Towards a new strategy for sustainable housing planning. From good practice to the technical brief, the new way to improve local actions for sustainable and environmental quality of housing planning

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Abstract


In Italian planning practice the culture of technical briefing for building projects is not widespread; this fact is connected to the lack of technical capacities among our purchasers. Some administrations try to deal with this problem, which has a major impact on the quality and effectiveness of the works carried out as regards the needs of the users, by means of “system programming”, in other words by the definition of systems of general rules of behaviour to solve problems which are of such a repetitive and widespread nature as to have an impact on building activities in entire sections.

In sector where the public sector is unable to intervene without private capital, or where it is important to steer private undertakings towards controlled and coherent standards of environmental quality, in the absence of detailed technical programmes for interventions, the public sector is turning more and more to papers on directing and supporting planning which, to be made efficient, are linked to current instruments for urban planning or to the traditional local building rules, in such a way as to establish their efficiency in the territory.

Many local administrations are equipping themselves with codes of practice for constructing or adapting social housing, aimed at the qualification of building activity in a sector which has enormous weight in terms of construction in the area and its impact on energy consumption and the wellbeing of the inhabitants. High environmental quality and encouraging the wellbeing of the inhabitants have a central role in these support tools for drawing up and planning interventions; furthermore these instruments have the role of incorporating all the indications and requirements of local and national building regulations which cover the various aspects of construction, above all, implementing those aspects regarding energy conservation or the optimisation of those elements relating to widespread environmental quality. In this way, alongside the traditional indicators, can be placed a system of best practices, suggestions for the environmental quality of projects regarding the energy and environmental functioning of sites and buildings, and on the knowledgeable use of technological solutions aimed at an overall performances improvement in the uses of the building and its urban context.
Introduction

Despite the housing market’s permanent crisis due to the gap between the supply of and demand for housing - in particular in social housing faced with a substantial need for low-cost social housing, with the risk of creating new situations of poverty and profound social marginalisation - the residential building market at the medium and high levels shows substantial growth, looking at the private sector that demonstrates a supply-demand relationship that isn’t insurmountable. In both cases, the social housing requirement of quantity and the more articulate demand of quality in the private sector, the market responds unimaginatively and flatly based on very traditional technological definitions and with unbending types of solutions - partly due to current regulations - offering only additional space or equipment in terms of extra value.

These instruments support the planner in two key moments of planning: principally in the preliminary phase before planning proper, and later at the moment when the project moves on to the phase of technical and technological definition in detail.

Some local administrations, in particular those involved in phases of particular and intense urban building development, have started to place alongside their traditional control instruments for directing building activity and planning, codes of practice and guidelines in support of planning interventions. These actions, however, are also testimony to a need for a profound renewal of the normative system that governs public and private residential building, both at the level of territorial planning of interventions and at the level of the qualitative and quantitative offer of services or the use and management of resources. The established normative system is now considered tired and inadequate for interpreting the needs of contemporary society, as well as not being malleable and flexible enough to be able to welcome the occasions offered by the advances in technological innovations in the sectors of the construction industry, of management and energy services.

Regional, provincial and city governments in Italy, not without a certain difficulty and since the ‘90s, have started to become aware of the need to promote environmental policies aimed at improving the living conditions of citizens and mitigating the effects of building and manufacturing activities on the urban ecosystem, which is often already compromised. The evolution of environmental sensitivity and the spreading of the awareness that a common response that is sustainable socially, economically and technologically, supported by the acceptance of various European and national laws have led to the defining of a number of instruments of a local normative character for the preliminary definition and control of building activity from an energy and environmental point of view.

These normative instruments, that gather together national indications especially in terms of the energy efficiency of buildings and consequently on the energy management in building activities, are overcoming the traditional approach to building activity based on static control, health and spatial parameters. Local regulations have as their aim that of directing individual choices towards the collective interest that can be obstructed or damaged by the actions of individuals.

Sustainability puts itself forward as an additional value in the actions of local government, but also as an economic surplus in building up the exchange value of a property. The new needs picture that defines itself in relation to building activities, whether aimed at the construction of residences or buildings for the service industries, expresses a request for quality connected to the transformation of the models of use for buildings.
Even if this type of control action of the impact of building on the environment is assuredly an absolutely positive factor, the lack of coordination at national level may cause a number of difficulties in terms of harmonising the measures promoted and the control of their effects, leading to a certain amount of confusion among operators in the sector.

**Levels of action**

The levels of action of the policies relating to sustainability in building are primarily three: regional, provincial and communal; these three levels of action echo the levels of the articulation of government of the territory and building activity. The regions provide indications about behaving in the general interest and specific techniques relating to sectors, those that are particularly pertinent to them (social housing, health, education, etc.), the provinces have a very important role in the policies of specific sectors, in particular in housing, educations and on the management of resources and energy consumption, while the communes provide indications of a technical building nature relating to the construction and management of the entire building stock, irrespective of their intended use, while the communes also exercise a controlling role during the phases of construction and approval. The actions proposed by the various bodies are therefore in keeping with their various fields and levels of intervention in the management of building activity. In particular, in the management of public and private residential housing, the regions are in charge of the management and technical and economic planning for social housing and also manage the resources relating to the support of social leases, as well as coordinating the activities of the Local Agencies for Residential Building; the provinces have direct relationships with the Agencies for Residential Building, the communes in turn directly run their own building patrimony and administer in their territory the economic resources destined to the support of social leases, and, in close contact with the Agencies for Residential Building, manage the assignation of public residences to the end users. On the basis of recent national laws, they manage throughout their territory all the initiatives aimed at overcoming the “housing emergency”, and are therefore responsible for the final “local action plans” (2007-2011).

The normative actions and guidelines launched by the various administrations and different scales of action all represent activities aimed at the promotion of a culture and widespread practice of sustainable building. In this process of innovation of planning and building behaviour, the public administrations and, in particular, the local bodies entrusted with the role of directing and controlling the process of transforming the territory have to make themselves promoters and models of correct behaviour in the theme of sustainability. Local administrations are entrusted with the task of identifying best practices to be carried out by the operators in the building sector in their construction initiatives. This type of action requires a great planning effort of the part of local administrations, who are called upon to try out new ways of prefiguring the behaviour of the players in the process, and having to substantially remove themselves from traditional building norms that were generally obligatory and generalist, usually free of any contents to do with use, that are also useful in verifying the efficiency and efficacy of the proposed planning solutions or the technical solutions applied by the builders.

**Evolution of a culture of governing the territory and cities. Examples.**

The regions have a strategic role in the cultural renovation of the construction sector. The work of the regions on elaborating the guidelines on the control and governance of building activity contains in fact all the characters of the complex strategic
approach that allows, in the successive levels of action, the formulation of a policy of integrated approach in a sustainable key to the transformation of the human environment. In many cases, the introduction of criteria of sustainability or best practices aimed at the creation of sustainable buildings runs alongside the traditional indications and regulations, defining a new quality profile that is more complex and efficacious in terms of environmental impact, the wellbeing of users and the reduction of energy consumption.

Paradigmatic of this type of behaviour is the document of the Emilia Romagna Region that defines the criteria for the drafting of building rules for use by the communes in its territory. In this case, building activity is regulated on the basis of the buildings agreeing to two sets of requirements, one that is obligatory and compulsory, the other Voluntary Requirements, relating to the wellbeing and correct use of building works. This packet of requirements aims to improve the quality of life of the users in respect of the receptive capacity of the ecosystem, of the possibility of renewal of natural resources and of the balance between manmade and natural systems. The indications relating to the interactions between building and environment to reduce non-renewable energy consumption to reduce CO2 emissions in the atmosphere are of great relevance. In this articulation, the voluntary recommended requirements define an "additional" quality in the building project that the administration renders attractive from the economic point of view for the promoter by means of discounts on the costs of urbanisation.

The path taken by Emilia Romagna was followed by other administrations who articulated their guidelines, always distinguishing between regulations of a binding character and indications of a rewarding character, always identifying environmental quality and the sustainability of the interventions among the rewarded behaviours, but coming together to consolidate the perception of "added value" for environmental sustainability in building interventions.

Recent norms on the energy efficiency of buildings, the putting into effect of EU Directive 2002/91, and their consequent fallout on the management of building activities probably also come together to create a knowledge of the added economic value of a building’s better energy performance; this induced effect might function as a lever to trigger good behaviour at the level of installed complexes as well and not just buildings, involving not only the evaluation of energy consumption, but also evaluating user comfort, the production of harmful substances and rubbish and on the rationalisation of the use of water resources.

This is the case in the Municipality of Rome that, in 2006, emitted a provision that integrated its building regulations with a packet of indications aimed directly at the promotion of the creation of interventions for environmental improvement and for the use of alternative energies with particular regard to solar energy, the optimal use of materials, components and systems to attain adequate levels of thermal isolation and thermal inertia in the building envelope, as well as ensuring the profound permeability of the ground soil in urban areas. The path chosen by the Municipality of Rome was a forced imposition of specific regulations, turning therefore to indications of a quantitative character rather than relating to performance.

An intermediate level of action of territorial governance, is that that has been launched in a number of provinces. The case of the Province of Lecco is representative of this approach. The province elaborated a packet of “Guidelines for the promotion of sustainable development in the instruments of governance of the territory and in building regulations”, which, starting from local energy programming, describe the use of instruments and strategies aimed at the promotion of sustainability in territorial, urban and building planning. This is a very flexible document and it is aimed at administrations, and
as such it is put together in a very efficient and streamlined way; the levels of action identified are only seven and their implementation is delegated to the communes who will follow the indications.

Another interesting experience is that of the Itaca Protocol for the energy and environmental quality of a building. This document is the fruit of the action undertaken by the national work group made up of representatives of all the regions and also attended by APAT (Agency for the Protection of the Environment and Technical Services), set up in January 2002 in the home of ITACA (National Association for Innovation and Transparency in Tendering and for Environmental Compatibility). The fruit of the work group’s activity is a shared work protocol that permits the attribution of eco-sustainability points to buildings, but, above all, with the adoption of the protocol, a shared method of evaluating sustainability in building interventions was established.

The case of the city of Turin probably represents an evolution of this operating culture. The city of Turin, apart from having recently rewritten its building regulations, had to confront, for the Winter Olympics of 2006, a phase of great investment in planning and control both of civic buildings as well as of huge facilities and infrastructure. This preliminary planning commitment has produced among other things a series of instruments that were useful in planning and controlling the construction of these works: among these instruments we remember in particular Strategic Environmental Evaluation (VAS) of the Plan for Intervention for the Winter Olympic Games of Turin 2006, which, other than providing general indications for the phases of activating the Olympic Programme formulated regulations for the elaboration of the projects of the Olympic works, and the “Guidelines for sustainability in the planning, in the building and in the running of the Olympic and Multimedia Villages”.

These documents represent specific strategic planning instruments of intervention and are not documents of general interest for the city, but given the dimensions of the interventions and the level of fallout from the works in the area of the commune, they came to constitute a major precedent in building practice in the city. Many of the indications elaborated in these documents were then taken up by the communes’ successive building regulations, in particular as regards the indications relating to energy. The Turin’s Guidelines are put forward as an operative instrument, aiming both at subjects involved in the running of the Olympic Programme and planners of the works foreseen for the Olympic Villages. The organisation of the guidelines is finalised with the aim of facilitating their application and therefore helping towards the attainment of defined objectives. In fact, apart from the requirements of environmental quality, the most appropriate technologies, the normative references, the indicators and the instruments to verify the satisfaction of each phase of the project, construction and use were also indicated. For the first time in a single document, all the fundamental requirements that characterise the energy-environmental quality of a building were synthesised and quantified. This document derives from the political-strategic will of the promoting committee to place the promotion of sustainable development, also by means of this document, as one of the fundamental objectives of the Olympic Movement, as stated clearly within Agenda 21 of the IOC. The Turin’s Guidelines were developed bearing these principles in mind, aiming, therefore, at obtaining with the construction works foreseen in the Olympic Programme concrete results for a more sustainable built environment.

For the experiments in course to ensure that sustainable building becomes a widespread and constant practice, it is necessary, on the part of local bodies, to promote a profound revision of the methodologies they have used up to today as a constant procedure in the provision of general urban and effective instruments.
Environmental qualification of the building product and users quality of life

The ex-post evaluation of these instruments in their application over time also allows us to evaluate if and how these new methods of aiming building activity have effectively influenced the quality of the built environment and the life of citizens. It’s evident how the impact of the new building regulations, provided by local bodies, when these were influenced by the intermediate information instruments pertaining to the protagonists of the process, were more efficacious and immediately productive. The case of the city of Turin is emblematic for the way in which the Guidelines for interventions for carrying out the Olympic Programme then went on to have an influence of the way of running ordinary building processes as well. The introduction of guidelines or codes of practice allows the speedier and more immediate rendering of the assimilation of planning and building behaviour than would have been achieved under legally obligatory regulations. The guidelines contained in a code of practice do not impose turning to a set way of behaviour or a given technical solution, but they help the planner and then the operator to choose in a more informed manner the best solution for the type of scenario they find themselves working in.

These instruments for directing and controlling planning activity in the specific case of public residential building allow the insertion into a sector of low, not to say very low, technological complexity, almost always run on a minimal budget, processes and product innovations that otherwise the operators in the sector would tend to refuse, considering them incompatible with their established practices, their economies of scale and their company profits.

It is important therefore to place alongside every new means of directing, planning or legislating building activity, instruments for evaluating and directing planning in such a way as to render immediately available for planners and builders an additional supply of competences and instruments to confront in a knowledgeable manner the planning of dwellings that are really suitable for those who will then go to live in them and/or manage them.

This type of instrument can in fact have an impact on the technical culture that is found in the sector: providing “unusual” competences and innovative technical solutions will also have an impact on the technical formation of single operators. Correct use and the implementation of codes of practice for the activity of planning and construction can lead to the demolition of the traditional distrust among workers in the sector, enriching their range of professional experiences and instruments.

Accompanying these indications with accurate economic evaluations of the various building procedures in terms of parametric costs related to the total cost of the works, placing them in relation to the performances of single procedures, will also allow the builder or the planner to chose the solution they prefer without compromising the overall performance of the building to be constructed, since they are always able to control with established and traditional instruments the overall cost of the interventions.

The code of practice or the guidelines, if used in such a way as to become also a means of capitalising on competences and technical know-how, will tend to become a real instrument of the technical brief at the disposition of the clients and end users.

The construction and development in time of a codified technical brief allows the consolidation of the competences of the client who has imposed and promoted them, leading to a profound redevelopment of the entire life cycle of the building system. The technical knowledge of clients, planners and constructors can therefore grow in a
physiological manner around the settling in of the practices that are analysed and evaluated in the codified technical brief. It’s as evident as it is banal that the patrimony of technical competences should be updated continually or periodically, drawing in any eventual feedback from the projects that have been carried out by various subjects, otherwise the risk would be that of ending up proposing an infinite series “catalogue solutions” proposed over and over in a sterile manner throughout Italy. If well managed, these instruments can be extremely useful for a redevelopment, that will also be economically sustainable, of the small commissioning organisations present in our country.

As things stand, the dissemination of this type of experience in a very compartmentalised sector both at the level of demand as well as supply, is undoubtedly strategic to reach all the subjects involved in the sector of residential building, much more so than legal provisions that are often perceived as oppressive and incomprehensible by those they affect. It is not possible to intervene on the environmental quality of the residential market if we don’t think first of having an impact on the technical culture of the operators in the sector, modifying some of the systems of operational relations that are not compatible with the new needs of the sector and the users.

These instruments always have to assume the role of a planning guide, in such a way as to be able to consolidate the idea of a city in which sustainable building is not just an occasional added value on infrequent occasions, but is a current practice in all constructions, even the most modest, as many of the experiences described can represent the departure point for the consolidation of this culture and this widespread practice.

References


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