaluation is not disconnected from the latter, but rather participates in its definition. Evaluation can thus become a precious tool for critical analysis, verification, and decision support, which allows the establishment of a balance between complexity of information and transparency of the results (Schädler et al. 2011).

In parallel, the evaluation also plays the role of support tool, thanks to the information it provides. It enables stakeholders to assess the project's evolution and compare, if necessary, different options to feed into a structured problem-solving and optimization process.

Unlike label or certification approaches, the implementation of evaluation at each step of the project's process can also provide the main stakeholders with efficient communication support. The dynamics of sustainable neighbourhoods are indeed
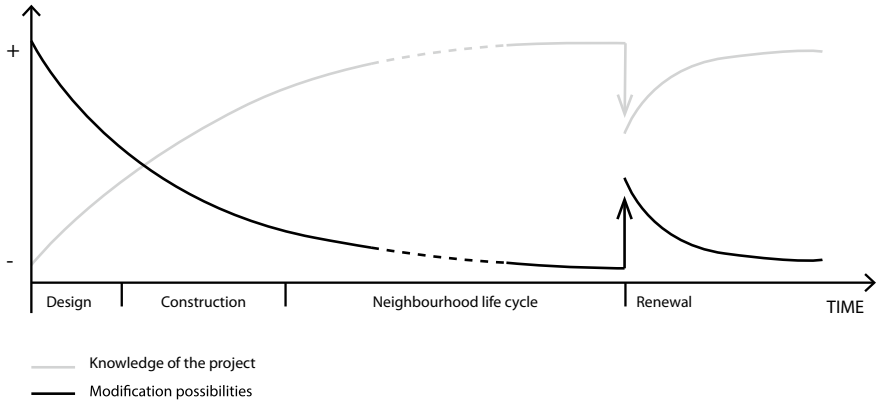
Fig. 6.1 Modification possibilities compared to the level of information according to the project progress

based on the organization of increased communication between multiple stakeholders. In this perspective, an operational evaluation may offer an efficient way to structure and manage exchange between the partners involved in the project. Its results may also feed into some participatory processes.

6.6.2 Operational Evaluation Integrated in Project Dynamics

The operational evaluation should ideally be integrated as early as possible in the regeneration project's dynamics. Indeed, the most crucial decisions are often made in the initial phases. These early stages, which are characterized by considerable freedom to optimize the project, correspond, however, to a moment when knowledge of the project parameters is often very weak (Fig. 6.1).

Gradually, as the design and realization stages progress, knowledge on the project tends to increase, but decisions made in the early stages generate fixed points and can decrease room for manoeuvring to influence the project and reduce the planners' reaction possibilities. In order for the best decisions to be made at the critical moment, that is, when they have great weight in the project's formulation, it is essential to have the maximum amount of information at the earliest stage possible.

Subsequently, it is necessary to continue evaluation beyond the design process to achieve sustainability objectives. Many decisions made during the project's design phase should be specifically followed up on during the next stages, mainly because their materialization depends on decisions taken during the realization phase and concerning later use of built and unbuilt spaces. Considering their rather long duration, this need for follow-up or monitoring is particularly significant in the case of urban brownfield regeneration into sustainable neighbourhoods.

Evaluation should therefore cover several distinct phases:

- Prospective evaluation: At the project's early stages, evaluation consists in an estimate of the expected performances. It is obtained with estimation and simulation methods which allow a comparison of the project's estimated performances with the aims set.
- Supporting evaluation: During the phases leading to the project's realization, evaluation consists in a regular verification of the project's performances, as well as an optimization of the latter through successive adjustments (decision-making and problem-solving support).
- Synthetic evaluation: At the end of the operation, evaluation offers a synthesis of the project's features and highlights singular aspects of its process. In the event of discrepancies between set objectives, expected performances, and achieved results, the evaluation can foster the emergence of new knowledge, particularly valuable for the future stages of the project and, more broadly, for other similar brownfield regeneration operations.

A large array of methods is available to evaluate the sustainability of metropolitan areas today in Europe. Very few, however, meet the above-mentioned conditions (tailored to brownfields' specificities, integrated throughout the project's dynamic, and with a search for overall quality in all dimensions of sustainability). Chapter 8, "Sustainability Monitoring: Principles, Challenges and Approaches", will be the occasion to come back to and further develop this crucial aspect of brownfield regeneration projects.

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