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Changing urban dynamics: Empty building spaces

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Abstract

The Netherlands are facing a problem of vacant buildings or building spaces. The present study focuses on vacant office building spaces and their possible solutions. The transformation or reuse of the building has not been very successful as the available space is way too large or does not meet the requirement fully. The study focuses on the possible transformation based on area, location and feasibility. The study has analysed and suggested multiple feasible solutions to the empty spaces in Amsterdam as per the current scenario. The environmental impact by these transformations has been calculated in terms of Carbon Equivalent, making it a sustainable approach towards development of future. Then the Carbon Equivalent has been converted to carbon credits to evaluate the benefits of the transformation in financial terms. Last but not the least, the study has analysed the current scenario in developing countries like Saudi Arabia and India and suggested to take required steps at present to avoid problems in future.
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Keywords: Vacant space; Sustainable; Transformation; Carbon Equivalent; Carbon credit

1. Introduction

The Netherlands deals with more and more vacant office space in spite of increasing population. In the first half of 2011 around 7.04 million m^2 (square metre, sq. m) of building space was vacant. This brings the total vacancy in the Netherlands at a number of 14.4% of the total office space in the Netherlands. The total sold square metres are 505,000 in the first half year of 2011, way below the common level (Algemeen Nederlands Persbureau, 2011). In a 'healthy' office market around 4–5% is normal for vacancy in buildings (Zuidema and van Elp, 2010). This space acts as a buffer area to meet up to the normal space requirement without the construction of any new area, likelyhood of moving from one place to another, to be available for rent or sale. Besides this we also have empty school buildings, industrial complexes and so on. This paper is a combined

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attempt of various fields (Facility Management, Architecture, Environmental and Civil) to find a solution to these vacant office building spaces in a sustainable manner.

In Amsterdam, the capital of the Netherlands, 17% of the office space is empty. This is around 1.3 million m^2 of vacant office space(Zuidema and van Elp, 2010). The municipality of Amsterdam sees this as a problem and wants to solve this problem. The owners of the buildings will not work out solution by themselves, because they often pay less the way it is. Often when they need to rebuild it or change it from office into residence, it will cost them more money or the rent will drop down. So if the municipality wants to change this situation they will have to be the one who has to work on it. They made a map about how many buildings are empty or only partly empty because we are not only talking about totally empty buildings, but also buildings which are 30% or 50% empty.

One of the problems is that there are requests for residence, education and healthcare, but the buildings that are on the market to rent or sale are mostly office buildings and some shops. There is not really a request for a building of 100,000 m^2; there are requests for smaller spaces/areas. The groups that are searching for a location are not always looking for the cheapest, but many others, of course, are looking at the location of the building or at its quality. So it cannot be concluded that expensive buildings cannot find renters, it depends on what they have to offer for that price.

In June 2011 the municipality introduced a new law in Amsterdam: Owners whosebuildings which contain more than 10.000 m^2 and are empty for longer than half a year, have to report their buildings to the municipality. If they do not report their buildings they have to pay a fine/penalty to a maximum of €7.500. Buildings which are empty for more than a year can be assigned with a new owner by the municipality and the owner hasto approve, unless there is a good reason. It can be given to students, artists or a company who want to move into the building (Zwerfkei, 2011).

But there are more solutions than giving the building to students, artists and companies, why not consider elderly people, handicapped children and the public/community. These groups also ask for more places to work, live and spend their spare time. Since empty buildings have divergent structures the options have to be considered accordingly. This is seen as a problem, they occupy space which could have been used differently and we have to incur costs to keep the buildings in good condition. To keep a building in good condition is not easy, for an empty building this is even harder.

In the Netherlands for example 14% of the buildings are not used. And in some towns even 20%. This is too much and they expect it to increase only more. Here are a few options that were considered to be feasible and economical for the reuse of empty building space, because there are a lot of requests for other buildings.

2. Methodology

The study focuses on the problem of empty building spaces in Netherlands and suggests multiple solutions to how these can be utilised saving resources and money at the same time. The empty building can be empty as a whole or can be empty in part (30–50%) which the study has termed as empty building spaces. To make it relevant and easier empty building and empty building spaces both represent thesame. This is not a case study of a single building, it is a collective study of all buildings or building spaces.

The environmental impact has been evaluated in terms of Carbon Equivalent, produced for constructing the required space of the same area.

The Carbon Equivalent has been evaluated in terms of carbon credit to evaluate the financial benefits which are totally overlooked when empty building space problems are solved.

Lastly the study tries to set up the example of Amsterdam in developing countries like Saudi Arabia and India, because what the developed country faces now will be faced by them in the very near future. Saudi Arabia and India both share the same pattern of construction boom going around all over the country and are emerging economies at global level. Further the authors are from these two countries which allow them to have a deeper and closer study of the developing pattern of the two countries.

2.1. Healthcare facility for the elderly

Office buildings can be altered to be used as ahealthcare facility. In the Netherlands the demand for healthcare facilities is growing, especially for elderly people and children with disabilities. This way we have nice spaces to build the facilities the elderly people need. Because the office buildings are often large we can make multiple wings in the building: a wing with rooms to live in, a community space, a place where the doctor has his office and so on. In the summer they can go outdoors easily and meet with others on a terrace, but in the winter it is often too cold and elderly people do not go out to meet others. So if we make a community space they can still meet others. That makes it nice for the people who live in this building too, because people from outside also visit. Handicapped children often need some facilities that are the same as elderly people: consulting a doctor, need for medicine, frequent need for places to practise and maybe a few classrooms. These can all be provided in one building .

2.2. Public spaces

In the ‘new trend of working’ people want to meet and discuss work in public spaces. . They do not have to go all the way to the office, they can just meet midway in public spaces from their own homes. In such public spaces they can meet and have their conversations in peace. And not too much investment is required, just some relaxing

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