

DEVELOPING INCREMENTAL HOUSING DEVELOPMENTS: A CRITIQUE OF THE PROCESS AND PRODUCTS

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ABSTRACT

Governments and local authorities in developing countries could not ignore the vitality, actions and products of the informal sector in housing and settlements. In Egypt; as in many developing nations, the informal sector provided, throughout the past decades, the majority of housing units and environs for low income groups, solving their urgent need for shelter, closely related to work and services. While depilating invaluable agriculture land, providing poor social and physical quality, internal and external living, the informal housing and development process, proved hard to match, control or stop. The government and related institutions couldn't compete with the "meagre" affordable product built by the users and demand groups. The positive aspects of informal and related incremental developments were accepted and deployed in formal policies and housing scenarios since the 1980's; advocating loose partnership between central and local authorities, and the targeted low income families, and collectively resulting in legal housing developments that could be improved with time. Limited success marked the applications of the said policies of joint endeavours and incremental developments; and informal housing and settlements continued to grow.

A new scenario was adopted and applied since 2005, entitled "Build Your Home"; aiming at avoiding the drawbacks of earlier developments' policies and actions; invariably lacking: reasonable outlook, quality external spaces and efficient control. Nine years later, it is possible to review and assess the experience; pointing-out its merits and shortcomings, including; distorted development, in-completed infrastructure and services, thin population, and absence of community living.

The present work critically looks into the promise and misfortunes of Incremental Housing Developments in Egypt, with emphasis on the recent experience of "Build Your Home"; addressing and suggesting means of improving: the "inefficient" Process of implementation and the "humble" Products; in Incremental Development Projects. The paper comprises three parts: 1- Incremental development process, on potentials and actors' roles, 2- "Build your Home" Incremental Housing, Egypt, 2005 -2013, a critical analysis, 3- Revitalization of Incremental Housing Developments - Proposed Framework.

Key words: incremental development, informal housing, low income families, incremental housing projects, government's & users' role, Egypt's housing policies.

Introduction

The concept and realisation of incremental development in housing projects was and still is an integral part of most housing developments on "plots"; adopting land-"parcelization". Two distinct scenarios characterised and shaped, "formal" housing developments, namely:

- Completed and finished housing projects (mass housing, disregarding scale and numbers); providing completed housing units (flats/apartments, town houses or other prototypes) readily available for prospective users, and
- Land subdivision or "parcelization" schemes comprising plots, small sites and land-parcels serviced and connected to main infrastructure networks (circulation, roads and paths, water supply, drainage and power and communication) assigned to users/families; who would gradually build their house units, under the direct or indirect control of local authorities, according to strict (or flexible) development guidelines and building regulations; over a defined or relaxed execution period.

The second scenario; developments on plots and parcelization schemes, is arguably the predominant formal housing and mixed development pattern that shaped post-industrial and "modern/contemporary" urban areas. The related projects and dwellings were (and still are) allocated and supplied to, middle, lower and upper-middle socio-income groups, in Egyptian urban areas, since the turn of the Nineteen Century and till the present. Thus allowing "Residential" districts to slowly "grow", change and develop according to users' needs and means, and gradually taking their form and outlook along the process over time; see also Habraken, [1]. The "parcelization" and housing on plots developments relative appeal and sustained success, is closely related to its inherent flexibility, as well as to the balance and coordination of "roles" between the "control" agencies (governmental bodies, authorities and developers),

responsible for the early provision and maintenance of infrastructure networks, and landowners and prospective users' steady and gradual developments of buildings on plots. The smooth and effective coordination of the "roles" of the involved actors, secured acceptable environmental quality and buildings' outlook of those development at the various phases of development.

Informal incremental developments and housing on plots, on the other hand, lacked the positive aspects of "formal parcelization schemes" namely, coordinated roles and phasing. In the informal housing, the owners/users built their houses on plots/land parcels deprived of infrastructure networks; in areas lacking community facilities, and void of effective development control and planning regulations, defining heights, plot coverage, projections and setbacks, land-uses and activities.

The rapid un-controlled growth of "informal" areas, encroachment of scarce arable land, and issues of community and national security, forced central and local authorities to intervene and extend its control (to those settings), through upgrading plans and actions, comprising the provision of infrastructure networks and basic community facilities and services. Thus addressing and restoring balance to distorted "Informal" incremental, "Build first and Plan Later" developments, where the "Product" (dwellings and house units) preceded the "Process" comprising; site planning, phasing, including early implementation of infrastructure networks.

In Egypt rapid urbanization and uncontrolled expansion of major cities, together with urban and rural settlements presents an escalating challenge with serious chains of related problems. Most of the erratic physical growth and settlements' expansion was implemented (and still is) according to "informal" scenarios. Informal expansions and uncontrolled growth were collectively the result of: regional imbalance, internal migration, high rates of population growth, limited resources, stifled development policies and inefficient urban management [2]. Urban housing supply was seriously affected by "rent control" laws and statutes; introduced in the 1950's and 1960's and maintained since - to restore social justice and balance the relations between owners (supply groups) and users (demand groups). The rent control legislations discouraged the private sector from investing in "formal" housing for lower middle and middle income groups, as well as in lower-income housing units. This was an added benefit to the appeal of "Informal" settlements and housing, which escaped rent-control and higher development costs, and continued to explode.

Most of the expanding Informal developments are located on agriculture land surrounding existing cities. The scarce arable land was illegally exploited by its owners into informal developments. The resulting settings are characterized by exaggerated high densities, low environmental quality, yet offering their inhabitants affordable dwellings, access to job opportunities and essential services [2].

Many studies sponsored by the Egyptian government together with international organizations proposed appropriate scenarios to deal with the challenges, problems and side effects of "informal" developments. These scenarios delineated two main directions for immediate policies and actions, namely:

- Upgrading of informal areas, focussing on the management process and roles and responsibilities of the different actors/partners: governmental institutions, central and local authorities, non-governmental organizations (NGOs), community based associations (CBAs), and owners/inhabitants.
- Provision of new developments projects adopting the concept of "Incremental" development (the governing conception of the informal developments), integrated into the formal development of New Communities planned by the government.

Both scenarios adopt and advocate; three overlapping propositions, namely:

- Urban development as the responsibility of different "Parties"; some are at the top levels of the development hierarchy (governmental organizations, central and local), others are at the mid levels (including; civil society, NGOs, CBAs, developers, communities), and at the lower levels of the development process (e.g. private local contractors, owners/ inhabitants, and individuals).
- Coordination of roles of the involved "Parties" allowing each of them to act and intervene at the right time to help and support the progress of the development process.
- Emphasizing the development "Process" and components, rather than the "Product".

"Build Your Home" Incremental Housing, Egypt, 2005 – 2014

The present work addresses the conception and practice of "incremental" development of housing projects within formal development processes, initiated and administered by governmental organizations, central and local authorities. Many related approaches were suggested and adopted since the mid Nineteen Seventies. Those approaches were part of the recommended policies and actions pointed-out in the integrated studies for the development of Egyptian New Communities, [3], [4], [5]; advocating housing on small plots, developed in "site and services" projects and "core housing" schemes. It also included multi-storey walk-ups with partially completed flats, to be incrementally finished by the owners/inhabitants [6].

The "site and services" as well as the "core housing" schemes were quickly abandoned by governmental organizations and development authorities. Their success

and effective implementation required unconventional management and administrative mechanisms, distant from prevailing practices. The partially completed flats in multi-stories walk-ups were adopted and implemented on a relatively large scale in the late Nineteen-Eighties and through the early Nineteen-Nineties, [7], [8], [9], [10], [11]. In spite of the promise of the partially completed walk-ups, the conception and practice was also abandoned shortly after, on unsubstantiated grounds; doubting the users' ability to properly finish their dwellings, hence resulting in poor quality living interiors, envelopes and external settings.

A decade later, in 2005, a new scenario of "incremental" development was initiated under the title of "Build your Home", "*Ibni Baetak*" in Arabic, [12]. It was based on a simple development procedure combining; the provision of serviced small plots to prospective users, together with complete sets of construction documents for the selected housing prototypes. The owners/ prospective inhabitants were responsible to gradually build their houses on the allocated serviced-plots. The designated sites for the "Build your Home, *Ibni Baetak*" projects were distributed throughout Egypt, primarily in Newly Developed Communities physically related to existing urban centres and demand groups. The development authority (Ministry of Housing, Egypt) provided incentives to support and encourage construction process. The plot owners were given a subsidy of 15 000 Egyptian Pounds (the equivalent of 2000 US \$), on the completion of each of the defined construction phases (i.e. excavations & foundations, ground floor, first floor, each added floor), and within the declared planned execution schedule.

Unlike the poor performance of the "site and services" and the "core housing" schemes of the Nineteen Seventies, in terms of: duration of implementation and outlook; the "Build your Home, *Ibni Baetak*" projects enjoyed active progress, efficient implementation and speedy construction of the dwellings on plots, following the handing over to designated owners, in 2008. The financial incentive, relating payments of phased subsidy to the completion of the defined construction phases, enhanced and sustained the construction process.

The "*Ibni Baetak*" projects' development setting suffered from a number of deficiencies, including; delayed implementation of infrastructure networks, (figure 1), adequate provision of water and power supply sources for construction works, sites' security and means of personnel and transportation of building materials, as well as securing small contractors and needed skilled and semi-skilled labourers to prospective owners. The said deficiencies did not hinder the willingness of the prospective owners to act and manage the construction of their dwellings (on designated plots), and to face and solve the chain of related problems, including: finding contractors, and appropriate labourers and technicians, transporting water, hiring power generators and contracting temporary guards - and in sequence to complete the defined construction phases, and to claim the promised subsidies' instalments, (see figures 2 and 3).

In spite of the positive stands of the prospective owners, reflected in sustained actions leading to the timely completion of the construction of their houses (on designated plots), a number of negative factors hindered the completion of the development projects, and denied the owners/inhabitants, moving to and settling in their new houses and districts. This was reflected in the two facets of the project's development status, namely;

- Within three years from the handing over the plots to prospective owners, almost 80 percent of the owners completed the foundation works and the ground floor; and many others continued further, adding the second and third floors as well, (figures 2 and 3), [12].
- Yet, the projects' sites remain void of community living, the houses unoccupied and the owners/end-users unwilling to move to their new dwellings.

The stifling of the promising "incremental development" experience of "Build your Home, *Ibni Baetak*" projects, may justifiably be attributed to four overlapping factors, namely:

- Delays in the implementation of basic infrastructure networks, (figure 1).
- Inadequate accessibility; including absence of appropriate public transportation systems.
- Absence of basic community facilities.
- Poor security provisions.

Those negative factors and related problems are closely related to the to the inefficient-adopted development "Process", aiming at securing liveable communities, comprising two sets of "Products" namely; the "Public Product", i.e. completed sites, infrastructure networks and external spaces (the responsibility of governmental agencies), together with the "Public Product", i.e. completed dwellings on plots (privately and individually completed by prospective owners). The "Public Product" was delayed and lagged behind the completed and unoccupied "Public Product".

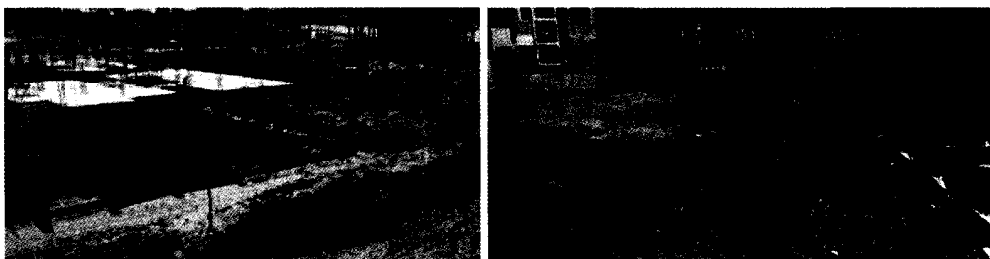


Figure 1 : "Build your Home, *Ibni Baetak*", 6 October New City, Egypt – delayed implementation of the "Public Product": infrastructure networks and external spaces.

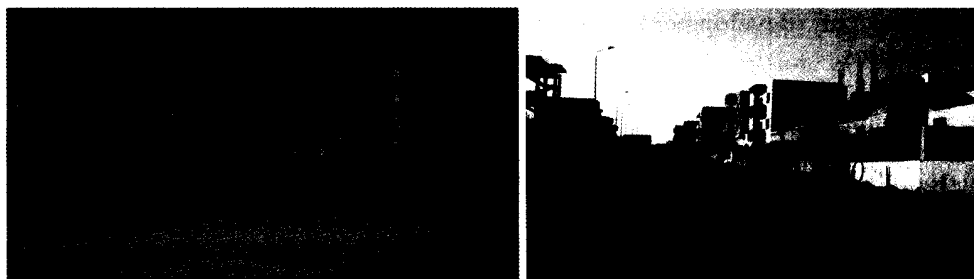


Figure 2 : “Build your Home, *Ibni Baetak*”, 6 October New City, Egypt – advanced implementation of the “Private Product”: Dwellings on Plots.

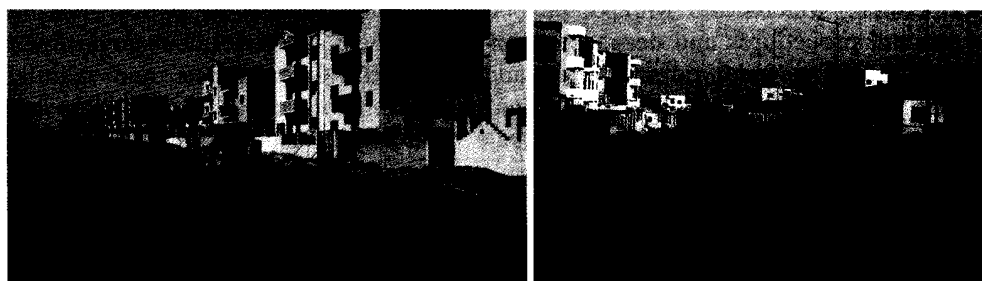


Figure 3 : “Build your Home, *Ibni Baetak*”, 6 October New City, Egypt – current status, advanced implementation of the “Private Product”: Dwellings on Plots and late completion of the “Public Product”.

Revitalization of Incremental Housing Development

The development process of urban settings (existing and new) is intricate and multi-layered, involving many partners/actors with varying objectives and distinct and overlapping roles. The success of the development processes in securing its objectives closely relates to the effective delineation and coordination of actors’ roles and actions.

The development partners/actors comprise and span top decision makers at government and central authorities’ level, down to end-users, owners and inhabitants of housing units. Similarly, related (partners/actors) roles and interventions cover a hierarchy of actions, ranging from the upper/major levels of action (including; land designation, general and detailed planning, provision of infrastructure networks and services) to lower/detailed levels (e.g. construction of housing units, envelopes and external fabric, internal partitions and finishes).

The complex development process collectively encompasses; key partners and actors, (their) roles and responsibilities, together with phases and sequences of interventions. The coordination of roles/actions is a key factor in the success (or

otherwise) of development processes; involving existing areas and new communities.

Many studies addressed the complex relations between partners and actors, and their overlapping and at times clashing roles in the development process. The levels of actions are generally classified into three levels, namely; the general "Macro" level, the intermediate "Mezzo" level and the detailed/intimate "Micro" level; see for example the GTZ & KFW study for the Egyptian government [13]. They pointed-out conceptions shared by other researchers and investigations on the development processes' levels, actors and roles, namely; - Central governmental organizations and local authorities, dealing with the upper and intermediate "Macro and Mezzo" levels of actions, related to policy making, operational procedures and demonstration approaches; - While Local government agencies, NGOs, local communities addressing the intermediate and detailed "Mezzo and Micro" levels of actions focussing on capacity building and empowerment; - With the local private sector, CBAs, community leaders, residents and end-users covering the immediate "Micro" level of actions, participation and intervention.

Along the same lines the authors proposed a development process "organization matrix" identifying; levels, scales and phases; and combining, partners/actors and related actions. The identified partners/actors, included: the governmental institutions, the intermediate institutions and the users or individuals/inhabitants, Abdel-Kader, Ettouney, [8]. They also suggested three levels of action, following the levels proposed by Habraken, [14], related to the "tissue" characterizing housing development (the Macro level), the erected "buildings" (the Mezzo level) and the "infill" related to the dwellings (the Micro level). (Table 1) shows the development process "organization matrix", deploying the combinations suggested by the authors, including; levels of "actions" and involved "partners/actors" with possible coordination and phasing of the actions.

It shows that certain actions could be initiated earlier in the process to trigger and facilitate other/related actions. The governmental and central authorities are expected to lead by planning and implementing the infrastructure networks (related to the Upper/Macro level), in order to encourage the intermediate organizations and the owners/users to gradually proceed to "incrementally" build and complete their houses (hence dealing with the Mezzo/Intermediate and Micro/Intimate levels). The development process "organization matrix", may thus help in explaining the outcome of the case study of the "Build your Home *Ibni Baetak*" incremental development experience presented earlier (in Section 2). The governmental agencies did not carry out their leading task of early provision of infrastructure networks (see figures 1, 2 and 3). Instead, they lagged behind schedule leaving the housing development project with unoccupied completed houses, incomplete infrastructure networks and absent basic community facilities.

The presented "Build your Home *Ibni Baetak*", development experience, Egypt - adopting "incremental development" conception and practice - emphasized the importance of managing the development process, and the inherent coordination between the involved partners/actors', their roles, and timing of interventions.

The present work, besides recalling and advocating the merits and potentials of "Incremental Housing Developments", proposes a flexible tool to support and enhance its effective application, namely; the development process "Organization Matrix", combining; levels of "actions", involved "partners/actors", (major and minor) activities and tasks. It allows (early) delineation and (later) monitoring of possible alternative "coordination" and phasing of the "actions" to effectively achieve development objectives, within the limitations of time, resources and settings.

References

1. Habraken, N. J. (1983): Transformation of the Site. A Water Press, Massachusetts, pp. 1-2.
2. Abou Zeid Rageh (2007), "El Omran El Misry", Egyptian Urbanism, Volume 1, Egypt 2020, Third World Forum, (in Arabic), Academic Bookshop Press, Cairo, Egypt.
3. General Organization for Physical Planning (1977), The Planning of Sadat City, Final Report: The Plan & Elements of the Plan, Sabbour, David Crane & Partners, Marcel Breuer & Associates et al., Ministry of Development and New Communities, Egypt.
4. General Organization for Physical Planning (1978), New Ameriyah City Master Plan, Main Report & Technical Report, Hassan Ismail & Partners, ILACO & CEAT, Ministry of Development and New Communities, Egypt.
5. General Organization for Physical Planning (1980), Six of October City, Master Plan, Final Report, Detailed and Implementation Plans, Ministry of Development and New Communities, (in Arabic), Egypt.
6. Ettouney, S.M. and Abdel-Kader, Nasamat, - Post Modern Walk-Ups, On the Transformation of an Ailing Conception – with Reference to Housing in Development Contexts, Proceeding of the 24th IAHS World Congress, Ankara, Turkey, May-June, 1996. Also published at the International Journal of Housing Science and its Application, Vol. 21, No. 1, 1997, pp. 11-24.
7. Abdel-Kader, Nasamat and Ettouney, S.M., User's Participation in Low Cost Housing Projects, Post Occupancy Evaluation. Proceeding of the 31st IAHS World Congress on Housing, Housing Process & Product, Montreal, Canada, June 23-27, 2003.

8. Abdel-Kader, Nasamat and Ettouney, S.M., Incremental Housing Development; Lowering the Cost, Lowering-not the Standards - a Conceptual Framework, Proceeding of the 37th IAHS World Congress on Housing, Santander, Spain, October 26 – 29, 2010. Also published at the International Journal of Housing Science and its Application, Vol. 35, No. 4, 2011, pp. 219-231.
9. Abdel-Kader, Nasamat and Ettouney, S.M., Decrying Sensible Housing Developments – Recapitulating Incremental, Partially Completed Low Cost Housing, Egypt; Decades Later, Proceeding of the 38th IAHS World Congress, Istanbul, Turkey, April 16-19, 2012, pp. 2-9.
10. Abdel-Kader, Nasamat and Ettouney, S.M., Rethinking New Communities Development – with Reference to Egypt’s 40 Years Experience, Proceeding of the 39th World Congress on Housing Science, Milan, September 2013. Also published at the International Journal of Housing Science and its Application, Vol. 38, No. 2, 2014, pp. 127-137.
11. Ettouney, S.M. and Abdel-Kader Nasamat (2013): Shaping Development in Limited Resources Settings, Notes on the Egyptian Context, LAP LAMBERT Academic Publishing.
12. Shalaby, A. (2012), Implications from the Experiences of Incremental Housing Approach in Egypt, (available at <http://web.mit.edu/incrementalhousing/>) 6th UN World Urban Forum, Naples.
13. General Organization for Physical Planning (2006), The Participatory Development Program in Urban Areas, undertaken by the GTZ (German Technical Cooperation) and KFW (German Financial Cooperation) for Egyptian Ministries, Governorates and District Government 2004-2011, (available at www.giz.de/en/worldwide/16278.html), Ministry of Development and New Communities, Egypt.
14. Habraken, N. J. The Uses of Levels, keynote address, Proceeding of the UNESCO Regional Seminar on Shelter for the Homeless, Korea, November 1989, page 4-17.