

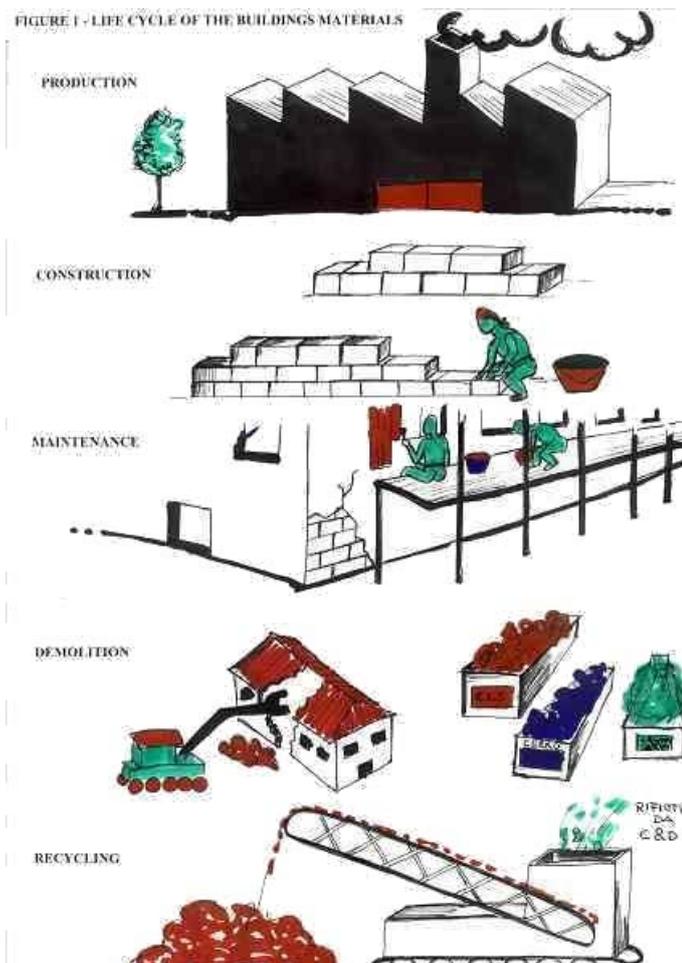
Problems of demolition and recycling in building

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The rubbles caused by the demolition of buildings, are normally considered "wastes" to hide, rather than "resources" to transform and to employ in the sector of constructions. Therefore open cycles of material are created that they don't allow the safeguard of the urban and natural ecosystem. It's opportune to understand that the resources and the wastes are two aspects of the same problem that have to be reorganized, through selective demolition and recycling operations. Made this premise, the modern architecture, through the reuse of the recycled products, could absolve the function of reorganization of the territory.

When talking about recycling it's important to not consider the demolition a conclusive operation that causes only wastes to damage the environment, but like one of the phases of the life cycle of a building.



Even if the demolition is conducted in a *traditional* manner, with a messy destruction of the building and with the propagation of noise, dust and vibrations, there are other systems being developed. *Checked*, for example, allows a work "checked" in the absence of vibrations, dust and noise. *Selective* makes possible the recycling of the discharge material, giving a better value secondary product.

Unfortunately in Italy, contrary of other European Countries, like Holland, a law doesn't exist that defines: the roles and the competences between the planner, the director, the enterprise, the conveyor, the recycler and the disposer. It will be the task of the planner to realize a **plan of deconstruction** that foresees a detailed description of the building, editing of a materials paper, that it associates a piece of them the better dismantlement technique. Thanks to the planning, the operations (removal of the hazardous wastes, removal of the internal installation and the building materials, removal of remaining furniture and other effects, removal of all the elements that could be reused, dismantling of the roof structure, demolishing of walls leaving the rubble in the proper heaps, sorting of the rubble for all impurities such as paper, wood, plastics, etc), will become easier for the employees the separate and market materials (Picture 2).



Container for the distribution of the different fractions of construction or demolition waste

Therefore demolition techniques will be decided according to the cases that present themselves.

Examples of selective demolition that have been made from Countries of the European Union, including Italy, it could have been ascertained that the sale of the secondary raw materials, can compensate a big part of selective demolition.

In order for the activity of recycling to become practical, a radical transformation of the dominant mentality is necessary. While the technology must return to be a tool in the hands of men, the law needs to start guaranteeing of environmental safeguard.

Possible interventions to promote the recycling:

1. *School education programs about the environment;*
1. *Review of the organizational process, planning of the components, technological solutions, construction, maintenance and demolition. Recycling is a phase of the life cycle of a building and follows demolition; therefore it could not be spoken about recycling in correct and advantageous terms if first it doesn't become feasible an adequate demolition;*
2. *Creation of a recycling market. Recycling makes sense only if the selective demolition happens and this is convenient only if the market for the recycling exists. The two phases are dependent between them and are justified with the existence of the market of the recycling. Unfortunately, in Italy, it doesn't happen, in fact, even if demolition is made in traditional or selective manner, the recycling is little and the areas of harvest and of deposit of the raw materials seconds miss ;*
3. *Introduction of the decrees and fiscal incentive able to benefit the price of the secondary raw materials as regards of the raw materials;*
4. *Introduction of the qualitative requisite (mark of quality), to promote and to guarantee the high quality of the recycled products to employ not only the jobs of road filling but also the new constructions (Figure 3);*
5. *Formulation of secondary raw materials list with the possible employment.*



Heap of recycled materials

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