

Cost-efficient development, infrastructure and land recycling in the downsizing of large residential areas

Initial situation and task definition

Because of the declining population and the large number of unoccupied flats 350.000 apartments in the new East German states are due to be demolished within the scope of the programme "Stadtumbau Ost" (Urban regeneration in the East of Germany) by 2009. The main focus is on areas with buildings made with precast concrete slabs, because of the large number of vacancies there. That means the actual number of apartments will be reduced by a third or even more in many of these areas.

The infrastructure of these areas will have to be adapted to the reduced size of the building complexes and to the changed use of the available space. They must also be reduced in such a way that new structures are created which are functionally, technically and economically viable, and which conform at the same time to the requirements of the housing industry and of urban planning.

Objects of the analysis were

- conditions in actual buildings and criteria for creating new structural concepts,
- coordination and control of planning and implementing these concepts,
- currently practised solutions for the adaptation of the technical infrastructure and their costs,
- planned and realised use of spaces, where buildings have been demolished.

The survey was carried out using examples of housing areas in the cities of Gera (Thüringen), Stendal and Gräfenhainichen (Sachsen-Anhalt) and Parchim (Mecklenburg-Vorpommern).

Results

The study found that in earlier concepts for the reconstruction of housing areas aspects concerning urban planning and the housing industry were foremost. The technical infrastructure was not sufficiently considered. When the actual implementation began the technical, judicial and financial problems resulting from this became apparent. In the meantime, the technical infrastructure has been accorded higher priority, although there are still conflicts of interest between the different parties involved.

It is now generally accepted that the most favourable solution for the technical infrastructure is if extensive demolition is carried out on the edges of residential areas, because the public mains and sewage system can be completely shut down and dismantled. Costs for the reconstruction of the mains are thereby avoided and further costs are reduced. In contrast the thinning out of a whole area is unfavourable, because the mains have to be preserved for less users. Because of

the special development in areas with buildings made with precast concrete slabs many adjustments are often necessary. The mains often run through the cellars of the buildings, so that, when buildings are demolished, gaps in the mains are created, which have to be closed.

In practice, extensive demolition at the edge of residential areas cannot always be the solution of choice, because it is often especially these buildings which have already been renovated, are rented out to good tenants or have been taken into private ownership. Therefore buildings or groups of buildings often remain inside demolition areas as 'islands'; their public mains supply and sewage system thus have to be newly organised, resulting in considerable costs.

It is important that the concepts provide long-term solutions and keep open the option for later demolition to correct technical and urban planning solutions which are unfavourable. On the one hand the concepts have to be flexible to react to the future development of the population and vacancies. At the same time they have to ensure maximum planning reliability for all parties, especially for the suppliers of public utilities and sewage systems. One tried and tested solution is the determination of guaranteed areas in which no demolition is planned, and of designated areas on which the demolition is concentrated. This demolition can then be planned in detail when the need arises.

One difficulty in implementing these concepts is to organise the order of the demolition of the buildings in such a way that the mains can be closed down at the same time. This difficulty arises from the circumstance that the houses in areas with buildings made with precast concrete slabs are usually owned by several different housing firms. Often interim solutions are necessary to ensure the supply of the buildings which are scheduled for demolition at a later date. Such interim solutions and the resulting costs can be avoided by better coordination at the planning stage. If interim solutions cannot be avoided, examples for cost-efficient solutions are now available.

Planning and implementation for the later use of the urban spaces gained by demolition are usually not as highly developed as for the demolition itself. In the interest of sound planning for infrastructure solutions more precise conclusions are necessary. Planning is also partly complicated by the fact that the free spaces belong to different owners. Up to now these spaces are usually designated green areas with low planting – as an interim measure until the use is definitively clarified, but to some extent we find more complex designs to counteract deficiencies in the communal spaces and to improve the structure of the area. Only occasionally are these spaces used for smaller new homes, although this would be preferable for some locations. In some cases demand for such developments is uncertain, in others the resulting spaces are not very attractive.

Altogether it is apparent that for the demolition and the use of the resulting spaces

management and coordination is very important, because complex aspects in terms of urban planning, housing industry and technology have to be considered. Therefore adequate instruments have to be developed. Much is, however, now emerging and showing encouraging results, for example, working groups on "Technical infrastructure", lead-managed by the local authority or guidelines for the preparation and updating of urban planning concepts, developed, for instance, by the state of Sachsen. The allocation of subsidies for the demolition of buildings can also be used as a controlling instrument, in that they are only granted if comprehensive coordination with all parties is ensured and all issues concerning the technical infrastructure have been adequately considered.