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How can society provide affordable quality housing for less-advantaged groups in a way that facilitates social integration?

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Abstract

How can society provide affordable quality housing for less-advantaged groups in a way that facilitates social integration?

The housing policy of the Norwegian government aims at providing a better supply of affordable housing for less-advantaged groups. Many house hunters are encountering difficulties in today's high-priced housing market and the government is encouraging closer collaboration between local authorities and the Norwegian State Housing Bank (*Husbanken*) in order to improve the situation for less-advantaged house hunters.

The dispersal of affordable housing designed for less-advantaged people is a central issue with regard to social integration. Many Norwegian municipalities are trying to prevent an accumulation of social problems in specific vulnerable neighbourhoods. Consequently the erection of affordable housing should not be confined to areas having the cheapest sites. All parts of the municipality should have an adequate supply of affordable housing. Dispersal of affordable housing will also make it easier for people undergoing economic hardship to remain in their original neighbourhood.

This Paper discusses the various strategies that may contribute to the fulfilment of these ambitions. The strategies should aim at housing of good quality, taking into consideration future needs for universal design and energy-saving constructions. The costs for both housing construction and maintenance have to be estimated. Cheap solutions leading to premature wear and tear and high upkeep costs must be avoided.

Introduction

The Norwegian housing market

During the period 1993 to 2007 the Norwegian housing market underwent an explosive price development. The increased price level resulted in ever more groups being excluded from the normal housing market. By and large, the situation has deteriorated for those people who already had a difficult housing situation from before. This applies to groups that have traditionally been regarded as less advantaged, such as eg. the disabled, drug/alcohol abusers and single parents with transitional benefits as sole means of income. Furthermore, several new groups have had problems in the housing market both as regards buying one's own dwelling as well as paying increases in rent. This applies to such large population categories as young first-time buyers, as well as divorced and separated people. A great many single people with low and medium incomes are also having problems in the current difficult housing market.

From 2009 onwards, dwelling prices have shown a slight tendency to fall. As it has become more difficult to obtain loans at the same time, this fall in prices has so far not improved the situation for the less advantaged. The possibilities of buying one's own dwelling have not improved and the cost of renting is just as high as before while, at the same time, difficult economic times are leading to more people losing their jobs and ending up in the less-advantaged group.

The housing market in Norway is dominated by ownership. 80% of all households are homeowners, and renting a flat on permanent basis is regarded as a less favourable dwelling situation. The rental market in Norway is small, and dominated by private households that rent out parts of their detached dwelling. Professional landlords are found solely in big cities. The tax structure favour home ownership, and being a lifetime renter is regarded as a poverty trap.

Norwegian housing policy

In recent years Norwegian housing policies have only to a small degree tackled issues associated with social work and housing skills. There is a deep-rooted belief that Norway is a welfare state in which the inhabitants enjoy a high housing standard. The authorities' housing-political efforts have mainly been in the direction of attempts to limit housing consumption in order to create a housing stock that is more ecologically sustainable. The picture has changed, however, with the recent years' price increases in the housing market and the resultant exclusion of large sections of the population. The attitude of Norwegian authorities has also changed and they now wish to be more active in addressing issues associated with social work and housing skills.

Norway's Ministry of Local Government and Regional Development (KRD)'s memorandum to the 2009 State Budget states: "Through collaboration with others, the Norwegian State Housing Bank aspires to improve preconditions so that they can assist people who need help in obtaining a dwelling and provide the necessary services associated with housing requirements." The 2009 State Budget also implies that many residents who today are dependent on municipal housing benefits or social assistance will now be able to obtain state housing benefits, thereby reducing the municipalities' expenses.

The Norwegian State Housing Bank is trying to ensure that the amounts saved by the municipalities are used for upgrading existing property and acquiring new rented accommodation for less-advantaged groups. In addition to achieving an increased proportion of municipal rented accommodation, efforts will also be made in getting less-advantaged persons who so wish into their own dwelling. This can increase the turnover of municipal rented accommodation so that municipalities can have more dwellings available to meet the challenges they will be confronting next year, partially as a result of having to accommodate many more refugees. It is therefore desirable that one can offer a wider range of affordable dwellings for less-advantaged who have problems in obtaining suitable accommodation in today's difficult housing market.

The dispersal of affordable dwellings and dwellings for less-advantaged people is a central theme with regard to integration of less-advantaged groups. Municipal authorities wish to prevent an accumulation of social problems in specific vulnerable neighbourhoods. Consequently the erection of affordable housing should not be confined to areas having the cheapest sites. All parts of the municipality should have an adequate supply of affordable housing for the less advantaged. Dispersal of affordable housing will also make it easier for people encountering economic difficulties involved to remain in their original neighbourhood.

The study: "Affordable dwellings for the less-advantaged"

With this as background, the study "Affordable dwellings for the less-advantaged" has acquired knowledge that can help towards developing models for affordable dwellings. One important precondition has been that the dwellings should be built to a high quality standard and have a cost level that is also favourable in terms of running costs. Cheap solutions leading to premature wear and tear and high upkeep costs must be avoided.

The project which started in the autumn of 2008 has been divided into three phases:

- Preliminary investigation in Central-Norwegian municipalities
- Knowledge status/example collection
- Seminar about affordable housing for the less advantaged

In the preliminary stages of the study it was important to gain an overview of the municipalities' knowledge requirement and typical problem aspects regarding the theme affordable housing for the

less advantaged. This can vary from place to place depending on size, special demographic features, etc. The municipalities' resources and opportunities for providing affordable housing was also examined. Such resources can eg. be municipal/private co-operation, expertise within the municipality's professional staff, proactive site policies, etc. The survey of municipal requirements and resources should provide guidelines for the task of collecting information about possible models for affordable housing.

The task in the next phase of the study was to chart alternative proposals for solutions and models for affordable housing. Examples of the development of affordable housing from various Norwegian and European towns and municipalities were studied. Data material was collected from relevant literature, research documents, articles and information on web pages. One set of case projects representing different approaches with a high degree of relevance for the Central-Norwegian municipalities was selected. The aim of the selection was to concretise differing approaches to the problem at hand and to see how alternative solutions could be formulated in practise.

The work in connection with the knowledge status formed the basis for a seminar with participants from Central-Norwegian municipalities, the building and construction industry, estate agents and the Norwegian State Housing Bank. Knowledge gained from the previous work was imparted to the participants via presentations of the selected cases by representatives from differing project examples. The seminar also functioned as a discussion forum with panel debate where various relevant themes were debated and where the participants were given an opportunity of putting questions to the speakers. Salient points of focus for the seminar were:

- Integration and participation
- Quality at an affordable cost

Preliminary investigation of Central-Norwegian municipalities

A preliminary investigation of ten Central-Norwegian municipalities that was conducted by NTNU Samfunnsforskning AS (Thorshaug & Berg, 2009) shows that the municipalities express varying needs for knowledge regarding affordable housing for the less advantaged, what is considered affordable housing, about low price necessitating limitations with regard to size, standard, location, who is a bona fide less-advantaged person in the housing market, what ensures efficient utilisation of government support. As well as how collaboration with the private sector can result in suitable dwellings

The municipalities wish to study various aspects of the dwelling's cost structure. In the development of possible models for affordable housing, low construction and acquisition costs of housing is demanded while, at the same time, maintenance costs must be kept to a minimum. According to one of the municipalities in the selection, the costs involved in building new dwellings will often lead to high rental prices and exceed the desired upper rental ceiling for municipal dwellings. This will involve subsidising that can be effected in various ways; hereunder through sites at below market value and financial grants. One alternative to subsidies is to reduce the profit margins of those involved in housing construction. The municipality found, however, that up to now there has been little scope for such an alternative in the market. Some of the expenses can be reduced by using efficient, recurring building and material concepts.

The municipalities have varying experience with regard to different forms of cost-reducing user participation. Many have found that residents take better care of a dwelling in cases where the resident develops a sense of ownership to the dwelling via user participation in the process. Other municipalities report that they place little faith in user participation, because this will "make the project more expensive and lose time." Many nevertheless demand models that include user participation for certain groups of residents, eg. young people who are setting up home, as well as

people with drug or alcohol problems. Many municipalities consider private enterprise to be an important supplement to the municipal measures. It is emphasised that the municipality ought to take responsibility for people who are especially at risk, and who cannot manage to live within the normal housing market, while others in need of a dwelling can be assisted in acquiring private dwellings through arrangements provided by the Norwegian State Housing Bank.

In the question of housing, the municipalities in the selection have expressed a wish that more groups of the less advantaged should be helped out of tenancy arrangements and into ownership. It is desirable to have more apartments for young people who are setting up home and other less-advantaged people striving to pay for, and eventually take over, the dwelling through various models of “out of tenancy into ownership.”

Case selection for the collection of examples and the seminar

”Selvbyggertjenesten, Stavanger eiendom”

Client: Stavanger Municipality’s self-build service.

Target group: People who do not possess their own dwelling, hereunder refugees and other residents in municipal apartments.

Cost reduction: Affordable owner-occupier apartments at cost price. Self-build which has both a cost-cutting and integrating aspect. The municipality is playing an active client/organiser role and is pursuing an active site policy.

Integration: Establishment of neighbourhoods with organised working parties. Tenants in municipal rental accommodation are being given preference regarding 10% of the accommodation.

Sustainability: Low energy standard and universal design. Accessibility at entrance level in 23 out of 73 dwellings.



East Jåtten, Stavanger eiendom

”Svartlamon boligstiftelse”

Client: Svartlamon Housing Institution, Trondheim Municipality.

Target group: Disparate resident group from 0 to 50 years of age; students, singles with or without children, wage earners and social clients, Cultural affiliation to UFFA. (*Ungdom For Fri Aktivitet*) young, active, former squatters from the area.

Cost reduction: Affordable rented accommodation. New building: affordable quality construction using rough and



Svartlamon

maintenance-free materials (solid wood) Areal-efficient solutions. Shared accommodation. The area also comprises older buildings where endeavours are being made to upgrade to a modest standard to keep down costs.

Integration: User participation through working parties, which reduces the management, running and maintenance (FDV) costs while helping to develop the residential environment.

Sustainability: Reduced energy requirements in the new building, the Svartlamon area has its own environmental plan.

”Bergensmodellen”

Clients: Comprising various housing associations in Bergen such as Bergen and District Housing Association (BOB) and Vestbo, the Bergen model is an organisational collaboration model involving the municipality, the Norwegian State Housing Bank and housing associations in order to improve the availability of affordable housing.

Target group: Less-advantaged as well as normal young people. Also young families and “re-establishers.”

Cost reduction: Affordable rented accommodation with modest standard. Evaluating various cost-reducing activities such as module building and affordable rehabilitation.

Integration: Integration between less-advantaged young people and other young people. “Out of tenancy into ownership” arrangements



BOBs rental housing in Damsgårdsveien

”BoKlok”

Client: Skanska/ IKEA

Target group: Small households. Single people with and without children.

Cost reduction: Owner-occupier and housing cooperative accommodation. Basic standard. Industrial construction reduces the costs and building time. Reduction in infrastructure costs with the help of terrain-level parking facilities, basic road systems and only basic groundwork for gardens/ parks.

Sustainability: New model. “Back to basics” has 50% dwellings with wheelchair accessibility.



Boklok project in Øvre Sædalen, Bergen

”Selvaag Hus”

Client: The Selvaag Group

Target group: Young, single, people setting up home and others with low incomes.

Cost reduction: Owner-occupier and housing co-operative accommodation. Industrial construction, modules, affordable sites, terrain-level parking. Proviso against resale to speculators.



Dwelling project Tuenveien in Fet

Integration and participation

Target groups

The various clients in the case selection have aimed at somewhat different target groups. Selvaag Hus and Skanska/IKEA have mainly concentrated on ordinary people with weak finances, but without any additional social impediments. Single households with and without children are an important target group. With their design concept, Skanska/IKEA has taken an imaginary resident as starting point. She is an auxiliary nurse and sole provider for one child. How much can she afford? What kind of dwelling qualities is she looking for? The residential environment must be safe and secure, but not necessarily central. However, close proximity to public transport facilities and other necessary infrastructure is important. Selvaag Hus caters mainly for households with an income of between NOK 150,000 and 350,000. Here we find mostly single households. According to Selvaag Hus, households with an income below NOK 150,000 NOK should be the responsibility of the municipality.

”Bergensmodellen” is aimed primarily at young people, both ordinary young people and those with additional social impediments, who are not yet established in the housing market. The collaboration with housing co-operatives results in the dwellings being encompassed by well-proven management, running and maintenance (FDV) arrangements. There are clear-cut co-operative and committee rules, and arbitration opportunities provide a means of solving conflicts among the residents. Svartlamon and Stavanger eiendom have elements of less-advantaged people with social problems in their residential areas. At Svartlamon there is an established resident’s organisation which holds regular open meetings. The Stavanger eiendom project East Jåtten has an organised resident’s association. This type of organised forum is extremely important for handling possible conflicts that could arise in the residential environment when residents with additional social impediments are to be integrated.

Integration of less advantaged

All the case examples cover a wide range of residents. Several clients have intake criteria for the dwellings thus ensuring diversity. New projects under the auspices of ”Bergensmodellen” are based on 30% of the apartments comprising rented accommodation at the disposal of Bergen Municipality for renting out to the less advantaged. 20% of the apartments should follow an ”out of tenancy into ownership” model and be offered to somewhat more affluent residents who have the possibility of entering the regular ownership market. 50% of the apartments are offered to young families who are setting up home. Stavanger eiendom has a norm of distribution for its self-build dwellings where 70% are allocated to applicants with children, 20% are allocated to applicants without children and 10% are

allocated to applicants who are renting municipal accommodation. It is a precondition that applicants do not possess their own dwelling or site, and a limit is stipulated for income and assets. The Svartlamon area too has clear-cut rules for admission where one strives to achieve a resident group comprising different people with differing resources and challenges.

Both Bergensmodellen and Stavanger eiendom lay store by the importance of having less-advantaged people entering the ownership market. The ownership percentage in Norway constitutes 80% of the total housing market. Owning one's own dwelling has clear tax-related advantages that a tenant forfeits. Ownership of one's own dwelling can create pride and enhance one's self-esteem. Consequently the dwellings are better looked after and the residents become better integrated in the residential environment. But ownership of one's own dwelling is not necessarily a precondition for enhancing the residential environment or for identifying with one's own dwelling. The Svartlamon area is a good example showing that it is possible to create an emotional attachment to rented accommodation that leads to the residents becoming involved to the benefit of one's own dwelling as well as the area as a whole.

User participation

User participation is an important keyword in this connection. One important precondition enabling Svartlamon to offer affordable rented accommodation is the fact that maintenance work on both the house and the outdoor areas is undertaken by the residents themselves. Most of this work is carried out by working parties (*dugnader*), thus creating a social network and sense of belonging to the neighbourhood. The self-builders in Stavanger eiendom's self-build areas also work as a team which is well-organised and led by a municipal site engineer. Skilled leadership is a precondition for ensuring that any work undertaken has the requisite technical-building quality. As in the case of Svartlamon, the work helps reduce the living costs for the residents. The self-builders' contribution represents approx. NOK 200,000 per dwelling. Here too the user participation is an important link in the task of building up a sound residential environment where several different groups of residents become integrated. 10% of the residents in the development projects come directly from municipal rented accommodation. Many of them are foreign-cultural immigrants with little experience of Norwegian culture. The self-builder teams give them valuable experience of Norwegian social conventions.

Self-building and other forms of user participation organised as teams gives less-advantaged people an opportunity of becoming better integrated in the residential environment. It also provides an opportunity of contributing with one's own resources. In everyday life which for many is characterised by passive, unilateral acceptance of government support, being given the opportunity to participate can be beneficial to both self-esteem and social integration. Co-determination is also an important factor for enhancing care and upkeep of the dwelling and the residential environment. Examples of house-building for the less advantaged from Kristiansund (the Dahlegata project) shows that co-determination with regard to choice of design and furnishing can lead to a reduction in vandalism.

Quality at an affordable cost

Building costs

The development costs of the different project cases vary from 12,600 Nkr/m² BRA (East Jåtten, Stavanger eiendom, figure from 2007) and upwards of 20,000 Nkr/m² BRA. The costs vary considerably and are also difficult to compare due to several factors. In large apartments there is relatively little infrastructure per m² of apartment area. This results in eg. terraced house apartments having a low m² price. Small apartments have a higher square-metre price, but lower price per dwelling unit. Vestbo sets an upper limit at 20,000 Nkr/m² (project cost) for its new projects. As a general starting point, we can estimate that project costs (including site costs) at 2009 prices ought to lie between 15,000 and 20,000 Nkr/m² BRA in order to be called "affordable housing."

In all the projects in the case selection the developers have worked actively to reduce the construction costs. These measures can be divided into five main groups:

- Standardisation and industrialisation
- Affordable types of building
- Affordable sites and outdoor facilities
- Areal-efficiency
- Basic standard

Standardisation and industrialisation

Many clients point to standardisation and industrialisation as important means of building affordable housing. Skanska, Selvaag Hus and Vestbo (Bergensmodellen) all based their projects primarily on modules and element construction made from wood. The use of modules greatly facilitates implementation of standardised building concepts. Furthermore, it provides the opportunity of producing dwellings in low-cost countries. Estonian Kodumaja is mentioned as being a suitable supplier. This company has also supplied modules to building projects carried out by the Danish Fund for Affordable Housing in Copenhagen. In addition to manufacturers in low-cost countries, however, there are also Norwegian suppliers with a competitive price level such as eg. Skanska's house factory in Steinkjer and Moelven ByggModul AS. Svartlamon boligstiftelse too uses elements (solid wood) in its new building. Construction with solid-wood elements is, however, so little tested or standardised that it has only contributed to a small degree to cost reductions in this project. Basic standard and areal-efficiency are the measures that have mainly kept costs down in the Svartlamon boligstiftelse project.

Modules and elements, however, do not always provide the cheapest solutions. Prices in the building and construction market vary from time to time, and in certain situations on-site building can turn out to be cheaper than industrialised production. A concept that is flexible with regard to production method will benefit from this. In its low-price concept "Back to basics," Skanska/IKEA has accepted the consequence of this and the dwellings can either be built on-site, as module buildings or as element constructions. It is quite feasible to build efficiently and affordably on-site. The terraced-house projects built by Stavanger Eiendom is a good example of this. The client emphasises however the importance of using common, standardised solutions throughout the project. Reasonable price does not provide scope for the house buyer to choose individual variations. The construction process is carefully planned and is implemented in accordance with a well-tryed model. The self-builders in the project are subject to strict discipline when working in work parties under professional supervision.

Affordable types of building

Selection of cheap types of building is an important feature of affordable housing. In the study *Valuta for pengene* (Value for Money) SINTEF Byggforsk examined eight housing projects within the categories terraced houses and apartment blocks. The study concluded that the terraced-house projects in the case selection gave house buyers better value for money than the apartment blocks. Basement parking facilities in particular represent a large additional cost in apartment buildings (Arge et al., 2008). The clients in our selection of affordable housing have chosen basic types of building without lifts (elevators) or basement parking facilities. The predominant construction material is wood. Skanska/IKEA's BoKlok concept, Selvaag's affordable types of housing and Svartlamon's new building all have external galleries with access via external stairways. The number of storeys varies from two to four. Due to more stringent accessibility requirements in the new Technical Regulations, Skanska/IKEA in its new "Back to basics" concept will limit building height to two storeys. This will provide wheelchair accessibility to all apartments on the ground floor (ie. 50% of the dwellings) without the need to install lifts (elevators). The terraced-house areas of Stavanger eiendom are built with two to three storeys with complete basement. The building development is cheap/affordable

while also providing good utilisation of the site. The disadvantage of course is all the stairways and the problems this causes in relation to accessibility.

Affordable sites and outdoor facilities

The choice of site is an important precondition in building affordable housing. Central sites are usually expensive and only one case project, the new building at Svartlamon, is located within walking distance of the town centre. The site in this instance is a municipal leasehold site, and in order to build new, affordable housing with such a location, one will probably be dependent on the municipality or other public authority offering a favourably-priced purchasing or leasing agreement. Alternatively, the rehabilitation of existing buildings could be a good solution. In "Bergensmodellene" they have worked actively on this question and in collaboration with the Norwegian State Housing Bank, the housing associations and the municipality, have chosen to place responsibility for acquiring affordable sites with the municipality, while the building associations assume responsibility for the construction and running of the dwellings. This is a model that could form a sound basis if one is considering developing a national standard with instructions/directives to the various participants about providing affordable housing.

The other dwellings are built in a suburban context where there are fewer price constraints. Accessibility to public-transport facilities and necessary services has however been given a high priority by the clients, because the number of households without a car is large in the target group for affordable housing. Ideally, the clients with module concepts want level sites to facilitate simple adaptation of their concepts. Level sites also reduce the costs associated with blasting and landscaping. All the case projects are based on terrain-level parking for cars. Several clients complained about municipal parking requirements being too strict, and that they should be viewed to a larger extent in the light of project type and resident group. There should also be a greater willingness to differentiate the buildings with regard to standard. Money that is used to develop parking places that will only remain empty, could be better utilised in improving quality in other aspects of the project. The development of roads is also a cost that could be reduced. Traffic-free environments, which are being sought by more and more families with children, are also cost-friendly.

Areal-efficiency

Areal-efficient planning is also a significant means of achieving affordable housing. Apartment layouts are worked on until one achieves a level where there is a minimum of unused area, and the design of the various rooms is based on minimum dimensions. This can, however, be taken too far. Wetrooms and other rooms in the dwelling requiring technical installations, water/sanitation, HVAC, etc., contribute substantially to the costs. Technical installations alone represent approx 1/3 of the building's total costs (*HolteProsjekts Kalkulasjons-nøkkel for 2007*). Small apartments with their own kitchen and bathroom therefore have a higher m² price compared to more roomy apartments and terraced houses. Small rooms with minimum dimensions are often difficult to furnish in a suitable manner and are awkward with regard to wheelchair accessibility. Lack of flexibility can also lead to the apartment needing adaptation to suit new user needs after a relatively short time. Another alternative is the combined usage of cost-intensive areas such as sharing laundry, kitchen and possibly bathroom. Shared housing, such as at Svartlamon, could perhaps be an alternative for more resident groups than one would normally imagine?

Basic standard

Basic standard is often mentioned in connection with affordable housing. Money can be saved both with regard to cheap materials and simple technical installations. As an example, HoltProsjekt's calculation key (*HolteProsjekts Kalkulasjonsnøkkel for 2007*) with a terraced house built to a basic standard has a m² price that is approx. 90% of that of a terraced house built to normal standards. What constitutes a "good enough standard" will naturally vary in accordance with a resident's expectations, needs and ability to pay. In the work with Skanska/IKEA's BoKlok concept, one has

found that not all buyer groups attach great importance to parquet flooring or bathrooms with tiles and under-floor el-heating. In their dwellings they use IKEA plywood flooring. The bathroom has Trespo panels on the walls and vinyl matting on the floor. What is important for the residents is that the construction is properly executed.

Some other projects in the case selection also emphasise the use of cheap materials. The new building at Svartlamon uses solid-wood elements as supporting walls and roof. These elements remain untreated in the interior. The woodwork gives a warm yet rough character to the interior, something that invites residents to make active use of the rooms, as well as adding new features such as open lofts, benches, etc. Maintenance problems are an important item with regard to material usage. Surroundings that show signs of deterioration are generally perceived as being unattractive. The rough solid-wood interior in the building at Svartlamon can easily withstand a scratch or two without losing its basic attractiveness. This is important in the case of rented accomodation where the turn-over of residents and general rough treatment exposes the building to much wear and tear. By using cladding of untreated heartwood pine, one has ensured virtually maintenance-free external facades. This material turns grey over time, and whether this feature is attractive or ugly is purely a matter of taste. In relation to the building's target group and location in industrial-looking surroundings, the choice of material would seem to be well considered.

Can affordable dwellings be considered sustainable buildings?

Sustainable land use

Building affordable housing with only two storeys gives low site utilisation. While this could provide a sustainable degree of utilisation in less-central areas, it is scarcely acceptable in more central sites as it conflicts with the wish for closer and more compact development, thus helping to reduce urban sprawl. One possible strategy in this connection could be to arrange for changes to be made over time. Construction using modules provides an opportunity to move and relocate dwellings elsewhere when required. Two-storey basic module buildings can eg. be built as temporary rented accomodation on municipal leasehold sites in new-development areas where there are less constraints, or on central sites where future urban development-plans have not yet been clarified (transformation areas). The dwellings could then be moved once the area has been re-designated. Affordable housing can be built advantageously in areas where the municipality is engaged in filling-in junctions. These areas are distinguished by being relatively cheap, but having good infrastructure that could be better utilised

Universal design

With regard to universal design, achieving accessibility by wheelchair can be the biggest problem in affordable housing. All the clients in the selection have chosen to build without lifts (elevators) and this aspect is repeated in other affordable-housing projects that have been examined. By building in only two storeys the new BoKlok concept "Back to basics" achieved 50% wheelchair accessibility within the building but, as mentioned before, such a form of development could result in less-sustainable urban sprawl. Stavanger eiendom has also worked actively with wheelchair accessibility in its projects. The terraced houses at East Jåtten have accessibility at ground level in 23 out of 73 apartments. As the apartments are on three levels, the accessible groundfloor comprises only one third of the apartment and the dwelling will therefore probably not be suitable as permanent dwelling for a wheelchair user. Nevertheless, the dwelling could be suitable as temporary accomodation for those with passing or terminal illness. Furthermore, the advantages of being able to receive visiting wheelchair users should not be under-estimated (Narvestad, 2008).

Generally speaking, however, most terraced-house apartments are not optimal with regard to design of accessible dwellings. On the other hand the external-gallery type that many clients have adopted when building affordable housing, ought to form the basis for building to both three and four storeys with elevators (lifts) and with wheelchair accessibility. The type is advantageous because an elevator (lift) can provide access to very many apartments so that the costs can be distributed among many households. Such types of building will also contribute towards improved site utilisation and less urban sprawl. Technically speaking, by using modules there is nothing to prevent construction up to three or four storeys within an affordable price bracket. . One example here is the Heimdal Group's project Ilsvika B4, a five-storey external-gallery building, constructed with concrete modules. The building has elevators (lifts) and wheelchair accessibility in 54 out of 59 apartments. Project costs per m² were NOK 16,115 in 2007 (Arge, 2008).



Ilsvika B4 in Trondheim

The floor plans of affordable housing are generally compact with rooms corresponding to minimum standards. This hinders wheelchair access. More generous rooms could solve this problem without necessarily leading to vastly increased costs. Conflicts can occur, however, in some instances. Single parents and families with many children usually want to have several rooms, and single people in particular will regard a double bedroom with room for a wheelchair as unnecessary luxury and a waste of space (Narvestad, 2008).

Environmental targets

With regard to energy-saving and environmental targets, many of the clients are taking these into consideration or are working on measures that will accomplish these targets. The introduction of stricter Technical Regulation requirements is obviously a significant driving force but, in advance of these requirements, Stavanger eiendom has also executed the terraced houses in East Jåtten as low-energy housing with balanced ventilation, and Svartlamon boligstiftelse has also set requirements for reduced energy consumption in its new building that exceed the regulation's requirements. Selvaag Hus reckons that new and stricter regulations with regard to both energy-saving and universal design will incur an additional expense per dwelling of NOK 20 to 30,000. Stavanger eiendom has calculated that low-energy standard with balanced ventilation has cost approx. NOK 100,000 NOK per terraced house. This corresponds to about 6% of the construction costs. Some of the Stavanger eiendom staff have had reservations about introducing balanced ventilation into the project. The reason for this is the need for maintenance. There are several groupings within the target group, among them foreign-cultural immigrants who are unaccustomed to adapting to modern technical installations and who one fears will not be capable of carrying out the requisite maintenance. In the course of time, therefore, the ventilation system could lead to a very unhealthy indoor climate. Less technically advanced dwellings would have been more user-friendly for this group of residents. Furthermore, there is little to show that the concepts for affordable housing that has been studied, create special obstacles for introducing energy-saving and environmental measures. The only problem in this connection is that the measures impose added costs on the projects.

Architectural design

Many affordable-housing clients, when presenting their projects, have encountered scepticism within the municipal planning and development administration. Aesthetic considerations are mainly responsible for this attitude. Several of the projects are module-based with repetition of identical elements. Module-based buildings, however, do not necessarily have to be aesthetically unsatisfactory. Examples from the Fund for Affordable Housing in Denmark shows interesting projects constructed with modules from Kodumaja, the same supplier that several of the clients in the case selection have been in contact with. Architectural design by such renowned Danish architects as eg. Tegnestuen Vandkunsten's terraced-house project in Karensminde, Copenhagen, show that module-based buildings can result in fine architecture, provided skilled architects are given the opportunity to work on the dwelling concepts.



Terraced houses in Karensminde

Basic standard, a sustainable alternative?

Generally speaking, affordable-housing developers want the authorities to provide more differentiated requirements. In post-war Norway, as in other Scandinavian countries, we have strived to attain a welfare society based on the ideal of equality. Consequently, the housing stock in Norway is generally of a very high standard – indeed, many will say that it is too high seen in relation to ecological sustainability targets. The housing stock is an important part of society's fixed assets, capital that will be transferred to future generations, and one therefore wants a high-quality housing stock that will withstand the test of time and meet the needs of the future. The fear of poor quality and durability is an important reason why there is reluctance to accommodate the wish for reduced standards to meet the needs of house-hunters who for economic reasons cannot find a suitable dwelling in the market-oriented accommodation currently on offer.

At the same time, it is realised that there is a limit to how much one can spend on less-advantaged house hunters in order that they can maintain an equally high standard of housing as the population average. Greater differentiation with regard to standards may be necessary when seen from a socio-economic viewpoint, and greater differentiation need not necessarily be a problem with regard to a sustainable development. On the contrary, good examples of affordable housing with basic standards that also satisfy requirements for dwelling quality, should provide adequate opportunities for people who want to live a more simple life with a modest and more sustainable dwelling utilisation. As long as basic construction and housing qualities are accommodated, which to large degree they are in the case examples, the availability of affordable and basic housing will enable more people to acquire a dwelling that lies within their price bracket. This ought to be a fundamental democratic right; just as a car buyer can choose whether he will buy himself a Rolls Royce or a Lada.