

**THE SEARCH FOR HIGH DENSITY, MULTI-STOREY INCREMENTAL
HOUSING**

6th World Urban Forum, Naples, September 1-7, 2012
NETWORK SESSION, Wednesday, 5 September 2012 16:30 – 18:30

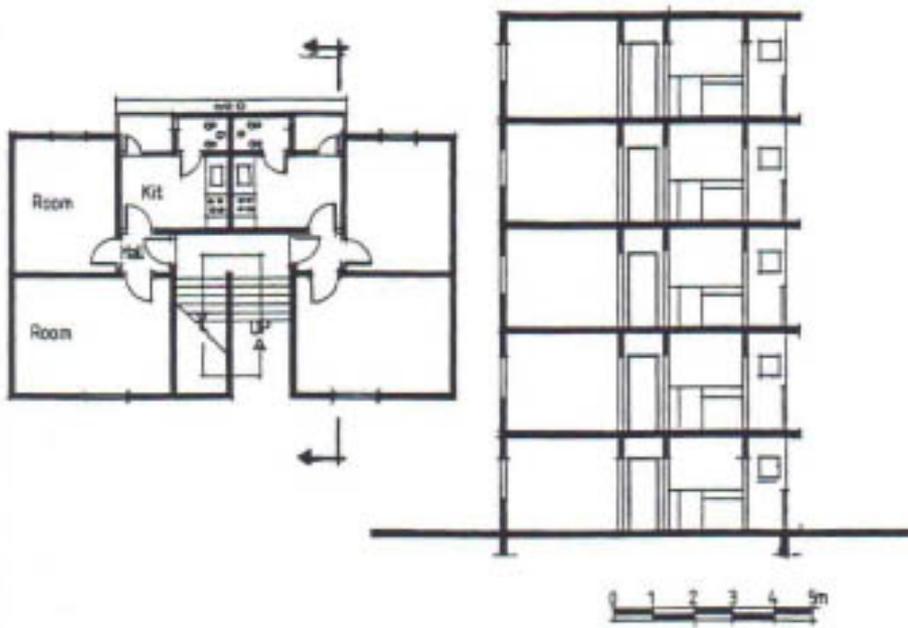
**Informal Public Housing Expansion:
Transformation of existing multi-storey
stock in Egypt**

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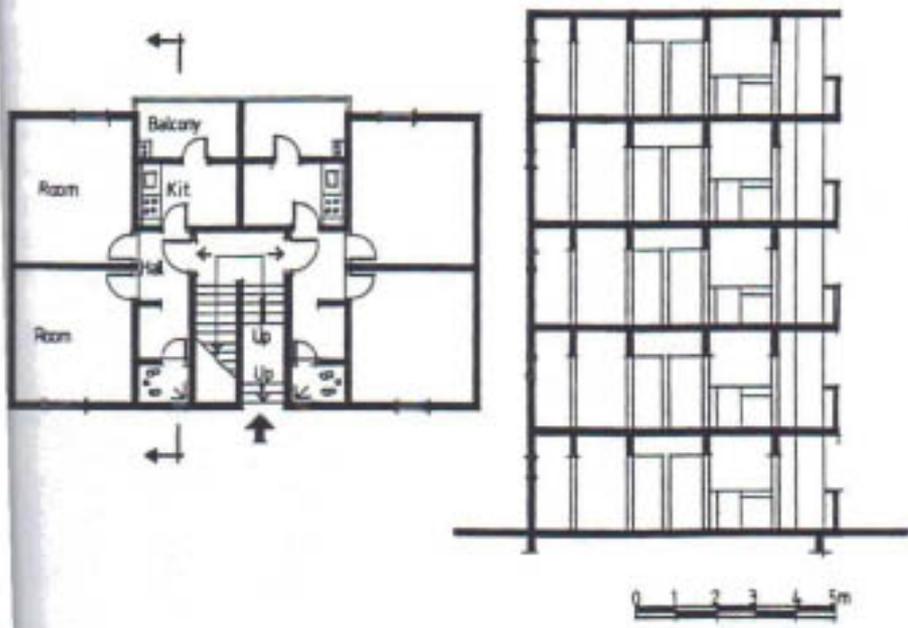
Flats were in quite poor condition in 1983, 18 years after completion





Two types of two-bedroom flats, as built.

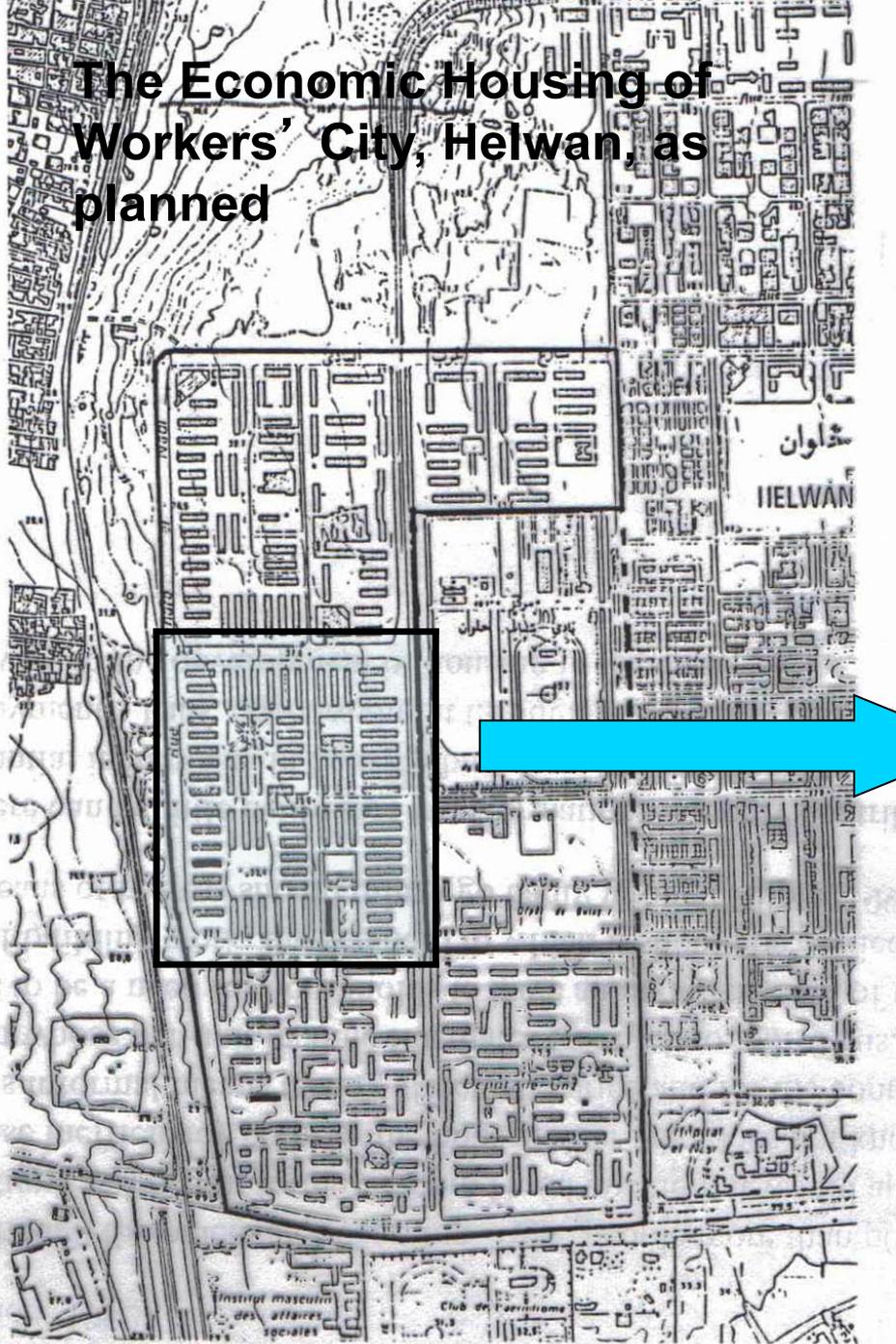
They chiefly differ in where the toilet and bathroom are and, therefore, where service pipes need to be accessed



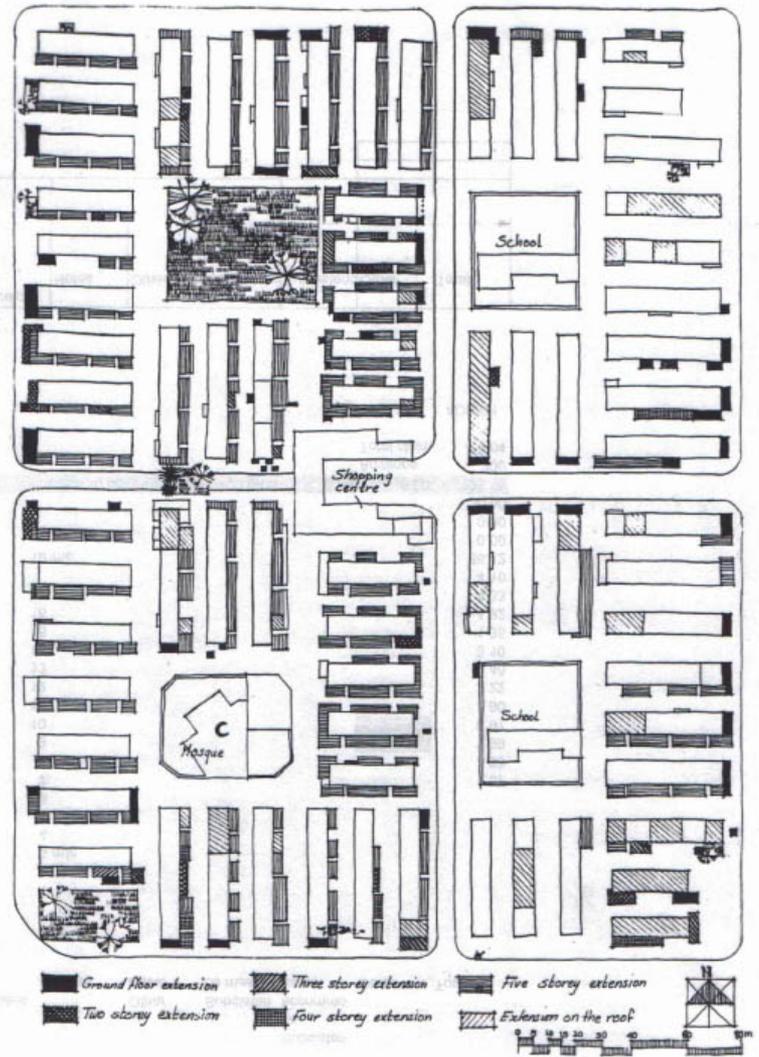
Research base of the presentation

- A brief visit in Jan 1983
- A small study of three blocks in Jan 1984
- A PhD by Hala Kardash in 1994 (1992/3 data)
- A DFID-sponsored international comparative study in Bangladesh, Egypt, Ghana and Zimbabwe in 1993-6.
- A short revisit in 2000

The Economic Housing of Workers' City, Helwan, as planned



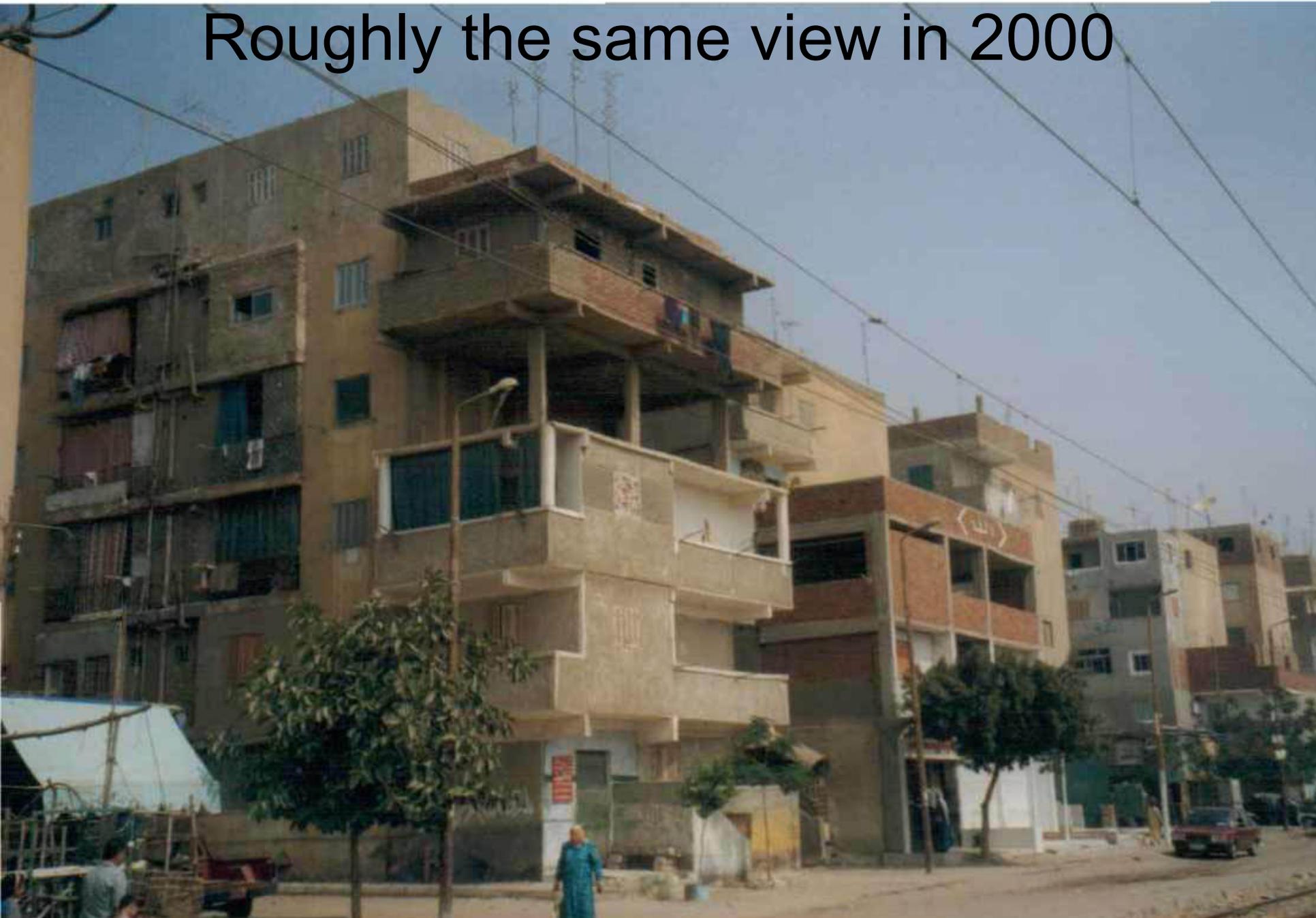
Extensions activity by 1993 From Hala Kardash's PhD



The appearance of the estate in 1983



Roughly the same view in 2000



Affordability

- Households spend about one year's income on extensions
- Some do it more than one phase
- Extended flats tend to be worth more than building cost – so good value
- Builders financed half the cost of the extensions up front, interest free over 24 months

Process of extension

- Extensions begin when ownership is secured
- Multi-storey stacks added by informal contractors (who suffer police ‘persecution’)
- Simple post and slab construction with brick infill
 - columns and slabs are mostly over-designed
- Households can choose not to join in, all who join in share the cost
- May ‘pay’ a council official for use of the land



Nature of extensions

- Plans break out through balconies (cues and clues)
- Alter kitchen space (becomes a through space)
- Add new room(s) and often a larger balcony
- Create some unventilated and unlit rooms
- Often express personality with decoration, etc.

Scale of transformations

- Tends to add fifty per cent or more to the original flat
- Partly dictated by neighbours above and below
- One in five is a reluctant transformer

Why transform?

- Few able to move to improve their housing
- Mainly provides more space for the household (very few rented rooms)
- Separation of boys and girls at night
- Allows married children to share with their parents, if necessary (driven by lack of alternative accommodation nearby)
- More recently providing space for home-based enterprises

Benefits of transformation

- Increases housing space for low-income households
- Allows separation of boys and girls
- Provides variety in accommodation, cost and layout
- Makes productive use of poorly maintained public space
- Makes better use of already serviced areas and reduces urban sprawl
- Leverages household finance into housing
- Allows commercial space on ground floors



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Examples of transformations in Helwan

- Images show the vitality and pace of change in transformation investment and construction

1993



2000



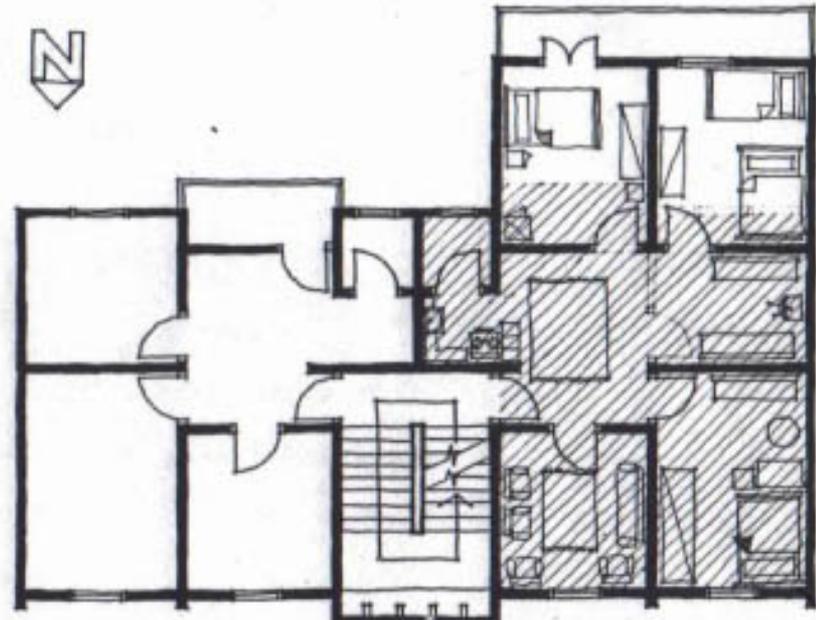
**Evidence of horizontal
collaboration**



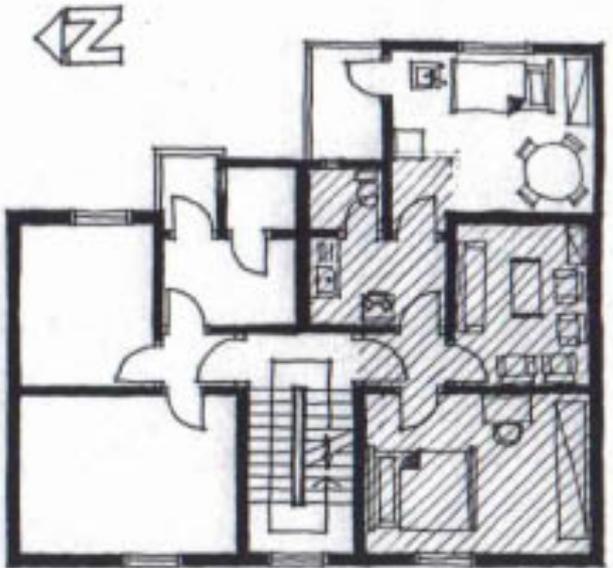


Level 2

It is relatively easy to break out of the envelope through the balconies, add more space and leave pipe-stacks clear for maintenance, or just covered by a balcony. The internal, unventilated room is not ideal.



Level 3

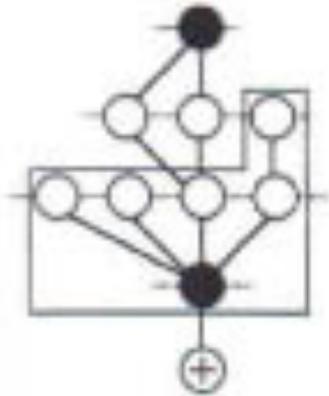


Level 2

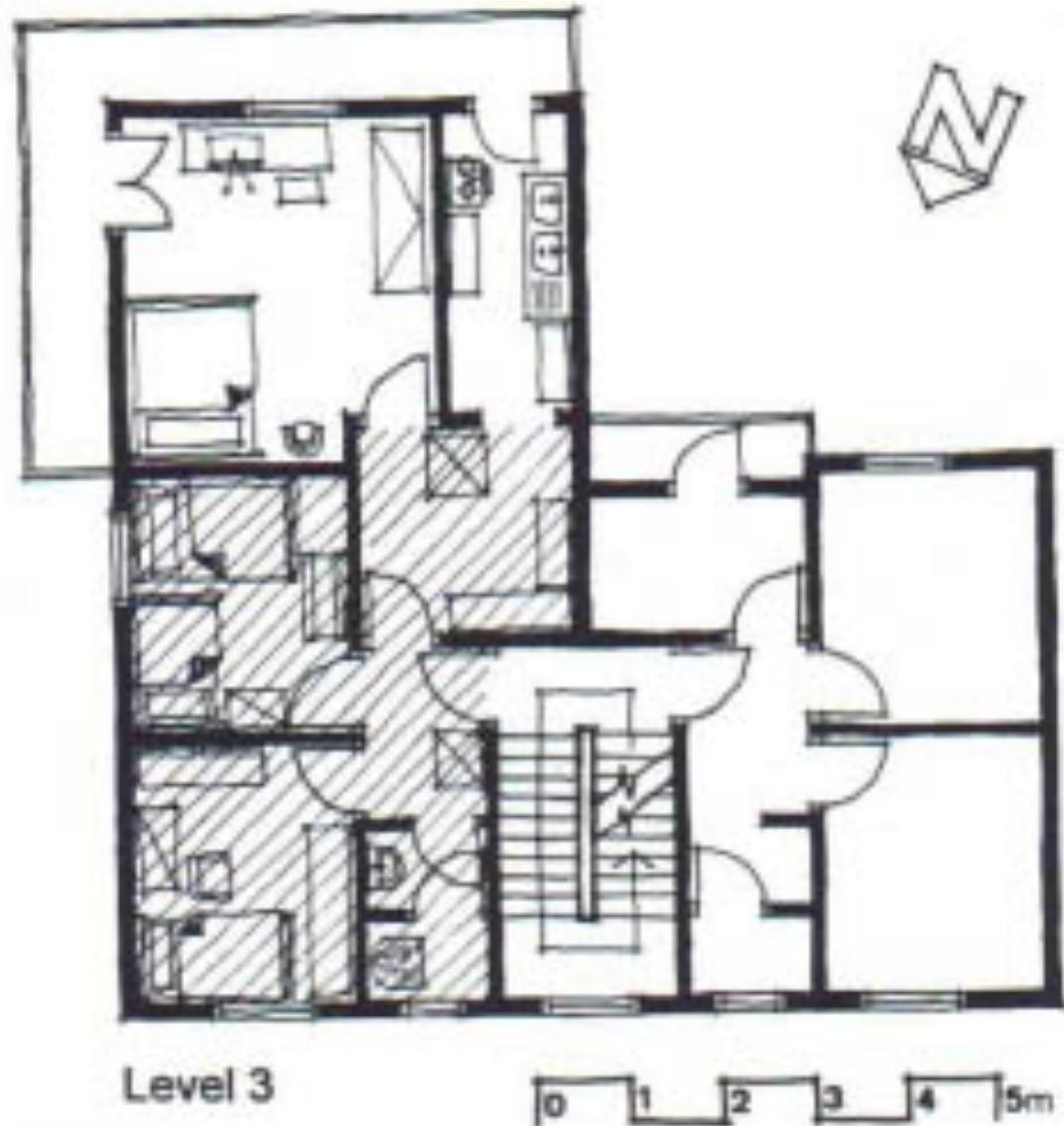


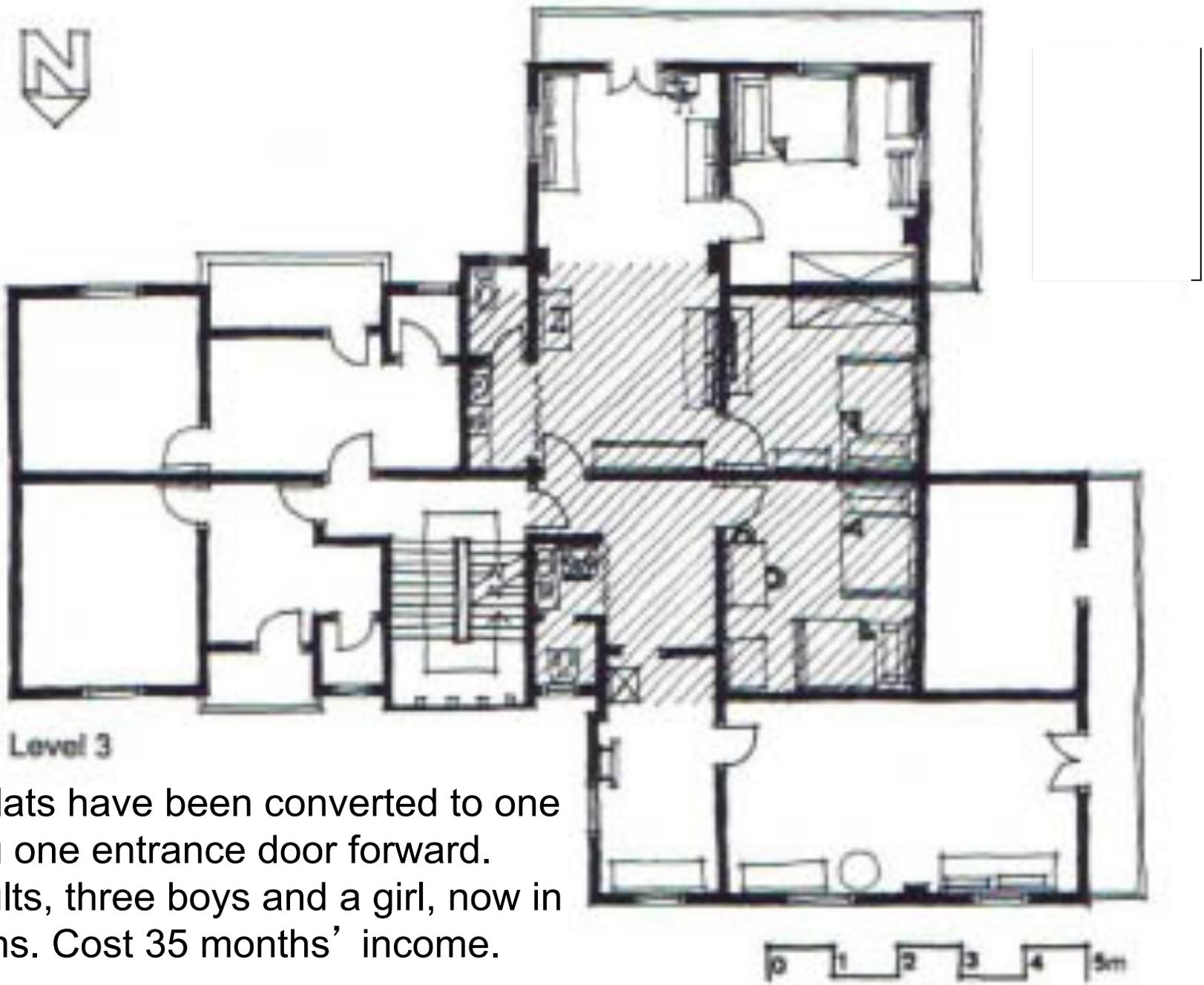
Level 3

Second floor end flat,
occupied by four adults and
three girls. Extension
provides a large kitchen and
a third bedroom with a long
balcony. Cost 33 months'
income



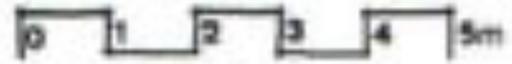
Space syntax shows the
extension is deep, those in
conventional dwellings tend to
be shallow (original flat is
outlined)





Level 3

Two end flats have been converted to one by moving one entrance door forward. Three adults, three boys and a girl, now in eight rooms. Cost 35 months' income.



1983



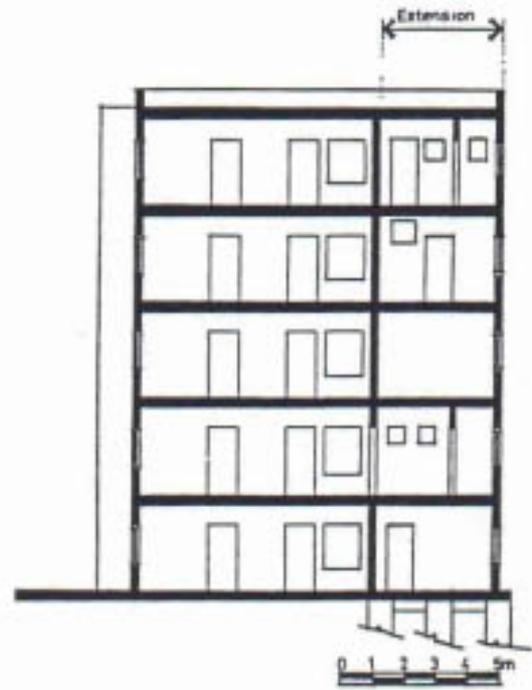
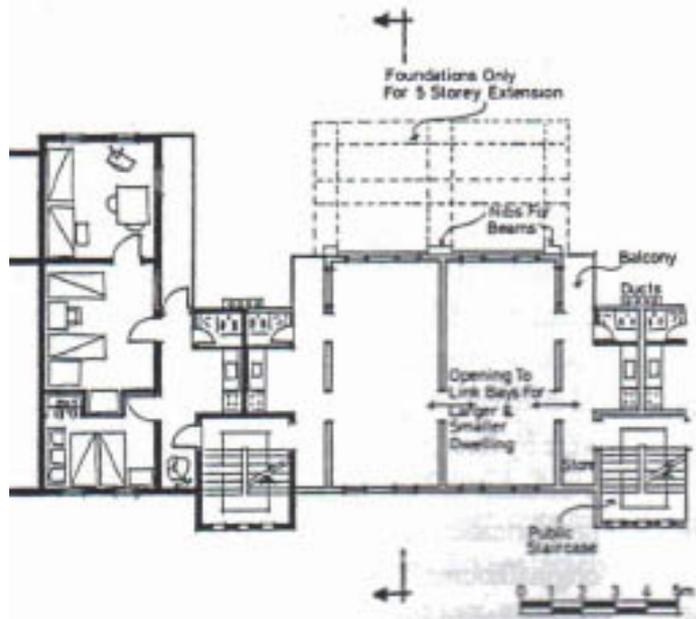
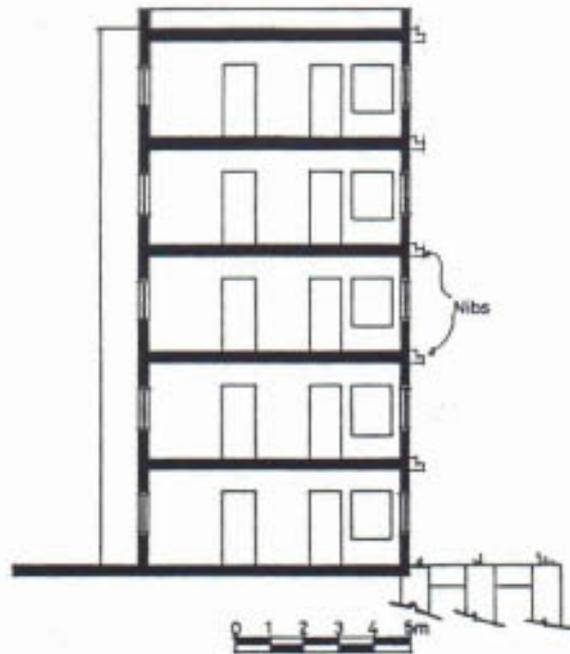
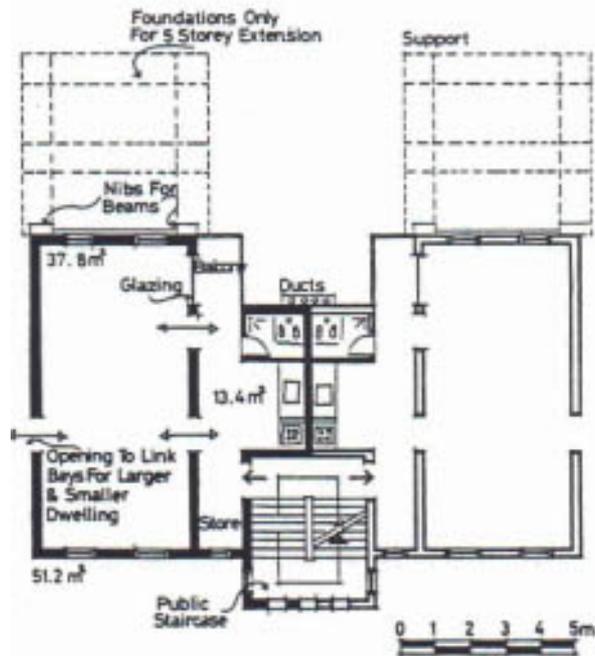
The next pictures show the changes in the first stack to be built. This shows damage by the local authority in an attempt to pull it down

1984



2000



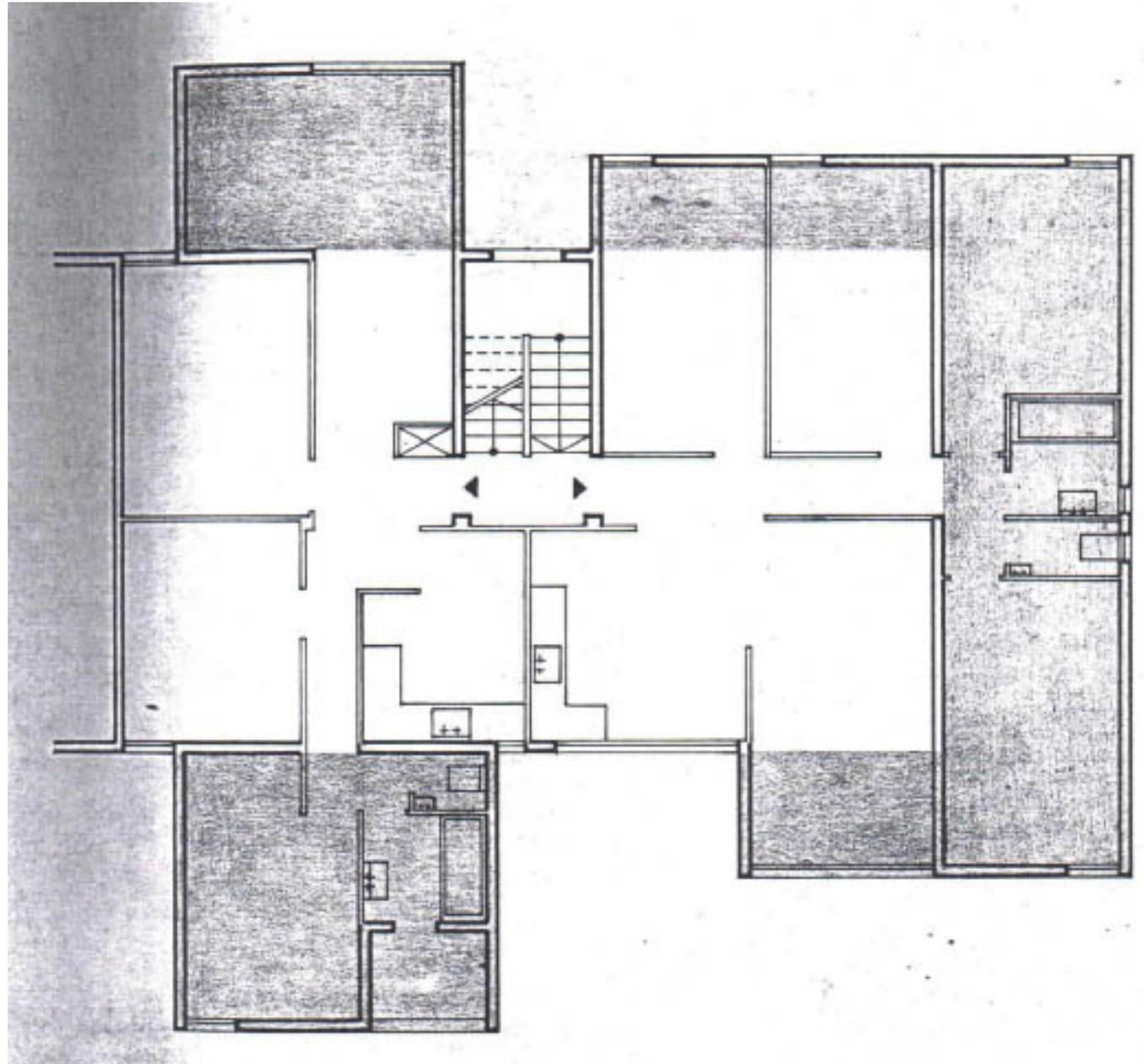


Nick Wilkinson developed a 'supports' -based plan for one type of Helwan flat to be designed with extension in mind. Foundation pads could be in place with nibs protruding for attaching the new structure to the 'mother building'. A front-to-back main internal wall with door openings would achieve better ventilation and daylighting.

Israel's Project Renewal encourages and subsidises transformations as part of an upgrading exercise



Plan suggestions for end and middle flats under Project Renewal in Israel in 1980s and 1990s.



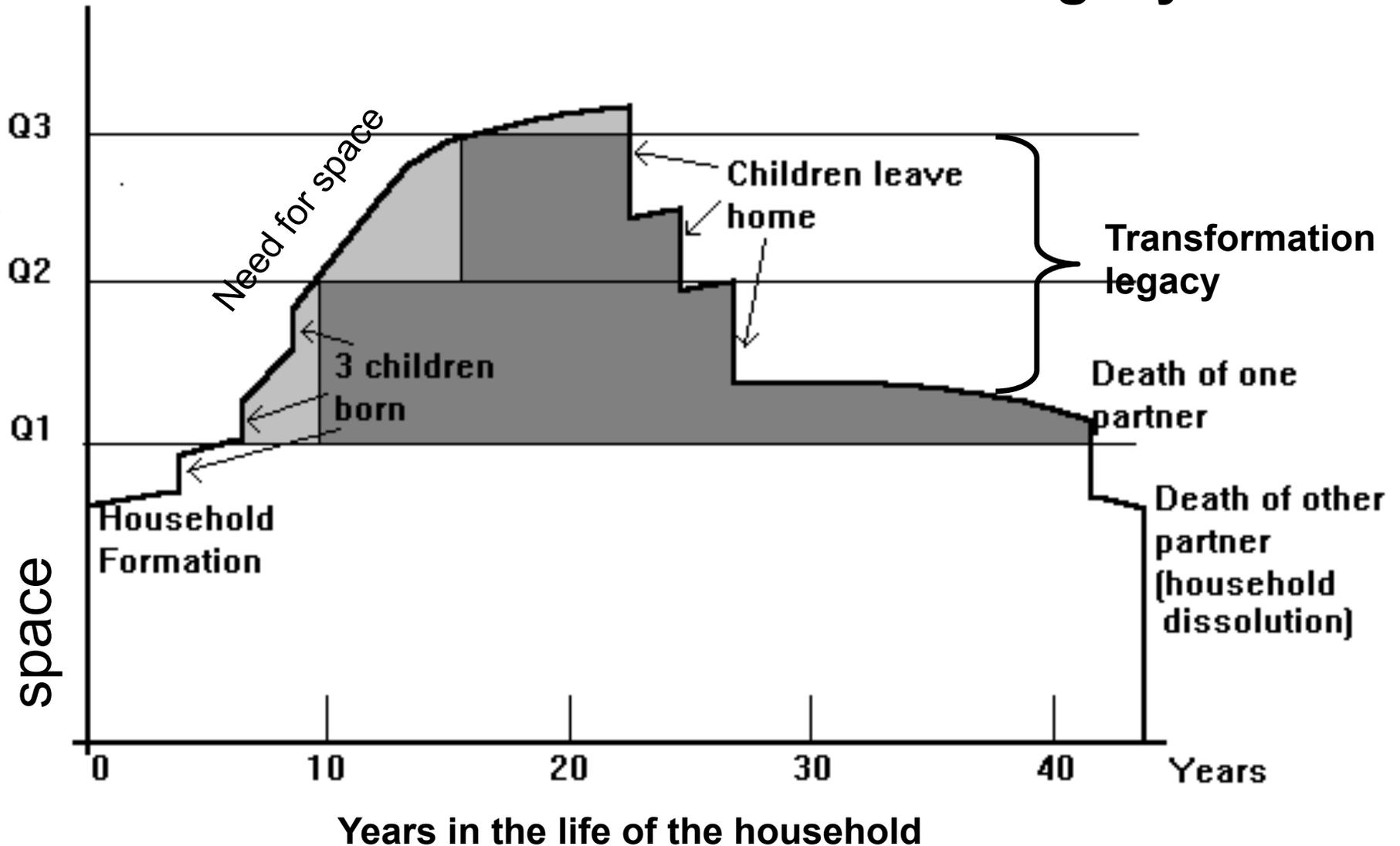
Residents can seek help from a local government worker acting as a ‘bare-foot architect’ ; liaising with planners, contractors and banks on their behalf.



An extended block in Haifa in 1999



The transformation career and legacy



- The transformation legacy allows rooms to be used for the next generation but not as flexibly as in conventional dwellings as dividing up the flat for more than one household is difficult.
- Design might improve this possibility, especially with respect to separate entrances from stairwells, etc., to allow division of transformed space among households.

Thank you for listening