

Who We Are and How You Can Get Involved

SOA is a collective with the simple goal of improving the quality of living environments in Ireland by making new forms of housing available.

Our members and supporters represent a growing diversity of skills and expertise, and we are always open to new contributions and ideas.

If you would like to get involved, either to contribute time or expertise, or to join a group of people planning to create their own homes, please get in touch, or pop along to one of our workshops, Cohousing Cafes, or other public events.



Strategies for Participatory Design & Affordable Construction

The Cooperative City

Strategies For Participatory Design

Increasingly across Europe, the benefits of a cooperative approach of **top-down and ground-up** initiatives for making the city are being understood. In the UK, more and more local authorities are developing policies for community-led development. This is resulting in the increasing use of Community Land and Development Trusts (see Pamphlet #2) as a means for people to develop for themselves community housing and affect urban regeneration. Redressing policy that hinders city life can enable not only affordable living but also encourage **more meaningful civic participation and involvement**. Small adjustments to policy might improve financing options available to communities and groups, for example with low-interest loans. Planners might develop strategies for the introduction of Community Land Trusts and cooperative approaches to the housing such as cohousing. Local Authorities could **develop structures to support and inform** community-led development. A tool for a more democratic approach called Planning Cells (Planungszellen) is sometimes used in Germany. This is a similar structure to the **Citizen's Assembly** or the Charette. A representative group of people are given the necessary time and conditions to consider problems and issues in the urban context and to make recommendations. A tolerance for temporary or ephemeral structures allows people to **experience differently familiar surroundings and to re-imagine them**, as well as bringing life to unloved places in the city.

The design process shapes and influences the spatial form of a particular project and how and when it is built. It determines to what extent the project should be completed, ie. whether there should be scope to expand or contract the project at a later date and the **extent the users might be able to contribute their own labour** in the process. And it determines its attitude and openness to the wider community.

Lastly, the **process is also a tool for forming relationships and ways of working** and approaching problems and decisions during and after the design and construction phase

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Strategies for participatory design can allow for a more **democratic input of the users** (who can also be the client) who are directly affected by the design, but also members of the wider community – local business owners or neighbours who may be peripherally affected but are also recognised as legitimate stakeholders.

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Designing the Design Process

Traditionally, the people who use and live in buildings and neighbourhoods are peripheral to their design. Decisions are largely made by technicians: planners, architects, engineers according to priorities set by regulations and policy.

Cohousing and community-led development are founded on the idea that **the design process is open to rethinking**. Groups can determine for themselves how the process itself might be managed and how outcomes should be decided upon.

A central priority is often the **development of non-confrontational and democratic structures** for discussing problems and priorities and arriving at decisions, where each member has an equal say and no one person is allowed to dominate.

This process is usually **facilitated by experts** who maintain an overview of the necessary stages in the process and put measures or structures in place to allow groups to cooperatively work together.

In practice, this means a regular structure of meetings and workshops as well as the **setting of goals and timetables**. Work is sensibly divided according to the expertise of the group. The purpose of these frameworks is to allow the **teasing out of priorities** of the groups, to ultimately arrive at conclusions regarding spatial priorities, financing and so on.

The process is an essential part of the project. It allows the group to get to know itself, to build relationships and experience for the post-construction period.

Enabling Measures

For architects, the process of working with cooperative or collaborative groups is more challenging and time-consuming than conventional projects.

A number of architects have developed strategies to better work with groups to imagine possibilities for projects.

BAR Architekten **developed an interactive model** for the Spreefeld project in Berlin. Once the structure and service shafts were fixed, the model was constructed to allow residents to play with different configurations of non-structural walls and elements to better decide on spatial configurations according to their own needs.

LiD Architecture **developed a board game called 'The Enabling Space'** as a tool for design collaboration and spatial articulation for residents of the Camphill Community in Callan. It aimed to enable the mapping of gradations of private and shared space within a multi-residential community. (See link to video overleaf)

In Denmark, **apps have been developed** to facilitate groups setting up and informing themselves, and subsequently managing their housing.

An **app called MeetUp** has been developed for groups forming and meeting.

Borigo is for cohousing communication, virtual bulletin boards, booking washing machines and other management issues.

The Design Process

Within the design process itself there are several approaches that enable the group to **define and realise its priorities** and allow for more affordable and responsive architecture.

The Swiss thinker Lucius Burckhard advocated a way of planning that **does not try to determine every outcome** but defers decisions in favour of establishing goals.

A practical example of a more open-ended approach might be to **design buildings that are flexible and can expand and contract according to need**. So that perhaps as people grow older, they might easily be able to subdivide their dwelling to generate income.

Walls might be constructed so that they are easily mounted or demounted. Common spaces made so they are open to a variety of possible uses. Ways of engaging with the wider neighbourhood might be allowed to develop organically. **Private spaces can be finished over time** once they are constructed to a basic standard.

The design process is also be open to allow people to **engage with how the building is put together**, and what the ecological and health priorities are, as well as what is the most affordable construction technique. They can define for themselves techniques and approaches (some of which are described overleaf) that are compatible with how they wish to live with respect to ecology and the community, and which will also determine the quality and feel of the internal and external.



Self-Build Introduction

Self-build is when the **client gets actively involved** in the design, construction or project management of a construction project. Self-build can be any combination of getting involved from **physical sweat-equity to actively researching** options for design and managing the construction.

There are not many people or groups who can afford the time for a complete self-build. **Semi self-build is more common** where the client makes use of professional services, architects, engineers etc., combined with products like off-site components, modular or panellised systems and some project management.

Finding the right balance of input for a cohousing group is key to choosing the amount of individual input and the choice of the construction method.



Recent History

Walter Segal in the '70s, developed a method of modular house design made from the standard 'off the shelf' products that can be readily purchased. The **structure is simple enough for any person to tackle** and the concept is popular in the UK. More recently, the Segal method has been adapted to passive standard, the EU 2020 building regulations, by Hedgehog Self-build in the UK.

The Hedgehog group was helped by an intensive input from the local council. They **provided the necessary training** for self-builders and some of the finance to realise the project.

In Uruguay, **housing cooperatives have emerged as a response** to the housing shortage. Enabling a group of people to collectively own their own land and individually their own home. This model is being translated for use elsewhere as the South-South project.

The **approach utilises 'sweat equity'** as part payment of rent or lease, including non-construction tasks like maintenance that less abled people can carry out.

In the US, 'Rural Studio,' a part of the School of Architecture at Auburn University gives architecture students a more hands-on educational experience while assisting an underserved population in West Alabama's Black Belt region. The studio both enables knowledge sharing, helping people to help themselves and is an off-campus design-build program building projects.

Self-Build Options

PROCESS OPTIONS

For a self-build, the process of the build can be **problematic in terms of meeting regulations**, liability on-site and contracts. The process of certification and supervision could be a new direction, though not implemented yet in Ireland.

Bringing in a certification system for, or during, a self-build in conjunction with BCAR and SafePass which would allow unskilled clients to get the necessary training for a certain level of input to a construction project might be possible in the future.

CONSTRUCTION OPTIONS

In an urban context, likely a multi-storey build, the construction options for a self-builder demand a higher degree of skill. Multi-storey builds are subject to greater fire regulation, health and safety controls and urban sites can have access restrictions. In an urban context, for example, **utilising volumetric off-site construction** can provide the cohousing group with a building shell complete with services leaving the self-builder to finish the non-structural interior.

In a rural context, the **options for sweat-equity are increased** with low-rise, detached etc. max. 2 storey builds demanding less fire regulation. In both contexts, off-site constructions products can help the self-builder by providing systems that don't require a large amount of training for installation. An Irish example would be **Dominic Stephen's 25K house**.

Construction Idea: A

Course:

CAT

The **Centre for Alternative Technology** in Wales offers short courses for self-build with timber frame and self-build project management. Get in touch to find out more information and upcoming course dates. .

SOLAS SAFE PASS

Irish certificate training course to ensure that all workers in construction have a **basic knowledge of Health and Safety**, and be able to work on site without being a risk to themselves or others who might be affected by their acts or omissions.



Construction Idea: B

MMC for Self-Build:

WIKIHOUSE

An open-source project for designing and building houses. Download and freely modify building plans from the online library and then **use them to create jigsaw puzzle-like pieces out of plywood** with a CNC router. Construction of WikiHouse structures requires no special parts because the cut pieces of wood snap together. The **frame of a WikiHouse can be assembled in less than a day** by people with no formal training in construction.

INSULATED TIMBER FRAME

Semi-closed insulated, passive standard, **modular timber wall panels** can be made to order. The system is simple and accessible to the self-builder. The panels can be made according to your building design and come with a warranty.

Open Source Tools:

3D WORKSHOP

Sketchup is a useful and simple scheme design modelling tool for visualisations.

CAD

FreeCad is an open source 2D cad drafting program.

PLANNING

2-Plan is an open source planning and management system of simple and efficient project management toolsets.

FURNITURE

Find your nearest FabLab and construct your own furniture from open-source libraries.

Glossary

Materials:

CLT

Cross-laminated timber pieces bonded and laid in layers at right angles to each other, make large structural panels.

OSB

Orientated strand board, panels made from wood flakes bonded under pressure with adhesive.

SIPS

Structural insulated panels, a composite sandwich panel of OSB face with an insulation core.

Process:

CLOSED PANEL

Panellised system where the **parts are delivered with** insulation or lining, cladding, services, windows, doors etc.

OPEN PANEL

Panellised system as above where the lining or insulation, services, cladding etc. are **fitted afterwards** on-site.

POD

A **whole building element** delivered as a finished item such as a bathroom with fixtures, tiling and lighting completed.

VOLUMETRIC

A '3D' unit or uniform module, made as a finished usable space, a room etc. can be single or multiple and **joined together to form the whole building**.

Terminology

MODULAR

Or also **'factory made'** units of a building made off-site and assembled on-site as a volumetric whole.

PREFABRICATED

Not always modular, refers usually to a preset design of **manufactured parts for assembly** or delivered as a solution.

MMC

Modern methods of construction, an umbrella term to describe contemporary innovations and new technologies in construction.

Links & References

LINKS

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