In Egypt the gap between the declared “Development” objectives and adopted strategies and policies to achieve it, invariably proved hard to bridge, breach and compromise. The present work brings together selected parts of the authors’ research endeavor in “Development” and beyond, during the past two decades, most of which was presented and published at International journals, conferences and symposia. Three overlapping objectives are behind the conception and form of this work, namely: 1- To critically present certain aspects and features of the development experience in Egypt - an interesting and challenging “Developing” setting - during the past three decades, emphasizing Community Design and Development, and Housing. 2- To prove that the gap separating theory and practice, can be bridged and compromised. 3- To allow access to scattered research polemics and discourses, to all interested in urban and community development, in developing settings (Egypt included), and to re-present it to delineate and highlight facets of an integrated approach to community design and development, and housing in “Developing” contexts.

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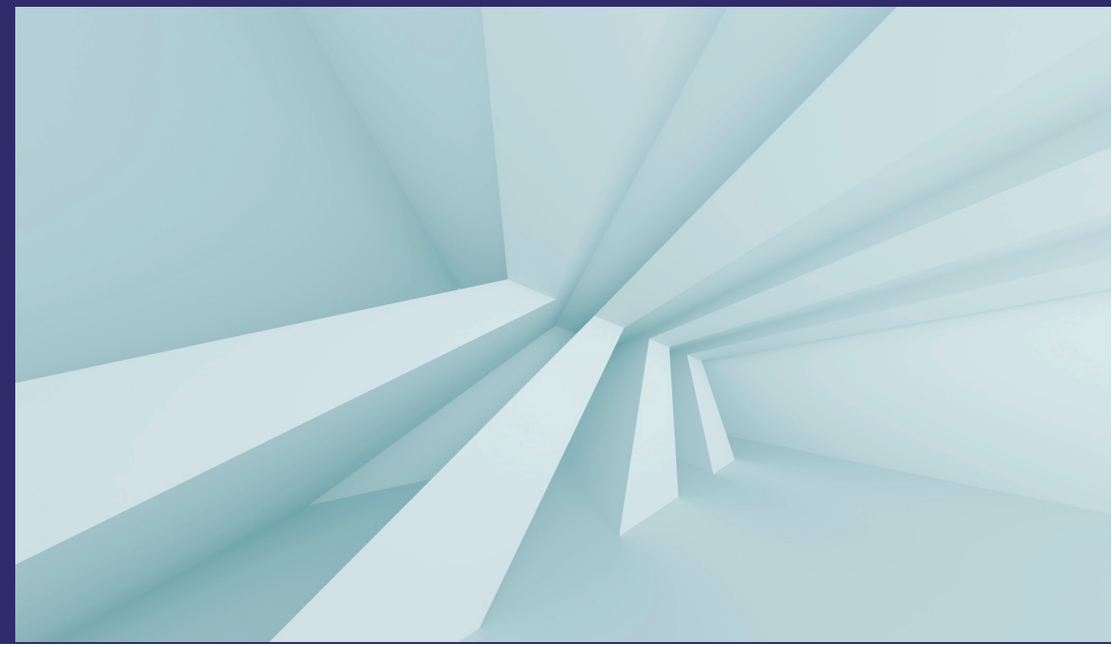

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Shaping Development In Limited Resources Settings

Notes On The Egyptian Context

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Chapter One
Introduction
Into the Development Labyrinth

Since the late 1940's, through the second half of the Twentieth Century and till the present; "Development" at its various levels (comprehensive, urban and community) remained a major concern, a nagging preoccupation, a controversial issue and a major challenge to "Developed" and "Developing" countries.

"Development" is the process and means to cause, guide, change and transform: social, economic, political, cultural and physical structures of communities, regions and nations. It is the conscious and determined rationale (and course) to fulfil and realize communities' needs and aspirations (to reach the seemingly unreachable). In other words, effective "Development" may be regarded as the means and the end, the goal and course-to, the action(s) and reward. Furthermore, "Development" is synonymous to survival to Developing countries, an inescapable obligation and not a leisurely "choice".

Appropriate "Development" scenarios and drives; span, join and cover the physical and non-physical issues and aspects of societies – attempting and aiming at securing and achieving; better and quality living, satisfying basic needs (and beyond) for: shelter, community facilities, work and linkages (movement and infra-structure), to the target communities and settings.

As a conception and a process, "Development" remains – in spite of the apparent clarity – illusive, hard to harness and to cover. This may safely be attributed to the related and inherent: complexity, uniqueness, conflicting and clashing goals, actors and communities.

"Development" should be carried-out within the bounds of available resources, contexts' limitations and determinants (social and physical), without denying future generations their rights in quality living, clean environments and share in invaluable natural resources. It should adhere to and respect the independence and identity of communities and settings. Development-related: frameworks, policies, plans and

actions couldn't (and should not) be copied nor borrowed. It should be innovative and creative; focused on the issues of congruence, and appropriateness (to communities and settings).

Though "Development" was and still is, the preoccupation of politicians, central and local governments and institutions, non-government organizations and civic groups; who define and defend (market and publicize): its goals, time frames and targets, and secure needed resources – architects, urban designers and planners, were invariably among the key actors and participants in "Development" processes' conceptualization and realization. Their work and contribution was (and remain) to set the stage (buildings, settings, settlements and components) for action, change and transformation. In other words to help in materializing the loose goals, objectives and community aspirations to: socio-economic welfare, better living, and safe and friendly environments – into: appropriate housing, community and leisure facilities, efficient work places, circulation networks and infra structure.

In formulating and implementing "Development" strategies, policies, plans and actions – the designers (architects and planners) help the decision makers, by providing approaches, generating solutions and alternatives, to address and secure the thought objectives and challenging targets; within the bounds of the development context determinants and limitations.

Despite the good intentions and extensive endeavours; approaches, solutions and alternatives (provided by architects, designers and planners) often added to "Development"-related problems; denied the needy (demand groups) appropriate and affordable shelter, created inaccessible community facilities, provided hostile environments and settings, and wasted time and energy (in shuttles between homes, services and work places). In other words solutions and proposals often failed in reaching targets objectives, and (at times) deviated from the rational courses to follow, thus added to the problems it were set to tackle and solve.

Moreover architects, designers and planners, loaded "Development" processes with the deficiencies of their profession and professional practice as well as those of the closely related architectural education (in Developing contexts).

The remedies for the said deficiencies, in "Development" approaches, plans, policies and actions were thought at academic and research institutions - in terms of; research and critical investigation of "Development" experience(s) and related problems and solutions, plans and projects. Chains of applied research were carried-out to support the decision makers, to guide professionals and enhance their practice and products – through critical assessment of policies and applications, provision of modified solutions and appropriate means and alternatives (to achieve "Development" goals and objectives).

Research and practice - in "Development" processes, drives and settings - should be integrated and complement one another. Research should point-out frameworks and courses of action, monitor and assess applications and products. It should also re-examine and evaluate the various aspects of the "Development" (urban, sectorial and community) process, and in turn suggest means of enhancing and upgrading performance, in terms of: the set objectives and the means to achieve it. This was hardly the case in most development experiences, in developing countries; Egypt included.

In Egypt the gap between the declared "Development" objectives and adopted strategies and policies to achieve it, between the planned and realized, invariably proved hard to bridge, breach and compromise. Thus leaving ample grounds for applied research into "Development" (urban and community) to attempt to bring closer and coordinate: decision-making, professional practice and target communities' needs and related-settings.

It was rewarding (and at times frustrating) to the present authors, to combine the roles and realms of research and practice. They enjoyed access and first-hand experience into Egypt's urban and community (existing and new) "Development" experience during the past four decades, since the late 1970's and till the present – as architecture, urban design and planning consultants to the government, the public sector and related institutions.

This was coupled with their main realm and responsibilities as teachers, researchers and administrators, at Cairo University (Department of Architecture, Faculty of

Engineering); which allowed them to supervise and undertake research into "Development" and to organize congregations to exchange conceptions and findings, and share experiences.

Combining the two realms allowed the formulation, development and testing of: thoughts and conceptions, approaches, alternatives and proposals. Furthermore it allowed them to follow and monitor "Development" plans and projects' progress and mixed fortunes. Cycles of rewards and disappointments marked the said research and practice endeavours, during the past four decades.

Rewarding, it was; to be able to investigate, analyze, and in turn to formulate design and planning proposals, actions and plans to follow. It was equally frustrating and at times disappointing to witness; slow progress or lack of, deviations from and abandonment of carefully delineated courses and the related conceptual frameworks, policies and plans. Yet rewarding again, to regain access to the stifled "Development" process and projects, to investigate, to research and assess, and to put-forward remedies and guidelines to regenerate and improve policies, plans and products.

The said cycles of delineating proposals and reinvestigating policies, actions and products – i.e. cycles of rewards, frustration, disappointments and opportunities, were recorded in published works in the formal venues (local and international) as well as in unpublished works, namely; the numerous academic thesis and dissertations (Masters and Doctoral) the authors solely and jointly supervised, together with the limited circulation applied research reports and development studies.

The present work brings together selected parts of the authors research endeavor in "Development" and beyond, during the past two decades, most of which was presented and published at International journals, conferences and symposia.

To collectively present the set of selected research papers, individually prepared and separately published (though closely related) in one volume, accessible to those interested in urban and community development, in developing settings (Egypt included) is justified on the following grounds:

1- To critically present certain aspects and features of the development experience in Egypt, an interesting and challenging "Developing" setting,

during the past three decades, emphasizing Urban Planning, Community Design and Development, and Housing. The features, issues, conceptions and drawn lessons, are by no means locally bound, and are likely to provide tools and frameworks for "Community development" in Developing and Developed settings.

2- To prove that the gap separating theory and practice, clearly reflected and manifested in conflicts between Development conceptions, rationales on the one hand and adopted policies and realizations/ implementation on the other, can be bridged and compromised.

3- To allow access to scattered research polemics and discourses, and represent it to collectively delineate and highlight the facets of an integrated approach to community design and development, and housing in "Developing" settings.

The present work comprises eight articulated and relatively independent Chapters, organized in a determined sequence that moves from the general and comprehensive, to the specific (and sectorial), and back to the macro and general at the closing Chapter. The work may thus be treated as an integrated whole, with a set sequence to follow, yet it allows the reader a relative freedom in moving through its parts regardless of its sequential structure.

The work structure and set sequence comprises four key topics, realms and levels, namely:

- Community Design and Development, (Chapter 2),
- Low Cost Housing, for low income groups in developing settings (Chapters: 3, 4, 5 & 6),
- Community Identity, Architectural and Urban Character (Chapters: 7 & 8),
- Architectural Education in development settings (Chapter 9).

To conclude this prelude, a hint on the four aforementioned themes and related chapters is necessary to point-out the work's unity and its collective propositions, and to delineate the elements and features of the suggested approach and underlying conceptions to "Development" in developing contexts.

Chapter 2 looks into New Communities development; through the Egyptian New Communities experience; which is among the most ambitious regionally and internationally. It was initiated in the mid 1970's to tackle the problems overloading Egypt's urban and rural settlements, and threatening the inter-woven agricultural land. New Communities development was adopted as an integral part of a balanced comprehensive national plan and drive. The authors were involved in many of the studies of New Communities; participated in the formulation of master plans and detailed studies and followed the fortunes and misfortunes of the New Communities since. The discourse highlights the present conditions and status of selected Egyptian New Communities, in terms of urban form and growth as well as deviation from the original visions and perspectives, and actions remedies to address the development problems.

Chapter 3 presents a positive statement for walk-up apartment blocks and advocates a better role for a transformed conception. It puts-forward the notion that; the apartment block is a suitable-most housing type for post-modern urbanism and builtscape, as its inherent features could be developed to answer the complex and clashing needs for: internal flexibility, external territoriality, local identity and cost minimization. The proposals are substantiated by the accumulated research findings; into Egypt's development and housing experience during the past three decades.

Chapter 4 addresses the conception and practice of users' participation in low cost housing projects. During the 1980's and the early 1990'she authors were the technical consultants to the Ministry of Development & Housing (Egypt); they proposed and developed low-cost, partially completed, housing design alternatives, based on the concept of users' participation. The designs for the housing prototypes, allowed the incremental development of the dwellings within a scenario of flexibility and adaptability. The concept is believed to be a key factor in decreasing the initial cost of the dwellings. The approach has since been implemented on a relatively large scale; several hundred thousands of partially completed units were built and handed over, throughout Egypt.

The chapter reviews and validates the experiment and the underlying approach. It recalls the conception of users' participation emphasizing the link between effective participation and affordability; focusing on the issues of gradual completion, economic affordability and organizational procedures. The positive and negative

aspects of the experiment, approach and implementation are highlighted and the prospects for the conception and products are put-forward.

Chapter 5 continues the polemic on the expansive Incremental Low-Cost housing experience, Egypt. It critically reviews approaches to low cost housing, to lower the development cost without compromising provision standards and living quality. It highlights related regional and international research contributions. It also presents a design and decision making frame-work, to enable the involved actors (designers, developers and authorities included) to recognize and compare the merits and drawbacks of possible "scenarios" of action, in low cost housing developments.

Chapter 6 concludes the discourse on housing low Income groups, users' participation and Incremental partially completed housing development - presented and developed in the preceding two Chapters (4 & 5). It points-out earlier and closely related publications by the authors on the said issues, emphasizing the relevance of the conception of "Incremental" development, partial completion and users' deployment in housing developments. The discourse combines; a proposition of guidelines for effective incremental housing developments and a note on the cost of ignoring the obvious, namely; problem solving processes and planning rationales in developing contexts.

Chapter 7 looks into the critical issue of urban and architectural "character" generation in new settlements. Physical and architectural character is a major attribute to local and community identity, which is an essential requirement in man's habitat and living environments. Character is the product of complex and clashing physical and non-physical components, and the reflection and manifestation of community culture and heritage. In new settlements and newly developed communities the "character" issue surpasses the traditional challenges posed in existing areas, namely: enhancing the prevailing "character", ensuring continuity and controlling change.

The discourse outlines a comprehensive approach for character generation, for new developments, drawing from regional experience and contextual merits; balancing continuity, sustainability, innovation and change. The discourse is supported by selected examples from the Egyptian context and recent research finding, at Cairo University

Chapter 8 further follows the issues of architectural expression and visual character, It looks into the complex issue of architectural references and visual sources in new community developments, and the closely related notion of invocating, recalling and exploiting traditional and historic styles in touristic projects; as safe means of securing and combining quality, identity and instant appeal. It addresses the roles of the involved actors in deciding and formulating architectural appearance in development projects; emphasizing cultural disparity and illusive visual preferences, and pointing-out the need for flexible and enlightened development control.

The polemic is backed by earlier research findings (by the authors) and a two folds research project. It poses critical questions and presents set of propositions, to allow better understanding and suggest further investigation of architectural heritage incorporation into physical and touristic developments.

Chapter 9 concludes the eight parts sequence on “Development” and “Developing” settings. It directly and indirectly recalls and collectively represents some of the notions and propositions on Development, presented earlier in the preceding polemics. It focuses on Architectural Education in Developing setting; arguing that its transformation is among the important keys to effective and appropriate “Development” and products.

The discourse presents architecture as the true image, reflection and material realization of societal features and community cultures. It hints at the features and typical characteristics of the built environment and human settlements in Developing countries - which collectively suffer from chains of lacks and context's deficiencies, physical and otherwise; including; deteriorating and underdeveloped urban, social, economic and political structures, as well as clashing cultures and confused architectural expressions and deteriorating urban environments.

It also points-out that the "Globalization" phenomenon, conceptually and physically overwhelms the setting in Developing countries, and further complicates the resident problems of; scarce resources’ poor management and planning, the will and ability to face the challenges of “Development”; i.e. transforming existing conditions, to attain societal goals and objectives .

The discourse projects the aforementioned conflicts and challenges on its critical review of Architectural Education and Institutions in Egypt. It points-out the influences of European and North American pedagogical philosophies, dogma and practices. It also hints on the growing awareness among the middle and younger generations of academics, of the relative importance of the issues of; contextuality, identity, independent development, responsibility towards and committed design for local communities.

The said conflicts collectively produce architecture graduates; geared to work in developed settings, for "other" communities, with richer resources and fewer limitations and constrains. Their "products" are mostly divorced from existing locales, designed for “imagined” communities, and predominantly faceless, mediocre and alien to development contexts.

The concluding discourse thus addresses the challenge of transforming architectural education in the problem laden developing contexts. Backed by extensive research over three decades, it highlights the conflicts between the ambitious progressive aspirations and endeavours within the bounds of academia and the real world surrounding it; as well as the resulting alienated architects and products. In spite of the reviewed chain of complexities and conflicts; propositions for effective transformation of architectural education in developing settings, were formulated and presented.

In other words the concluding discourse and eights section of the present work clearly delineates the interdependence of Development challenges and means of addressing it. The transformation of Architectural education, similar to other elements, institutions and sectors of Developing societies should be closely geared to and integrated into development drives (actions, plans and strategies) and carry the features of healthy development, including; independence, sustainability and contextuality

Chapter Two
The Egyptian New Communities, Between Objectives and Realization
A Critical Discourse, Three Decades Later.

Introduction:

The Egyptian New Communities experience is among the most comprehensive and ambitious, regionally and worldwide. Initiated in the mid-Nineteen Seventies, as a governmental policy within a general strategy to tackle the multitude of problems burdening Egyptian settlements in general and major and secondary cities surrounded by agricultural land in particular. New Communities were thought as an effective partial solution for the problems of: encroachment of agricultural land, lack of urban land for development, deteriorating fabric, infra structure and facilities and low quality living.

A variety of New Communities were proposed as a result of extensive, serious and comprehensive studies and joint endeavours of local and international experts; sponsored and orchestrated by the (then) Ministry of Development (Reconstruction) and New Communities, Egypt and its sub-organizations.

The New Communities drive; conceptions, proposals, detailed studies, implementation plans, and partial realization continued in full vigour for almost two decades, i.e. between the mid-Nineteen Seventies and the mid-Nineteen Nineties. It continued afterwards and to date, in a different pace, lacking comprehensive evaluation, critical monitoring, consistency and respect to original goals and objectives, policies, plans and details. This is manifested in the wide gap between what was planned and what is realized, in both physical and non-physical aspects. Qualitative evidence on the deficiencies and shortcomings of the implementation is provided by satellite imaging, in terms of; completed phases and imbalance between key land-uses, i.e. housing area, community facilities and industry.

The authors were involved in many of the studies of New Communities during the said two decades; they participated in the formulation of master plans and detailed studies and followed the fortunes and misfortunes of the New Communities since.

The present work main objective is to highlight the present conditions and status of selected Egyptian New Communities, in terms of, urban form and growth as well as deviation from the original visions and perspectives. It falls into five closely related sections, namely; The Egyptian New Communities in Context, Selected New Communities - Master Plans and More, The Present Scene – 3 Decades After, On Deviations and Remedies and Epilogue.

1. The Egyptian New Communities in Context

The Egyptian new communities development experience that started in the mid-Nineteen Seventies and continued since, is arguably among the most comprehensive and ambitious in terms of: numbers, scale, investment, and related endeavours, regionally and worldwide, [7], [13], [17], [18].

The origins of the proposition of developing new communities outside the populated areas of Egypt; dates back to the late 1960s. The Greater Cairo Region – Preliminary General Plan, Study (1970), advocated the development of four new satellite towns in the Greater Cairo Region to accommodate some 25000 person by the year 2000, [1], [7]. It however remained an intention and an accepted proposition for almost a decade.

The conception, policy, and related plans and actions of developing of new communities outside the densely populated Nile Valley and its Delta gathered momentum in the second half of the 1970s. It followed the state's efforts and priorities given to the reconstruction and revitalization of the Suez Canal three key Cities and Region, that suffered and devastated by the war years, i.e. between 1967 and 1973, [2], [3], [7]. A sequence of steps and actions confirmed the earlier and late intentions and showed the will to realize and implement the policy behind it. Among the earliest steps was the formulation of a new ministry to undertake the responsibilities of new communities' development, to expand the scope and objectives of the former Ministry of Housing, and to collectively combine Reconstruction, Development, Utilities, and Infra Structure. This was further enhanced by the creation of an autonomous national authority solely responsible for the development of "New Urban Communities" outside the traditionally populated Nile Valley and it settlements, major and minor, [3], [7], [13].

The key goal of the new Ministry of Development and New Communities was to transform Egypt's map and urban structure and spatial distribution; to enhance and support national development, economic and beyond. In other words to address and help solving an array of inter-related problems, including; urbanization explosion, over-populated primate and major existing cities, regional imbalance and distorted urban structure, threatened, besieged and depilated (invaluable) agricultural land; together with the housing crisis, deteriorated and inadequate infra structure and community facilities, [3],[13].

The 1978-82 National Plan clearly advocated that the expected national population growth - of the order of 28 million (between 1976-2000) - should be attracted to and absorbed in new development areas, to be located outside the traditionally populated Nile corridor (representing a meagre 4% of Egypt's total area). The new development areas comprised, land reclamation projects and new desert settlements/cities. The said National Plan called for an ambitious expansion of the populated area from 4% to 16% by the year 2000, [7].

Hence the shared goal of the Ministry of Development and New Communities and the New Urban Communities Authority was to create new urban desert communities with mixed economic base to alleviate the burdens of existing cities and to support and fulfil the national socio – economic development objectives. The New Communities development was in fact an integral part of a balanced and comprehensive development plan and drive, [7], [13], [18].

The sites of the new communities/settlements were decided according to an array of factors and criteria, and were mostly the result of macro, regional and national studies. Location factors included: relation to existing major cities and urban centres, accessibility, setting features, topography, soil and ground water, water supply sources, energy availability, demographic considerations, economic factors and strategic factors (defence limitations), [13].

The proposed and developed new cities and urban settlements fall loosely into four general categories, namely: autonomous/independent cities/settlements, satellite cites

(semi autonomous), twin cities and cities/settlements related to grand-scale national projects; Industrial, land reclamation and others. Many of the new cities and urban settlements satisfy a number of those features, hence fall into two or more of the said categories, [13], [18].

The development of Egyptian New communities in terms of conception, detailed studies and initial development mostly date back to period extending from 1976 to the early 1990s. The said period witnessed the completion of the development studies and implementation of more than 18 new cities/communities, [13], [17], [18].

Many of the pioneering development studies were carried-out by joint local and international teams (mostly from the 1st World), in order to meet the technical challenges of the new experience; e.g. the Master Planning and 1st Phase studies of the new cities of: 10th of Ramadan, Sadat, New Ameriyah (New Borg El Arab), 15th May and El Obour. The key features of the said new settlements are summed up in Table 1, including; category/ classification, generation, location/ regional association, urban mass and designated areas, target population and dominant economic base(s).

Most of the new communities shared four general characteristics, namely: a mixed economic base, providing the majority of its labour force with job opportunities, accommodating diverse socio-economic groups and ambitious population and growth targets.

2. Selected New Communities – Master Plans and More

To illustrate the features of the Egyptian New Communities; conceptions, plans and drive, through its relatively short course from initiation and till the present – within the bounds and limitations of the present forum – five selected new urban communities will be briefly presented and followed through.

The selected five New Communities reasonably present the features, characteristics and to an extent the mixed fortunes of the Egyptian New Communities. A key factor in the selection rationale was the involvement and first hand experience of the authors (see the references and notation section). The authors jointly or separately, were involved in all of the development studies, master plan and details preparation of the selected five case studies. They witnessed and participated in forging the

conceptions and details of the five selected settlements in one or more of the following aspects: urban planning, urban design, housing, site planning and community facilities programming.

The selected five New Communities are: Sadat [4], 6 October [6], New Ameriyah City (currently New Borg El Arab), [5], New Menya City [8], and Urban Settlement No. 3 (in the Greater Cairo Region), [10]; see figures 1 & 2 and Table 1. The selected new communities loosely represent: the three generations of new communities, relative independence (or otherwise), the variety of economic bases, target population range, completion of preliminary and advanced studies, and early implementation of the initial growth phase.

2.1. Sadat City, 1976 -1978.

Sadat City was the second of the two pioneering Egyptian New- Cities. Its Master Plan studies were completed in 1976-1977; the result of collaboration between Egyptian and American consulting groups (Sabbour, David Crane, Marcel Breuer et al), [4]. An autonomous city, located some 95 km to the Northwest of the capital, Cairo, almost mid-way between Cairo and Alexandria, on the eastern side of the regional desert road linking Egypt's two-primate cities. The location is accessible to almost one third of Egypt's population, being within an hour drive from Cairo, Alexandria, and the Nile Delta (major centres). Its target population was one million and to reach: 60000 person in the first 5 years, 150000 in 10 years and 500000 in 25 years. Planned with a mixed economic base combining; the various levels of industry, agriculture, construction, and services (local and regional) - to provide job opportunities for almost all its labour force (some 165,000 jobs), [3], [5], [7]. The city's inhabitants were thought to be attracted from the neighbouring densely and overpopulated governorates of the Nile Delta.

The planned rapid growth was enhanced by balanced self-contained phases; reflected in and to be achieved through its master plan and implementation. It is a true linear city, with linear major and secondary (city and district) centres together with an integrated industrial major linear spine (and strategically separated heavy industry), to allow for a balanced growth, figure 3.1. The said rational and balanced growth of the city during the consecutive phases; combining the development of residential

areas, necessary community facilities and industrial activities (generating job opportunities), would inevitably encourage the workers to settle down rather than to commute from the near-by existing urban and rural settlements.

The area of Sadat City's urban mass totalled some 48 km^2; comprising 34 residential areas – carefully organized to secure pollution free settings through the provision of greens, allotments (2000 acres), and shelter belts (33,000 acres). The implementation of the Master Plan started in full vigour in the early 1980s, with balanced attention given to infrastructure, public buildings, industry and housing development, [4], [13].

2.2. New Ameriyah City, 1978 - New Borg El Arab (since 1989)

It is the fourth of the pioneering Egyptian new cities. The master plan and detailed studies were executed between 1977-1982, by a joint Dutch (ILACO) and Egyptian (Hassan Ismail and Partners) consulting groups, [5].

New Ameriyah City was planned as an independent city, on the regional coastal road some 60 km to the west of Alexandria and about 8 km from the Mediterranean coast line, on a plateau 30-60 m above sea level. The development objectives included; to help in solving Alexandria's congestion and overcrowding and lack of development land, to protect the threatened agricultural land, and to provide a major urban magnet in the region. N.A.C. had a target population of 500000, to be reached in 25 years. The new city was to provide job opportunities for all its inhabitants (150000 jobs). Its mixed economic base comprised; industry, agriculture, services, construction, and tourism. The N.A.C. conception is reflected in its Master Plan flexible urban form; a linear development with only the first phase details defined and planned together with the main delineators (major roads and infra structure of the second phase. N.A.C. urban mass totalled some 48 km^2 (11000 acres), figure 4.1. Growth phases were carefully planned to provide self-contained communities comprising housing, community facilities, and industrial development, [5].

Initial growth started in the early 1980s, comprising the first district and the related connected industry. The new city's population was to reach a target of nearly 42000 (in three years) and the city's first sector (Eastern-most) was to be completed in 8 years from the initial start. The N.A.C. name was changed in 1989 to New Borg El

Arab to commemorate an Arab Summit meeting held in the close town of Borg Al-Arab, [13].

2.3. 6 October City (1979)

The Greater Cairo Regional Planning studies proposed 4 key new satellites, namely: 6 October, Amal, and Obour together with 15th May, Tolan [7]. Six October was the second new satellite city in the Greater Cairo Region in the first generation of Egypt's New Urban Communities. Contrary to the first satellite city (15th May) - which was planned solely as a dormitory town, to provide housing and community facilities to the working force of the huge industrial complexes in the "Helwan" district (south of Greater Cairo) - 6 October was envisaged as a semi autonomous city. Its economic base comprised; industry, services, construction, tourism, and agriculture, [6]. To provide some 80% of the total job opportunities for its inhabitants to be.

Six October was the first Egyptian new community to be planned solely by Egyptian experts/consultants under the guidance of the General Organization for Physical Planning, GOPP.

It is located in desert site west of Greater Cairo on a plateau overlooking the Nile Delta to the Northeast and the Pyramids plateau to the Southeast, some 34 km to the West of Cairo, accessible from both Cairo - Alexandria and Cairo - Fayoum, regional desert roads. The proximity to the Capital city was thought to attract the city's population from the overcrowded mega city, [6].

The original master plan is once again linear comprising three distinct urban areas, namely; the touristic area (4000 acres) to the East and the connected/integrated industries (2500 acres) in the Southwest and the residential/general urban mass (almost 5000 acres) linking the former two. The main urban mass comprised 12 districts accessible from the city's central spine, figure 5.1. The city featured a mixed socio-economic/income population target of 350,000, to be reached by the year 2000 and to continue there after to reach one million inhabitants, [6]. The new city's designated area was decreed in 1979, totalling some 360 km^2, [13].

Six October's urban mass was surrounded by green belts and agricultural outstretches in the Northwest and South. Development objectives also included relieving Cairo and Giza from surplus-population and over-crowding; to provide a development magnet, supplying urban land for housing, community facilities and industry, extending quality living environment and balanced structure to its inhabitants. The new settlement was intended to be a relatively autonomous development with its integrated economic base, services and residential areas; to discourage its residents from commuting to Greater Cairo and using the new settlement as a convenient dormitory town, [6], [7].

The city's development started in earnest in the early Nineteen Eighties. The settlement witnessed a rather accelerated development. The absence of development land for industrial activities within Greater Cairo encouraged investors to build their factories in the industrial zone of the new city. Many high educational institutions (mostly private universities, academies and high institutes) were developed and started full operation. The creation of job opportunities and provision of services helped the booming of the settlement, [13], [18].

2.4. New Menya City, Upper Egypt (1983/84)

Most of the existing Egyptian cities, located in the Nile Valley and its Delta, are surrounded by agricultural land. In order to hinder the related urban sprawl on agriculture land, the National Plan and underlined policies advocated the creation of closely located new settlements on the nearest accessible desert land, hence the adoption of the concept of twin cities to solve the problems of the existing urban centres along the river Nile, [7], [13], [18].

New Menya City belongs to the second generation of Egypt's new communities. Together with New Beni Sweif were the pioneering new settlements in Upper Egypt. New Menya City can be loosely classified as a twin satellite city. Mirroring its mother, or the older twin; Menya city across the Nile – The New Menya City is located in the Eastern Nile bank on an elevated site overlooking the Nile and Old Menya to the West. The mother city, located on the West bank of the river Nile is surrounded by fertile agriculture land and its physical expansion was and still is on it.

Hence, the wisdom of the development of a twin city on the nearby desert land across the Nile, [8].

The planning studies were carried out by a team of Egyptian experts under the auspices of the GOPP. Development objectives included: creating a magnet to attract development and surplus population, provision of investment venues and job opportunities (for the majority) and quality living for its inhabitants. The New Menya was thus planned to support its twin existing city, to provide development urban land for housing, leisure, community facilities and industry. Its mixed economic base comprised: tourism, industry, services, construction, and agriculture. The new city's master plan featured a flexible linearity, comprising; a linear spine and four asymmetrically located districts, three industrial areas (integrated and connected), city green and tourist area, figure 6.1. The city's target population totalled some 120,000 persons; distributed over an urban mass comprising; net residential areas (650 acres), local and central community facilities (317 acres), industrial areas (277 acres), [8].

The new city was to accommodate mixed socio-income groups, reflected in the target housing-mix distribution, namely; 60% economic housing, 25% middle income and 15% upper middle, [8]. The new city master plan was approved in 1984.

The New Menya planned initial growth phase, the GOPP (1987) included the development of the first district and industrial area (B); to provide residence, services and work for some 40,000-50,000 population, [8]. Its implementation started shortly after, [13], [18].

2.5. Urban Settlement #3, Greater Cairo Region (1989)

The new urban settlements in the Greater Cairo Region belong to the third generation of Egypt's new communities. The concept was the product of the comprehensive study "The Greater Cairo Region Strategic Plan and Long-Term Development"; jointly undertaken by the GOPP (Egypt) and I.A.U.R.F. (France), to address the problems of the primate city and region and to propose solutions, [9]. The study key recommendations and proposals comprised: controlling and delineating Cairo's expansion by constructing a new outer ring road together with an integrated an

ecological shelter belt, managing the existing urban districts through the conception of homogeneous sectors (each sector comprises a part of the existing city and its related desert-located extension). The said Sectors would be complemented by the development of a ring of new limited scale-desert settlements in the East, South, and West of Cairo's urban mass.

Ten new urban settlements were proposed and location-decided; to absorb surplus population and to support the upgrading of existing areas in the related homogenous sectors within the city. Three new settlements were proposed to the east of the Eastern Arc of the ring road namely: the 1st, 3rd, and 5th urban settlements, with population of the order of 200,000 each, figure 2, figure 7.1. Clearly separated by green areas and were thought of as balanced communities in terms of socio-income groups, viable mixed economic bases comprising service and integrated industry, thus offering job opportunities for the majority of the new residents. Extensive planning studies, carried out by leading Egyptian consultants under the supervision of the General Organization for Physical Planning (GOPP), Egypt - preceded the development of each of the new urban settlements. The urban planning, urban design and housing studies for the new urban Settlement #3 were undertaken, by the authors for the GOPP (1989), [10].

The Urban Settlement #3 is located on the Northeast corner of the intersection of Cairo - Kattamiya regional road and Greater Cairo ring road), figure 7.1. It represented a unique development case with its restricted growth boundaries to the North and East as well as by the existing land-uses, the ongoing housing development projects and the natural archaeological site (the Petrified Forest) it contained.

The proposed master plan for settlement #3 is characterized by its complex linear urban form, comprising two physical units, namely; the "Kattamiya" housing area (10,000 housing units) and the emergency housing site. The second unit includes the newly planned urban mass for settlement #3, which in turn comprises three urban segments linked by the settlement's central spine, and the industrial park in the East end, figure 8.1.

Settlement #3 target population was 213000, to be accommodated in 14 local areas to house 163000 plus about 50000 persons to settle in the newly developed 10000 housing units area. The total area of Settlement #3 urban mass totalled some 700 hectares (1870 acres), comprising; the general urban area (31% of the total), community facilities and green open spaces (19%), major roads (21%), industrial areas (6%) and green belts (24%). The New Settlement was to provide 80% of its population with job opportunities, [10].

3. The present scene – 3 Decades After

In the second half of the 1990s the new communities policy, witnessed a number of controversial decisions, the negative effects of which are currently evident; including:

- Increasing the planned target population of a number of the relatively promising new communities - though most of the originally planned final targets were ambitious as well as the targets of the planning growth phases proved hard to achieve. The new unsubstantiated growth targets were hastily decided in response to market speculative demand for urban land, mainly for housing and industrial development. The new set targets were not the result of thorough, detailed and evaluated studies; hence adding to the burdens of new communities.

  The population of 6th October City was increased during the Master Planning Phase from 350000 to 500000 persons to be reached in 25 years (in the year 2005 or thereabout). The target population was raised to a colossal 1.5 million, the city urban mass was hastily doubled and the planned green areas and belts were replaced by residential districts and service centres. Further more one of the designated Greater Cairo New Urban Settlements (#7) was added to the city urban mass. Further more, the detached "Sheikh Zayed" new city joined another detached new urban settlement (#6) and both formed a gigantic urban stretch, physically attached to that of 6 October city, with a population target of some 2 million, see also Rageh [18], Aly [19] and Shalaby [21].

  Similarly, and more dramatically, the three detached new urban settlements on the Eastern Arc of Greater Cairo ring road, with a planned target population of 600000; were transformed into a mega urban mass, namely; “New Cairo” with a

preliminary target population of 1.5 millions. The land designated to the new urban mass, if completed could accommodate some 4.5 millions person, [14], [15], [18].

- Changing the demographic mix and land allocation; e.g. replacing low income housing and general urban areas by middle, upper middle, and luxury dwellings, resorts, and developments, hence ignoring the objectives behind the new communities and the recommendations of the related studies as regard the target socio-economic mix and balance and the care given to attract the labour force to settle in those new communities. Thus the ignored lower income groups were to stick to the densely populated informal stretches and deteriorating twilight areas in the nearby major urban centres, [18].

- Allowing extensive linear urban developments in the vicinity and very close to the new communities. A policy and trend reflecting a serious lack of vital development control and coordinated planning. This is clearly evident in the Greater Cairo Region, along the Western stretches, Cairo - Alexandria desert road, Cairo - Fayoum regional road, and axes/links to: 6 October, settlement # 7, Sheikh Zayed new city, and Settlement # 6. Regional roads were allowed to serve as access roads to formal fragmented developments competing with the struggling planned new communities. Similar conditions prevailed in the Eastern stretches, around the Gt. Cairo ring road and regional roads (leading to the cities of: Ismailia, Suez, and Kattamiya), [14], [15].

- Endorsing changes that contradicted and challenged: the conceptions, objectives and initial development features of many of the new communities. This is evident in many cases; e.g. 6 October city, Sheikh Zayed city, Menya new city and the New Urban Settlements in the Gt. Cairo Region. The said changes ignored the original studies, regional determinants and the implemented initial phases, [18].

- Advocating a “huge” number of new communities in the 4th generation, without enough assessment of the fortunes of the earlier 3 generations and the outcome of the development experience to-date; hence repeating the deficiencies of the

pioneering communities and opening new demanding fronts before efficiently solving the problems of the existing, [13], [14], [18].

With the above controversial decisions and actions in mind, this section briefly reviews the fortunes and present status of the selected five New Cities presented earlier in section 2.

3.1 Sadat City

Recent satellite images taken in 2005, Google [16], showed a serious decline in the curve of development, Fig. [3]. After three decades from its initial development only the first phase of development for the residential areas and related services was implemented. On the other hand, the industrial areas were extensively developed. It seems that regional commuting is the prevailing living pattern; the residents of overpopulated areas in the Delta are commuting to work in the industrial area.

Reasons for this distorted development need to be monitored analysed and evaluated. The satellite images simply show an unmistaken waste of resources. The capital invested in the planning and development studies and in the execution of infrastructure networks has not been properly utilized.

3.2 New Ameriyah City – New Borg El Arab

Similarly, the relatively new Google satellite images taken in 2005 [16], show a clear slowing down of the development process. Figure 4 shows that only the first district is developed, the second district is hardly developing and the industrial zone is relatively more active. This may suggest that the workers of the factories in the active industrial areas are not necessarily living in the city and are likely commuting from and to neighbouring existing cities and settlements.

An assessment of the present situation is highly needed in order to clarify the reasons for the slowing down of the development programme. The slow pace of development simply means that the capital invested in the studies and the execution of infrastructure network is largely wasted, although it represents a great asset/potential that should bring the expected return.

The proposed phases of development took into consideration the importance of simultaneous development of industrial areas, residential areas and needed services, see figure 4.1. The said balanced development was meant to provide the inhabitants with the necessary community services and job opportunities that would encourage settling and discourage commuting to other existing cities.

3.3 6 October New City

The 2005 satellite images, Google [16], show the active development of the settlement. Some districts are totally developed, especially those with completed housing projects, and the rest are gradually developing according to a scenario of plot subdivisions to be incrementally built by the owners. The satellite images also show the doubling up of the area of the industrial zone with its road network completed, figure 5.2. It further shows some new residential areas developed outside the ring road that defined the boundaries of the original Master Plan urban mass. The development boom was further exploited by the Ministry of Development and New Communities decision to double the size of the settlement by increasing the target population figure from 500000 inhabitants to one million. The said decision was not backed up by fresh comprehensive regional studies covering both 6 October City & Gt. Cairo Regions.

3.4 New Menya City

The recent satellite images of the new city, dating back to 2005, Google [16], Fig. 6.2, show that the main roads and the infrastructure networks of the whole city have been implemented. It is possible to detect from the aerial images the spatial distribution of the City's main elements, i.e. the general-urban and residential districts, local areas and industrial areas. Only the first phase of the city has been completed, to date. The slow rates and status of development support the need for a critical assessment of the present situation in terms of development scenarios and urban management, in order to secure the development goals and to efficiently deploy the invested capital.

3.5. Urban Settlement #3, Greater Cairo Region – "New Cairo"

The late 1990's witnessed some radical changes in the Ministry of Development and New Communities Greater Cairo Region development policies, without the backing

of documented in-depth studies or critical investigation. The vision and proposals of "the Greater Cairo Region Strategic Plan and Long-Term Development", [9], were shaken, contradicted and abandoned. The Ministry of Development and New Communities decided to develop a huge new city called "New Cairo" to swallow within its boundaries the Eastern Arc the three new urban settlements number [1], [3] and [5], [15].

The new grand settlement ignored the concept of: the "Homogenous Sectors", limited scale detached urban settlements and the ecological green belts surrounding the ring road and separating new developments. The size of "New Cairo" is almost three times the collective size of the three originally planned urban settlements and it contradicts (without good logic or an objective rationale) the main objectives of the studies completed, assessed and endorsed earlier, see also Rageh [18].

The Google satellite image, figure 7.2, points-out some interesting facts; the three original urban settlements (1, 3 &5) are steadily developing while the mega settlement engulfing them is lagging behind. This present situation means that the government thinly-spread its resources in the development of the main roads and infrastructure network of the mega new city, instead of supporting and enhancing the development of the appropriately planned and located, the detached three urban settlements (1, 3 &5).

The satellite images also show some deviations and inconsistency in the functions and land-uses of the implemented settlements. The integrated industrial areas for settlement #3 were replaced by residential areas. Luxury residential developments for higher income groups (e.g. the "Kattameya Heights" luxury residential resort, is located between settlements #3 and #5) were developed in the buffer zones separating the new urban settlements; in areas designated as open spaces and shelterbelts to protect and control urban sprawl.

The briefly reviewed new communities together with most of the rest- belonging to the three generations of Egypt's new Communities, figure 1 - present conditions are characterized by a chain of related problems and features, namely:

- Slow growth rates (even in the cases of the relatively active cities), in terms of target population, percentage of resident labour-force, land development, community facilities completion
- Imbalanced development and deviations from the planned, in terms of the relation of the present status of the four key urban components; i.e. housing, community facilities, industry and infra structure.
- Distorted population mix and demographic structure/balance, i.e. percentages/ratios of the socio-income groups: upper, middle and lower.

4. On deviations and remedies.

The Egyptian new communities' experience does represent a daring and a serious endeavour as well as a difficult and demanding undertaking in a developing context; in a country burdened by chains of challenging priorities and limited resources. The New Communities present scene, briefly highlighted in the previous section, through the selected examples – pointed-out the limited success of the new communities in achieving and securing their objectives and delineated targets, in terms of:

- Securing target "resident" population.
- Accommodation of the (thought) socio-economic mix-specially the lower income groups.
- Effective alleviation of existing (designated) urban centres/cities; primate and major.
- Independence and autonomy (relative).
- Provision of quality (balanced) living settings.

The said limited success in securing planned objectives and meeting development programmes, could be attributed to an array of factors and reasons that lead to the deviations and shortcomings of new communities development, including:

- Management deficiencies and casual decision-making; lacking objectivity and reason.
- Poor monitoring, lack of proper documentation and continuous evaluation.
- Centralization; i.e. imbalance between central government (the Ministry and affiliated bodies) and new communities' authorities.
- Inappropriate allocation, distribution and provision policies of development urban land for housing, community facilities and industry.

- Abandoning approved planning strategies and development rationales.
- Un-coordinated development and clashes of priorities.
- Inappropriate housing policies and strategies.

The said shortcomings, limited success and deviations should and could be seriously addressed and dealt with. Numerous studies and researches advocated solutions, remedies and courses of actions to better the misfortunes of the resourceful new communities' movement, see for example Rageh [18], Aly [19], Rehan [19], Shalabi [20], Ettouney & Abdel Kader [17].

Key actions and remedies to address the said problems are arguably to include (some or all of) the following:

- Respect to completed and approved Master Planning strategies and related studies; changes should follow rational evaluation and in-depth investigations.

- Autonomous/independent new cities development organization and management; i.e. treating the new cities as a comprehensive civil development, and not merely as grand-scale physical construction and execution projects.

- Serious regional and national coordination of development rationales and strategies; to avoid fragmentation and clashes. Treating new communities as an integrated network.

- Discouraging, freezing, and relocating fringe and "casual" developments, in the vicinity of planned new communities and related regional roads and access "axes".

- In new developments, priority should always be given to the "majority", the "masses", the "needy", the "urban poor", and to "lower income groups" – representing 50% - 60% of the target population in all the original (documented, assessed and endorsed) studies for Egypt's new communities.

- "Settlers" attraction is a prime target and a key action in new communities' development. It can be achieved through the integration of the trio: appropriate

housing supply, attractive and efficient community facilities, and rewarding job opportunities.

- Careful considerations should be given to land allocation policies. Quick returns to maximize profits and open urban-land auctions should be resisted and avoided. Land allocation should primarily target residents and prospective settlers.

- Readdressing the target sizes and population of the new communities - small may still be viable and more efficient.

- Revitalization of the mixed economic bases of new communities, including agriculture and services besides industry.

5. Epilogue.

The present paper attempted to draw attention to the fortunes (and lack of) of the comprehensive and arguably unparalleled (in recent history) developing experience of the new urban communities in Egypt.

It followed the notion, conception and its partial realization through the relatively short course, extending over three decades from initiation in the mid Nineteen Seventies till the present. Most of those new settlements were planned to reach target size and population within 15 to 25 years. The reviewed satellite images showed that most of the new urban settlements are clearly lagging behind the planned targets. The few that are actively developing, mostly in and near Greater Cairo, reflect serious deviations from original policies and development plans; hence adding to the problems rather than alleviating the burdens of the Primate City and region.

The present discourse highlighted the gap between: the original visions, substantiated by serious studies, in-depth investigation, carefully formulated development frameworks and comprehensive general and detailed plans and actions on the one hand, and the present status of the new communities nationwide, especially those belonging to the first three generations on the other.

The truly extensive, rich “Development Library” of the Egyptian new communities’ development studies, should be revived, digitally stored and publicized. This crucial step will provide comprehensive bases and benchmarks to all serious endeavours; to monitor development and current status, to analyze and assess performance and achievements and to diagnose problems and shortcomings and to propose solutions, alternative strategies and appropriate courses of action.

Detailed, comprehensive, up to date and continuously refreshed data-bases covering all the physical and non physical aspects of new communities should also be established and made readily accessible to all concerned. This would enable better understanding, allow objective analysis, rational solutions and hence secure better futures. Furthermore detailed studies are also needed in to reach accurate assessments and to provide reliable diagnosis and rational courses of action. Those studies would secure benefits from the potentials of the settlements and would assure better returns from the invested capital.

New communities represent an invaluable asset and a promising potential, they deserve attention and a prominent place as magnets and focal points in the national and regional development strategies in the coming decades.

Till such national and regional rationales are formulated, five key **Action Plans Studies** should be undertaken by top specialists in the realms of: urban planning, management, housing, infrastructure and related areas - under the auspices of the related central and local institutions and authorities - to address and cover the following **crucial** issues:

- New communities **management and financing** (beyond construction and towards autonomy)
- **Targets' reassessment**, in terms of: size, population, development phases, etc.
- Land and assets **allocation policy**, to avoid using new communities as mere treasury revenue sources.
- **Socio-economic groups mix**, current status and future: demographic structure-current and prospective.
- **Harmful formal developments** – in the vicinity of new communities (along regional access routes and the designated areas).

Table (1) Selected Egyptian New Cities – General Profiles

	New Cities		Classification*				Urban Mass (km^2)	Designated Area (km^2)	Target Population × 1000 person	Location, Region, Mother Cities**					Key Economic Base***				
			Ind	Sat	Twin	Spe				(1)	(2)	(3)	(4)	(5)	Inds	Agri	Serv	Con	Tou
1st Generation	1. 10th Ramadan		■				96.1	398	500			■			■		■	■	
	2. Sadat		■				64	500	500				■		■	■	■	■	
	3. 15th May			■			12.5	35	150	■							■		
	4. (N.A.C) Borg El Arab		■				63	225	500		■				■	■	■	■	■
	5. 6th October		■	■			295	408	500	■					■	■	■	■	■
	6. Al Amal		■	■			29	189	250	■					■		■	■	
	7. New Damietta		■		■	■	17	100	270				■		■		■	■	■
	8. New Salehia					■	7	---	70			■			■	■	■		
2nd Generation	1. El Obour		■	■			52.4	---	250	■					■	■	■	■	
	2. Badr		■	■			51	73	250	■									
	3. New Menya			■	■		19	102	60					■	■		■	■	■
	4. New Beni Sweif			■	■		23	163	100					■	■		■	■	
	5. Nobaria					■	5.2	28.2	75		■				■	■			
3rd Generation	1. Shourouk			■			41	45.5	500	■							■	■	
	2. New Assuit			■	■		10	134	130					■			■	■	
	3. Shaikh Zayed			■			39	40	450	■							■		
	4. Thebes			■			20	23	140					■					
	Cairo New	Settlement (1)		■			8	---	250	■					■		■	■	
		Settlement (3)		■			7	---	213	■					■		■	■	
		Settlement (5)		■			9	---	200	■					■		■		

* **Classification: Ind**: Indeperndant; **Sat**: Satellite; **Twin**; **Spe**: Special Nature

** **Location Region: (1)** Greater Cairo, **(2)** Alexandria, **(3)** Suez Canal, **(4)** Delta, **(5)** Upper Egypt and New Valley

*** **Key Economic Base: Inds**: Industrial; **Agri**: Agricultural; **Serv**: Services; **Con**: Construction; **Tour**: Tourism

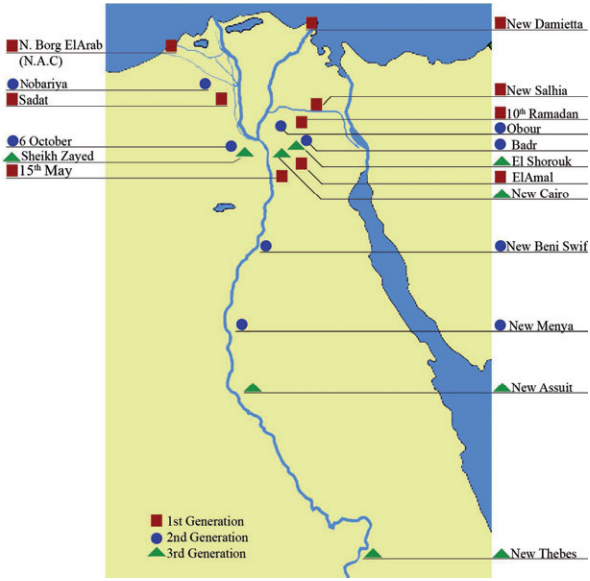

Figure 1: New Urban Communities, Egypt, 1976-1989, Generations and Locations, [13]

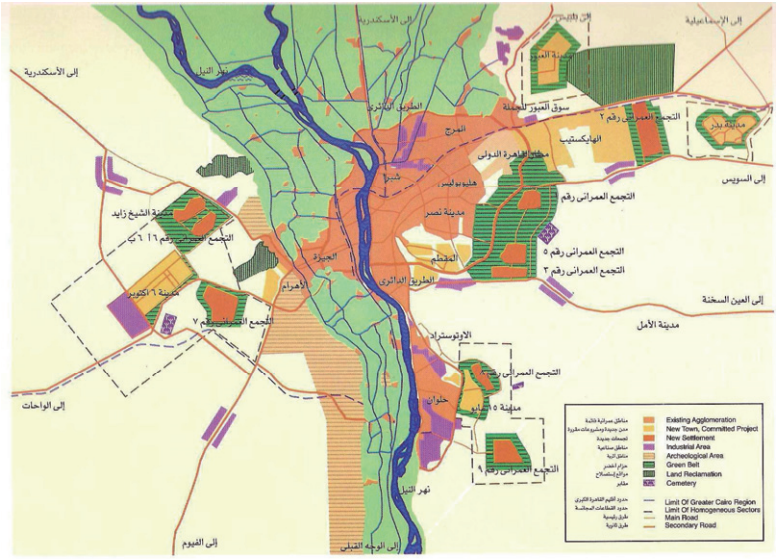

Figure 2: New Urban Communities, Greater Cairo Region, Egypt, (1989), [13]

Figure 3: Sadat City, 1978-2007

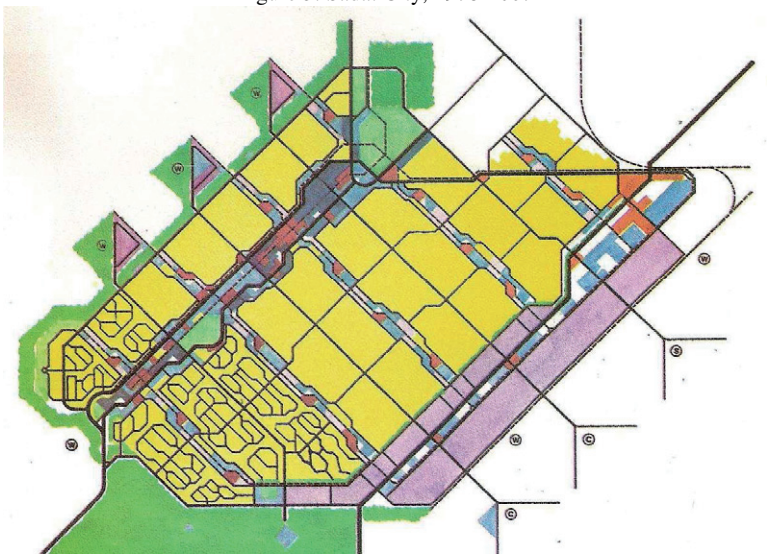

Figure 3.1: Sadat City Master Plan, [4]

Figure 3.2:Sadat City Satellite Image, Google, [16], 2007

Figure 4: New Ameriyah City, 1978-2005

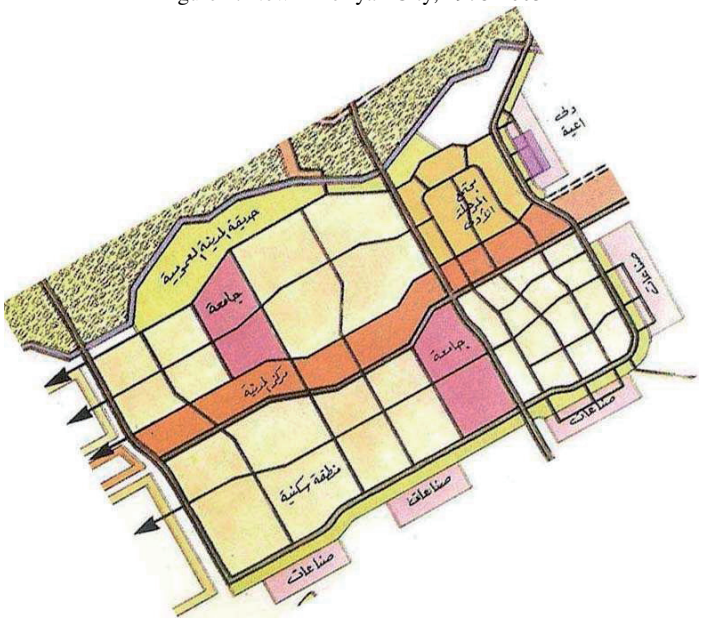

Figure 4.1: New Ameriyah City Master Plan,
New Borg El Arab, 1978, [5].

Figure 4.2:NAC Satellite Image, Google, [16], 2005.

Figure 5: 6 October City, 1979-2008

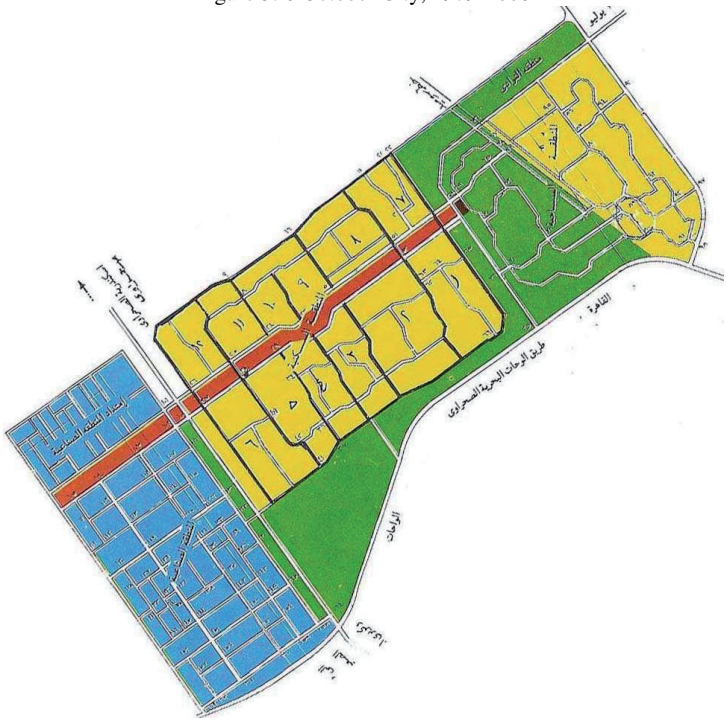

Figure 5.1: 6 October City Master Plan, 1979-1980, [6].

Figure 5.2: 6 October Satellite Image, Google [16], 2008

Figure 6: New Menya City, 1986-2005

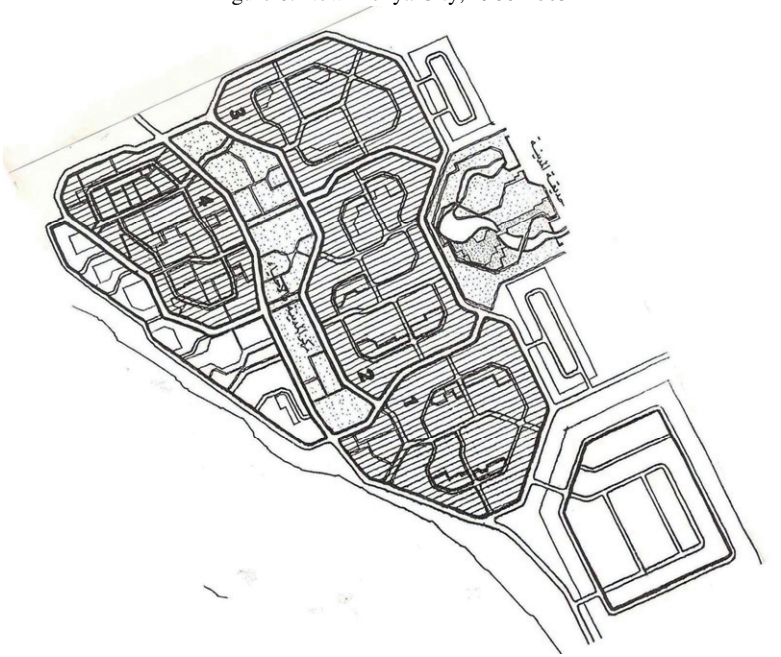

Figure 6.1: New Menya City Master Plan, 1986, [8].

Figure 6.2: New Menya Satellite Image, Google [16], 2005.

Figure 7: New Urban Settlements 1, 3 & 5, Greater Cairo Region, Egypt, 1989-2009

Figure 7.1: New Urban Settlements 1, 3 & 5, Greater Cairo Long Range Development Scheme, Egypt, 1989.

Figure 7.2: New Cairo, Google, [16], 2009.

Figure 8: New Urban Settlement # 3, Greater Cairo Region, Egypt, 1989, 2009.

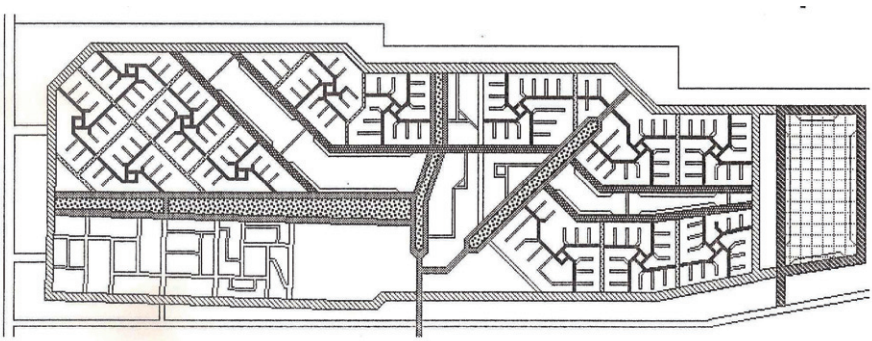

Figure 8.1: Master Plan of Settlement # 3, 1989, [10].

Figure 8.2: Settlement # 3 Satellite Image, Google, [16], 2009.

N.B.: *The studies and underlying research for this chapter was completed in 2009.*

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Chapter Three
Post Modern Walk-Ups
On the Transformation of an Ailing Conception – with Reference to Housing in Development Contexts

Introduction:

The present work formulates a positive statement for walk-up apartment blocks and advocates a better role for a transformed conception. It puts-forward the notion that; the apartment block is a suitable-most housing type for post-modern urbanism and built-scape, as its inherent features could be developed to answer the complex and clashing needs for : internal flexibility, external territoriality, local identity and cost minimization; i.e. avoiding the concept's practice related drawbacks and exploiting its potential. The proposals are substantiated by the accumulated research findings; into Egypt's development and housing experience during the past three decades.

The discourse falls into an epilogue preceded by three sections; namely: On walk-ups; an overview with reference to Egypt's public housing experience, On merits and drawbacks of walk-ups, and A post modern walk-up apartment block- Guidelines for the transformation of the ailing conception.

1. On Walk-ups; an Overview, with Reference to Egypt's Public Housing Experience.

Walk-ups; the infamous medium rise, direct & indirect access, deep & narrow apartment blocks; are synonymous with; public, completed housing projects, throughout the world. Despite of contextual variations, walk-up apartment blocks were (and arguably still are) the preferred housing mode for low and medium income families in urban settings. It enjoys the obvious (rather controversial) merits of: efficient building and land use, accessibility, easier pre and post development control, environmental quality and image. Hence it's adoption (since the proposals of the pioneers of modernism, the schemes Lecorbusier and Gropius included) by housing agencies, professionals and politicians; being a "devil you know" and a safe haven; if compared to the menacing unpredictability of incremental growth housing alternatives (including : shabby sites and services and sprawling core-housing projects).

During the past three decades the deficiencies of walk-up developments were identified by researchers, professional and users. A long list that included: low economic viability, lack of character and local identity and wasting of valuable urban land resources.

Medium rise, walk-up apartment blocks, were the predominant housing type in Egyptian public housing developments, since the mid nineteen fifties and till the present. Thousands of which were erected in hundreds of housing projects, with little (if any) awareness of the conception's inherent complexities and internal and external impacts. The result can be seen in most, relatively new public housing areas; which effectively combine the indicated deficiencies; hence support the view that the walk-ups are partly responsible for the inadequacy or failure of public housing policies in Egypt,[6].

All formal, middle to low income housing projects that extensively used walk-ups, predominantly shared the following features:

1.1 The House Units

The house units, that collectively made up the walk-up blocks were characterized by a number of common features, Figure 1, namely:

- Ordered internal organization.
- Concern for optimum relations and balance between: principal elements (living and sleeping) and secondary components (circulation and utilities).
- Drive for reduction of cost, through: combination and reduction of the wet points, minimization of external periphery (exposed walls) & compactness.
- Direct and indirect access, with a preference to stair access.

The units varied in areas (a range of the order of 45 to 120, 150 and 180 square meters); as well as in programs, i.e. internal elements and finishes. National housing regulations designated the standards: areas, components and finishes for the various levels of housing (upper middle, middle and low cost).

1.2 The Apartment Block

The numerous projects developed since the mid-fifties, were typified by repetitive features and stereo-type external appearance that led to general anonymity and absence of visual identity, see Figures 1&2. In general walk-up blocks shared some or most of the following characteristics:

- Relatively limited height; restricted by the building regulations to a maximum height of liveable floor levels of 16 meters; hence most developments used five and six (and in some rare cases four) stories apartment blocks. This was usually attributed to economy, i.e. efficient building and land use.
- Double aspect, narrow or limited depth linear blocks were invariably used in housing projects, with no internal courts (light wells). Deeper blocks were also used with or without internal courts.
- Single stair access cores; serving two, three and four housing units (per floor), with no provisions for garbage collection or emergency escapes.
- A mixture of (one level) housing units of various areas were accommodated in the block; allowing for different family sizes and ability to pay.
- The apartment blocks allowed simple and sometimes complex grouping, through mechanical repetition of the basic block: free standing, parallel, single, semi detached and rows of blocks.
- The external appearance was the result of rigid (rather dogmatic) functional interpretations; reflecting mediocrity and limited regard (if any) to users' identity and the context. Mixing the issues of good design and cost reduction resulted in faceless facades (despite of the use and manipulation of colors, materials and masses).
- Very little attention was given to profiles, ends and sky lines.

1.3 Site Organization

Site planning and spatial organization of walk-up housing projects were invariably inferior to the architecture of the housing blocks it contained; in terms of conception and details. Sites and layouts were generally characterized by the following features:

- Mechanical organization of housing blocks; oriented blindly towards the geographical North, to exploit local breeze and to enhance pressure-induced

ventilation; hence the overwhelming linearity of blocks, the space-between and roads.

- Modern notions of urban design, i.e. abandoning urban continuity and emphasis of paths, nodes and corners; to free-standing blocks; surrounded by open spaces and no-mans land.
- The spaces-between buildings were mostly treated as common areas, comprising hard and soft finishing, with little (if any) attention given to: landscaping, space articulation and territoriality, [1].
- Roads and circulation networks defined and contained urban blocks; hence the variation in accessibility levels (between the outer blocks of flats and the internally located blocks, with relatively limited access).

2. On Merits and Drawbacks of Walk-up Apartment Blocks.

The colossal number of housing projects comprising walk-up apartment blocks; that were developed in contrasting settings (urban and rural), climates and within a wide range of development and contextual constraints (social, economic and physical); allows the drawing of an extensive list of the merits and drawbacks and in sequence allows a reasonable perspective into the potential of the underlying conception. Structuring such a list greatly benefits from the extensive work into the housing context in Egypt in general, and into housing units and settings in particular.

The merits and drawbacks of the ailing walk-up apartment blocks conception may be briefly, outlined as follows:

2.1 On Merits

The walk-ups apartment-blocks and related housing settings generally enjoy the following positive aspects.

2.1.1 House Units and Blocks

- Limited number of families/users per block, higher social interactions and support.
- Effective access and accessibility to house units.
- Minimum cost of public facilities.
- Internal flexibility, i.e. provision of a wide range of house units in terms of: programs, areas; within the same structure.

- Economy of infra-structure and utilities (compared to high rise and low rise housing prototypes).
- Environmentally healthy interiors; ease of climatic control; day-lighting provision, insulation and cross ventilation.
- Visibility; open views.
- Privacy; (physical) visual and acoustic.

2.1.2 Sites and Settings

- Efficient building and land use.
- Relatively high accessibility; in terms of relation to cars (private and public) and vehicular traffic (services and emergency).
- Exposure of units and the space-between; hence the ease of maintenance and control.
- Climatic adaptability, i.e. in terms of: provision of shadows, insulation, ventilation and wind shelter.
- Completeness and neat appearance (and surroundings).
- Visibility; open views.
- Urbanity, strong sense of.
- Relative nearness (proximity) to community facilities.

2.2 Drawbacks

Though the drawbacks of walk-ups may in many cases be attributed to designers' decisions and determinism; the following are the common deficiencies, generally related to or taken against the housing conceptions in hand.

2.2.1 House Units and Blocks

- Height; climbing up of four, five and some times six stories.
- Distance (separation) from the ground; to families with children, the elderly and all.
- Rigidity of internal solutions and organization of flats; limited provisions for change and adaptability.
- Standardization of users' needs and ignoring of cultural variability.
- Poor internal environments in terms of: cross ventilation, day lighting and insulation, as well as acoustics (sound insulation and noise levels).

- Limited psychological and physical privacy (in corridor access types and with stairs serving numeral units).
- Sensitivity of facades to users' additions.
- Poor appearance and diluted character, [3, 8].

2.2.2 Sites and Settings

- Lack of identity; visual and social.
- Poor accessibility to services: cars, garbage collection, deliveries and emergencies.
- Mechanical; concrete dominated environments (match boxes, army barracks).
- Poor space-between, in terms of designation, surveillance and use (proliferation of accidental open space), [1].
- Low environmental quality; in terms of: landscaping, maintenance and general appearance, [3, 8].

3. A Post Modern Walk-up Apartment Block, Guidelines for the Transformation of the Ailing Conception.

It is often claimed that technical and economic pressures are behind most of the above mentioned drawbacks and that users and communities should readily tolerate and accept it; in return to affordable shelter and settings. It is also pointed out that, the process of mass production logically leads to standard and identical dwellings; as it calls for the standardization of the elements and components. A view that is rejected by many researchers who stressed the fact that standard elements could be endlessly organized and manipulated, within the concept of "open systems"; to create a variety of alternatives and solutions.

Similarly the argument that, the mechanical repetition of: components, details, house units and whole walk-up blocks; leads to: capital savings and development cost minimization - may be challenged through the findings of recent urban housing economics studies. Which indicated that; cost reductions could be reached through better use of materials, rational design decisions, and better management of construction phases; albeit without overloading the design process with false constraints that may adversely affect the general outlook and economic viability of the product; i.e. house units, blocks and settings, [4, 5, 9].

It is believed that the need for the apartment blocks is likely to continue to offer living scenarios that cannot be easily met by other housing types. It provides a wide range of dwelling areas starting from some 30 square meters and up. The relatively small house units areas of: 30, 45 and 60 square meters, which are suitable-most to housing demand in urban living in industrial and post industrial societies-are conveniently and efficiently achieved through walk-up apartment blocks developments (by far better than other prototypes including town houses), [7].

The above concourse briefly highlighted the merits and drawbacks, and hence indicated the potential of the infamous housing type to continue among the suitable forms of urban housing, in developing settings. The potential of walk ups basically stems from three inherent characteristics, namely:

- Urbanity; which is arguably the result of solid continuous walls and high intensity living.
- Internal flexibility, i.e. the ability to accommodate various development scenarios in terms of: areas, briefs, form, etc.
- Efficiency of building and land use.

These potential together with the findings of research work into: urban housing: modes of development, shelter provision efficiency and performance of housing prototypes as well as into the issues of: community identity and urban character and the role of designers in communities (see for example: [1, 2, 3, 7, 10]) suggested the following check-list or guidelines for the metamorphosis of the ailing conception. The list comprises three levels; used earlier in the introduction and overview of walk-ups, namely: the house units, the block and sites & settings.

3.1 The House Unit

- The internal design of units should be flexible; allowing users modifications and alterations without clashing with external appearance, efficiency or safety, [7].
- Selection of units by the users rather than designation of units to them should be an integral part of housing development. Selection should extend to

deciding on internal treatments and features: closed versus open plans, balance of internal components, areas, living versus sleeping, main functions vs. utilities etc., Figure 4.

- Provision of house units plan alternatives within fixed features (supports) or delineators. Alternatives may be generated through:

    - Exploitation of functional sectors, [9].
    - Floor levels; living on one or many levels (same areas).
    - Closed versus open plans.
    - Incorporation of outdoor spaces, courts, terraces, loggias, etc.
    - Openness (extroversion) versus inwardness (introversion), i.e. treatment of party and outside walls.

The above directives fully recognize the potential of users' participation and the changing role of the architect (to an enabler rather than a producer) in housing development, in post modern walk-ups, see also [2].

3.2 The walk-Up Block

- Careful design of common areas; provisions for social mix and territoriality; special attention to: main entrance(s), circulation areas, entrances to private dwellings (flats), staircases: circulation and access to flats, mix and separation of users.
- Avoidance of corridor and gallery access; of comparable cost to direct stair (point) access, though inferior in terms of: privacy, environmental quality, and cultural suitability, maintenance and control.
- The block should/may accommodate variety of: house unit areas, programs and internal treatments
- Adoption of low walk-ups and high density development (e.g. four stories); and if five stories are reached change of heights within the same block and within the housing project should be encouraged.
- Three storey walk-ups should always be examined as a competitive alternative; allowing better: living quality, privacy, access to the ground and efficient land use. Four stories may also be (mixed) and used in this respect, comprising

duplexes at lower levels accessible freely from the ground, with one or two higher levels of stair accessed flats.

- Special attention should always be given to facade treatment and external appearance. Mechanical repetitions should be avoided. The basic block should encompass variety and complexity that is enhanced and amplified by juxtaposition of blocks, Figure 3.
- The external appearance of blocks should benefit from the potential and skilful manipulation of facade elements, including:

    - Block profiles; i.e. sections perpendiculars to facades.
    - Ends profiles.
    - Block skyline (avoiding clear cuts, manipulation of heights and facade planes, subtraction of masses (whole rooms) and reduction of top flat areas.
    - Porosity and fenestration location and details.
    - Open areas (outdoor elements), canopies, loggias, terraces and verandas.
    - Parapets of open areas and roofs.
    - Local and vernacular treatments, themes and materials (exploiting local and regional associations).

- Design for complexity and variety; enhancing identity for facades and the site, [3, 8].
- Facades should accept (accommodate) some levels of users' traces and contributions.
- Special attention should be given to utilities and its impact on the external appearance and image without sacrificing cost or efficiency; e.g. wet areas location, treatment of pipes, means of garbage collection.

3.3 The Site and Setting

- Walk-up sites should always be treated as the key to the success of the housing development; rather than as an after thought with attention only focused on the units and blocks, [1].

- The sites are the key to the metamorphosis of the walk-up housing. Site planning decisions affect the form and visual appearance of the blocks; i.e. enhancing its merits and minimizing drawbacks.
- No-mans land should be avoided; or reduced to practical minimums, [1].
- The space-between should be articulated into private and semi-private areas; well related to designated communities. Public spaces should also be linked to community facilities with responsible parties defined.
- Avoid free standing blocks surrounded by open no-mans land.
- Design for continuity of facades (with double access to blocks whenever possible); accentuating crossings, corners and intersections, [8].
- Economy of Infra-structure networks need not lead to rigid alignments of walk-up blocks.
- Design for high accessibility to vehicular services.
- Vehicular and pedestrian circulation should be integrated; with safety, freedom of movement and interactions, vividly in mind.
- Avoid stereo-type visual forms and formalism, e.g. deterministic serial visions and path sequences.
- Stress community definition and physical expression (boundaries), levels of territoriality, surveillance, control, etc.

Epilogue

It is reasonably justified to claim that, the walk-up apartment block is likely to continue as a major housing type well into the twenty first century. If not because of its merits and potential; it will be because of conventions and common practice on the one hand and the size of the existing housing stock of walk-up apartments and related projects, on the other. This calls for collective work on three fronts, namely:

- Enhancing awareness of the involved parties in housing development (including; executives, developers, designers and communities) concerning the mistakes of earlier and current practice, i.e. to deal positively with the evaluation of completed walk-ups housing projects, avoiding drawbacks, enhancing merits and exploiting potential.

- Upgrading and rehabilitation of existing stock of walk-up housing projects; to improve the components and settings, namely: the house units, blocks and sites.
- Readdressing the housing development process, with emphasis on the role of designers as enablers' facilitators, and on their contributions as a flexible settings rather than rigid structures; i.e. working for and with the community.

N.B.: *The studies and underlying research for this chapter was completed in 1995-1996.*

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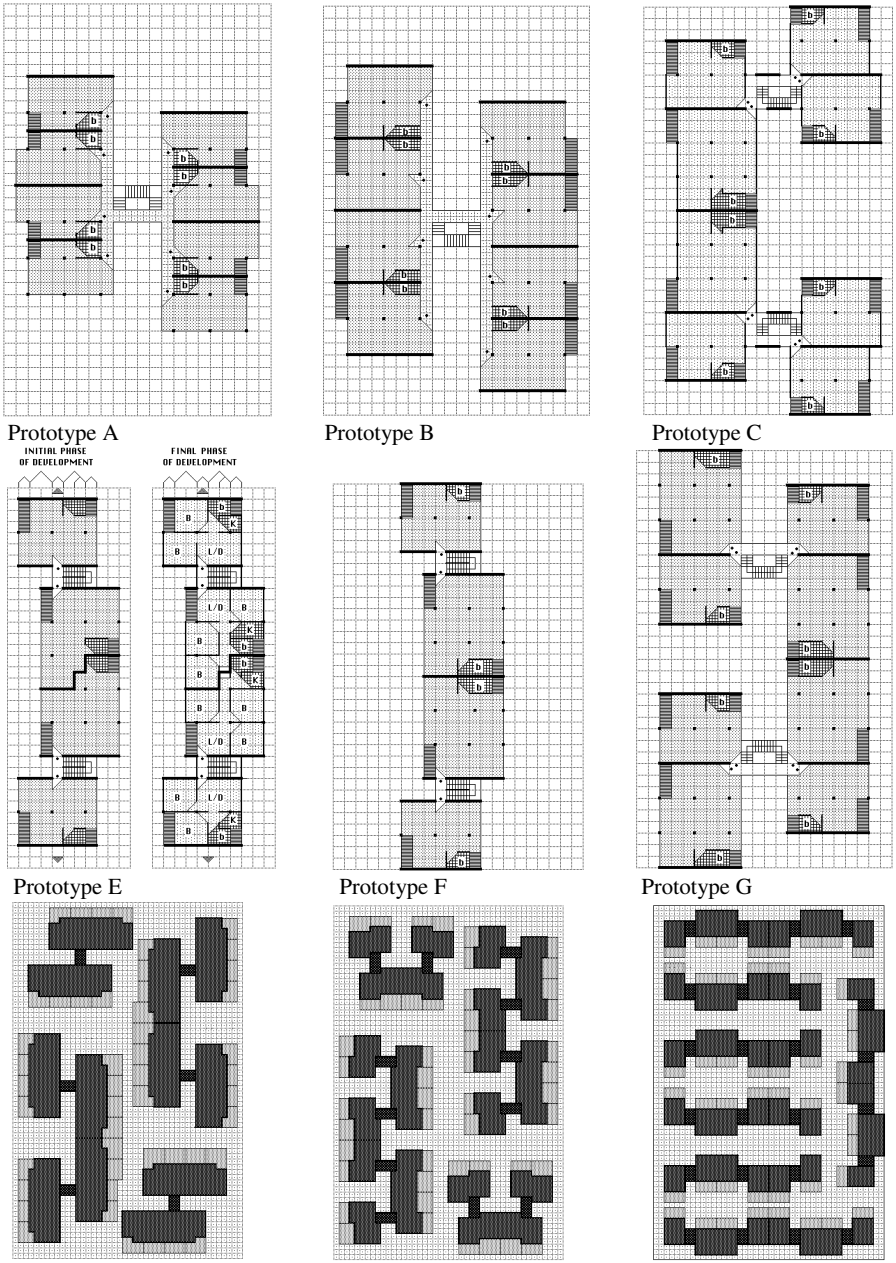

Figure 1: Typical recent Walk-ups' plans and layouts; low cost housing prototypes, Egypt, [7, 15].

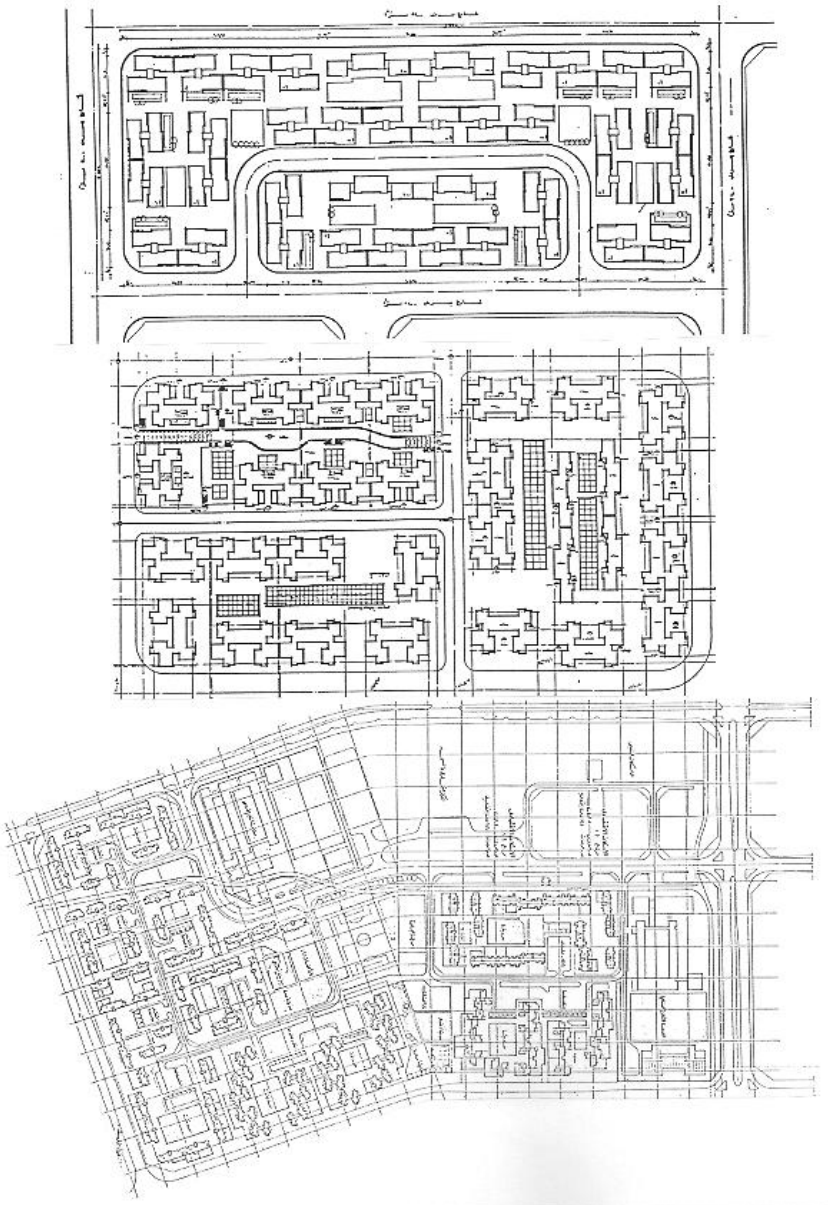

Figure 2: Typical Walk-ups' site plans; Settlement No.3, at Khatamiya [14.a &14.b] and New Ameriyah City [13], Egypt.

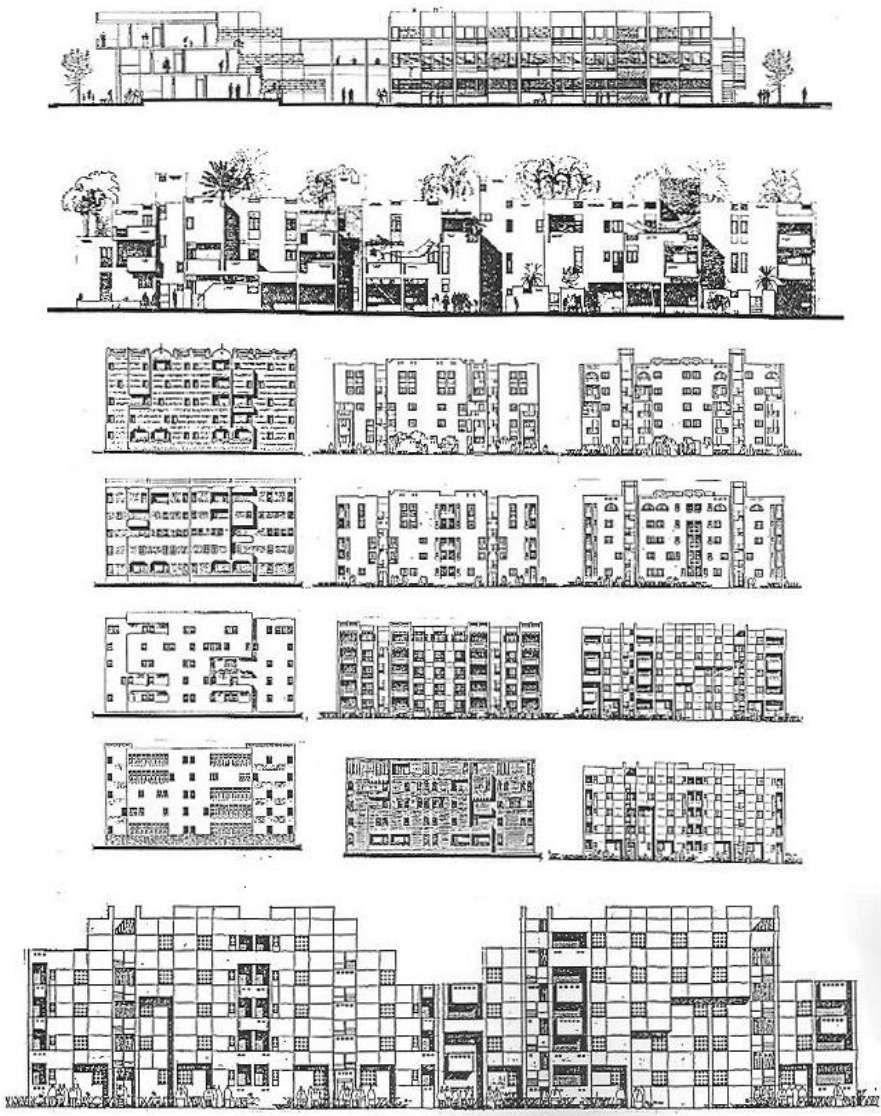

Figure 3: Walk-ups transformation I - External appearance and character: Deversoir Resort [13], ElObour New City [12], low cost housing facades variations [8 &15], Egypt.

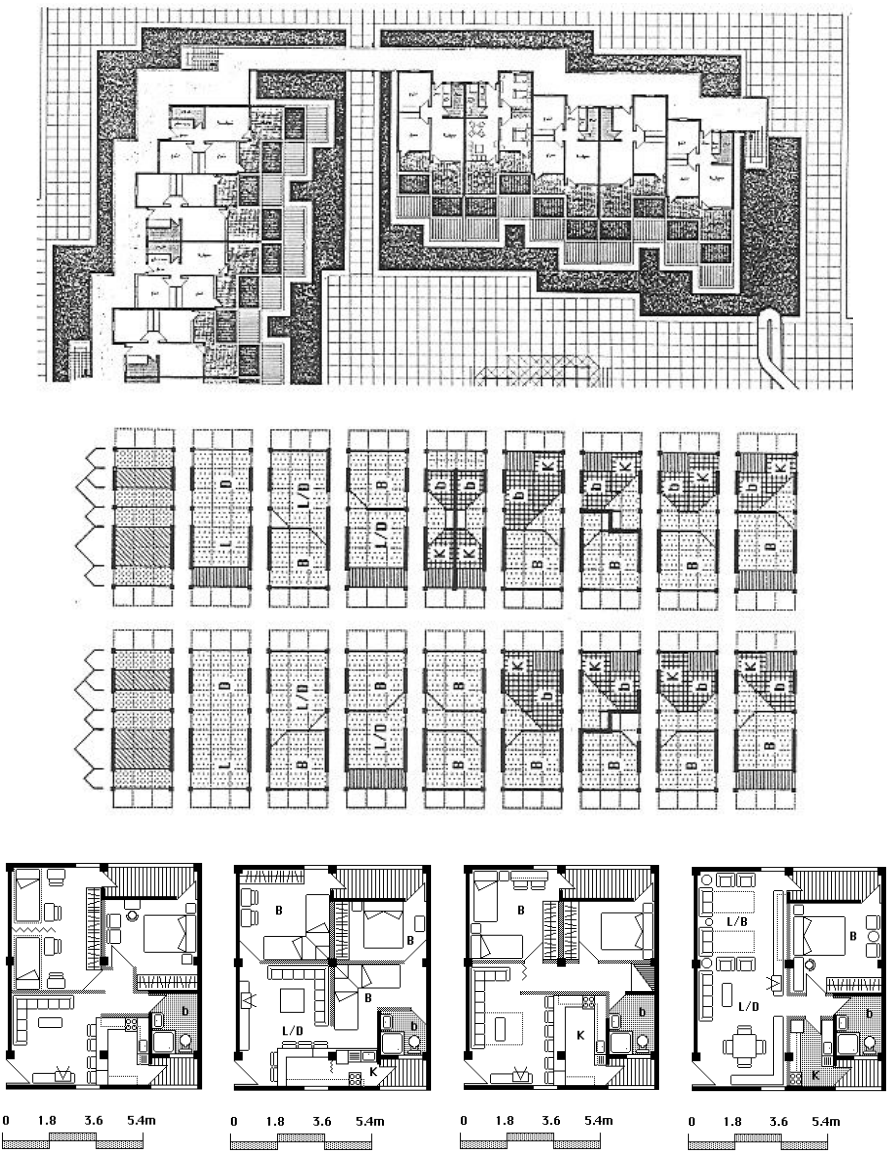

Figure 4: Walk-ups transformation II - house units and internal organization: Deversoir Resort [13], low cost housing sectors and internal variations [15], Egypt.

Chapter Four
Users' Participation in Low Cost Housing Projects
Post Occupancy Evaluation

Introduction

Provision of affordable housing for low-income groups has been the major concern of the Ministry of Development in Egypt, between the mid Seventies and the early Nineties (of the past Century). Many studies pinpointed the importance and potentials of users' participation in the development processes, comprehensive and physical. In the late 1980's the Ministry of Development, Housing and New Communities, Egypt, recognizing users' potential, adopted a new approach to low-income families' housing projects, [1]. It was based on the provision of partially completed dwellings in four to five story walk-ups.

The present authors (during the said-period were the technical consultants to the Ministry of Development & Housing, Egypt) proposed and developed the low-cost housing design alternatives, based on the concept of users' participation. The concept was believed to be a key factor in decreasing the initial cost of the dwellings. While developing architectural designs for the housing prototypes, allowing the incremental development of the dwellings within a scenario of flexibility and adaptability, the designers (present authors) stressed the necessity to monitor and assess the experiment in order to maximize its merits and potentials, and to minimize its drawbacks. The approach has since been implemented on a relatively large scale; several hundred thousands of partially completed units were built and handed over, nation wide. This rightly deserves serious monitoring and critical assessment.

The objective of the present study is to review and validate the experiment and the underlying approach, almost (ten) years after the completion of its initial projects. This is accomplished through a post occupancy survey and evaluation of a selected sample of developed low-income housing areas. The study recalls the conception of users' participation emphasizing the link between effective participation and affordability. It briefly presents the results of a sample survey of the implemented partially completed housing projects; focusing on the issues of gradual completion, economic affordability and organizational procedures. The positive and negative

aspects of the experiment, approach and implementation are then highlighted and the prospect for the conception and products is put-forward. This chapter comprises three main sections closely related to the above mentioned three issues, namely:

- On the concept of users' participation, and its impact on the proposed architectural designs for affordable housing units and projects.
- The housing projects ten years later - a post occupancy evaluation with emphasis on the technical, financial and organizational aspects.
- An epilogue, on the merits and drawbacks of the approach, and its potentials for future applications.

1 On the concept of users' participation

Users' participation has always been a key issue in community development processes and the closely related housing projects and developments. Its recognition and realization could serve many objectives: socio-cultural, political and economic;

- On the socio-cultural level, Habraken, N.J., [2], [3], emphasized its relationship to the flexibility and adaptability of the dwelling. Users' participation allows it to meet the varied and changing needs of the users.
- On the political and economic levels, Turner, J., [4], and Correa, C., [5], also stressed the fact that participation is strongly linked to affordability. It allows the gradual and incremental completion of the dwelling according to the ability and affordability of the user.

In implemented housing projects, it has been noticed that, users are invariably interfering with the internal organization of their dwellings, whether such interference has been foreseen by the architect/designer or not. Participation is considered as a clear manifestation of the users' needs for flexibility to meet their variable and changing needs. Users' needs vary from one to the other and through time, to the same user. Such variations and changes in users' need call for inherent internal flexibility in dwellings' form and design. Design flexibility allows user direct/effective participation in changing and reorganizing the internal layout of his dwelling to meet and satisfy his ever changing needs.

Enabling users' participation as a scenario to achieve flexibility is indeed one of many positive aspects of the conception, Ettouney, S., [6]. Users' participation could also secure economic viability, which is an essential objective in housing projects for

low-income groups. The incremental growth and gradual completion of the dwelling through users' participation could coincide with and secure the target of affordability. The user may not be able to obtain the dwelling suitable-most to his needs, due to his income limitations. He will however accept a dwelling of lower standards (in terms of completion and finishes) if it can be improved and upgraded with time, according to his ability and income improvement. In other words continuous/sustainable participation allows the user to acquire an affordable dwelling that could be gradually completed and improved.

The said proposition of securing economic viability for housing development through the positive deployment of the interdependence/linkages of users' participation to affordability; could be effectively substantiated through:

- Existing conditions and manifestations in developing settings, Egypt, and the closely related,
- Shifts in government housing policies and adopted scenarios.

As for the current housing conditions as a manifestation of users' participation; the informal developments on agricultural land surrounding existing cities and urban areas provide a clear demonstration, Ettouney, S.M. and Abdel-Kader, Nasamat, [7], [8]. In Egypt, due to the acute shortage in housing units for low-income groups, the informal sprawl over agriculture land represents a colossal problem. The said phenomenon is characterized by a chain of drawbacks including; encroachment of scarce agricultural resources, provision of low-standard dwellings and housing areas, lack of community facilities and infrastructure. It does however clearly demonstrate the efficiency of the low-income users (communities) and their ability to self-shelter and to gradually develop housing areas. Their participation endeavours cover all aspects of the development process, i.e. financing, management, construction, implementation and running of their projects. The efficient participation of low-income users (communities) forced the government to recognize (and resentfully) accept the potential and seek means of its deployment in housing plans and scenarios.

The housing policies adopted by the government (agencies and institutions), were influenced by the said phenomenon of informal housing. Together with the findings and proposals of several housing studies, completed between the mid Nineteen Seventies and the late Nineteen Eighties, as part of the development plans for

Egyptian New Cities, see for example Ettouney, S.M. and Abdel-Kader, Nasamat, [9]. The studies recommended the adoption of core housing and site and services schemes for low-income families in the newly developed communities. Pilot projects in the Egyptian new settlements implemented core houses proposals. The government was not convinced of the appearance and image of core-houses projects. In fact, the pilot projects treated the built core-houses concept as a final/completed product, not as an ongoing process that needs supervision and management. Core-houses were left to their owners to incrementally complete with no help, control or guidance. The outcome was in a way a replica of the informal developments. Instead of assessing the experiment to understand the reason behind its drawbacks (which is mainly the lack of management), the government abandoned the concept.

In the mid Nineteen Eighties, the Ministry of Development, Egypt, attempted a new housing scenario, i.e. the provision of partially completed flats within externally finished medium rise apartment blocks, [1]. The new scenario recognized the potential of users' participation and abandoned the horizontally stretched concept of core housing. The Ministry's officials labelled the new scenario: "vertical core-houses". The concept was welcomed as it combined; the external appearance of a complete project and allowed the users to gradually complete and finish the interiors of their dwellings. The authors were the technical (architecture and planning) consultants to the Ministry of Development, and developed design alternatives for the partially completed housing prototypes. Almost half a million dwellings have been implemented using those prototypes all over Egypt. A joint research project between Cairo University, Egypt and Florida International University, U.S.A., [10], emphasized the necessity to monitor and assess the approach and its implementation. Many of the completed projects have been occupied for some ten to twelve years, which allows a rational analysis and evaluation of the approach and related products. A limited post occupancy evaluation study was recently carried-out, focussing on the issues of effective participation, affordability and organizational procedures. Highlights of its findings are presented in the following section.

2 The partially completed housing projects, ten years later.

The partially completed housing prototypes comprised five story apartment walk-ups, providing a variety of flat areas, namely: 45, 60, 75 and 90 square meters (see

Figure 1). Each flat was conceived as a minimal shelter, comprising; a finished bathroom, all sanitary connections and electrical installations. Internal partitions as well as walls and floor finishing were left, to be gradually completed by the user according to his needs and affordability, [1], [10], [11]. A limited survey and investigation of a number of partially completed housing developments at Sheikh Zayed New City, West of Greater Cairo, Egypt, where the prototypes were deployed in four residential areas, was carried-out by postgraduate research students, Department of Architecture, Cairo University, under the authors' supervision. The surveyed flats have been allocated and handed over to their users/owners, who moved in and occupied them for nearly ten years. The survey covered a selected sample of the flats with areas of 60 and 90 square meters. Interviews and questionnaires were undertaken to clarify three main issues, namely:

- The issue of gradual completion (steps/phases, rate of progress, duration/time needed)
- The issue of affordability (target groups, eligibility, terms of loans, interest rates, instalments)
- The issue of organization procedure (involved actors (individuals, institutions and others), type and scale of operations, distribution of roles)

In order to address these issues, the proposed policies and actions will be outlined first, then followed by a review of the implemented policies and actions as well as the present conditions as revealed by the field survey; in each case.

Figure 1: External features of the five story walk-ups.

2.1 The issue of gradual completion

The original concept assumed that the users would come up with different solutions for the internal layouts of their dwellings, reflecting the variety of needs. Moreover, it was expected that the gradual completion of the unit would reflect the priority of needs for each user. For instance, to some users the final finishing of the internal walls and floors could be more important than adding partitions, while adding

partitions and providing closed rooms/compartments could be more vital to others, in order to satisfy the need for visual and acoustic privacy for family members. The survey showed that the final internal layouts of the flats were rather similar/comparable; the observed variations were limited to colour selection and finishing materials It also pointed-out that the users greatly benefited from the possibilities of gradual completion. The erection of internal partitions invariably came first, to be followed by the final finishing of internal surfaces (walls and floors), (see Figure 2). In most cases flat completion was carried out over a period of two to three years and did not start immediately after handing over, as it might be expected. The speed of action was very much dependent on, financial ability and affordability.

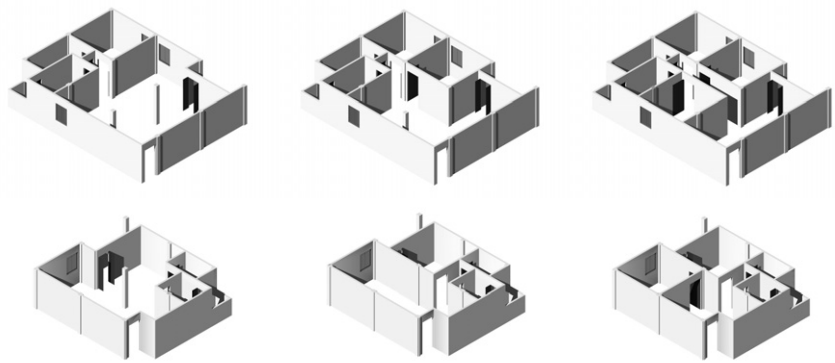

Figure 2: Gradual completion of the internal layout (the 60 and 90 square meters flats)

2.2 The issue of affordability

Earlier studies by the authors formulated the economic guidelines for the suggested conception; see for example, Ettouney [12] and Ettouney and Abdel-Kader, Nasamat, [9]. The cost of the partially completed flats was estimated to represent about 30% less than those of finished flats of the same area. The reduction in cost was enough to make those flats affordable to targeted low-income groups. The assumptions were based on providing loans to the prospective users/dwellers equivalent to four times the family income. According to Wakeley, T., [13], if the duration of the loan is forty years and the subsidized interest rate is of the order of 6%, the monthly instalments would then represent about 25% of the family income (which is reasonably affordable). In order to provide such a loan, the Ministry of Development at the early

stages of application, insisted on dealing only with users/dwellers having a formal occupation and a steady income. The steady salary represented an asset and a guarantee for the loan. The Housing & Development Bank (directly affiliated to the Ministry of Development) was entitled to automatically deduct the monthly instalment from the user's salary. The said restriction obstructed the partially completed units from reaching most of the target demand group, i.e. families without formal occupation and steady income; yet able to pay the required instalments. A positive change in the Housing & Development Bank policy was shortly enforced; which considered the dwelling unit itself as the physical asset that guarantees the loan. However, the survey showed that one of the loan terms was modified, namely; the proposed loan (settlement) duration of forty years, was reduced to twenty-five years. The interest rate stayed at the suggested 6% as well as the monthly instalment ratio to family income at 25%. The new terms collectively meant that, the dwelling cost would represent about three times the family annual income; accordingly slightly higher income families could afford the new terms, (see Figure 3). The partially completed dwellings instead of going to the target low-income groups; were directed to lower-middle income groups.

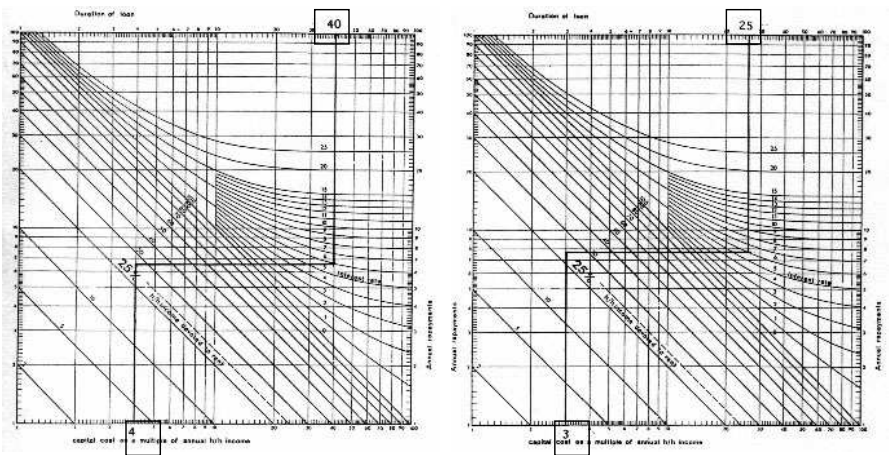

Figure 3: Change in loan terms leading to a change in the target users' group.

2.3 The issue of organizational procedures

The initial study proposed flexible scenarios for the management and organizational procedures depending on the type of operations to be implemented. Different actors

were proposed for the different actions and operations. The main steps of completion were expected to be; the erection of additional internal walls and partitions, wall and floor finishing. The actors were thought to include the users themselves, skilled labourers and tradesmen, small and general contractors offering services to the housing projects. The survey showed that small contractors executed most of the gradual operations. The users preferred to hire them since they did not have the time or the (do-it-yourself) experience to carryout the completion tasks (see Figure 4). The survey also monitored rising complaints regarding the lack of mechanisms for ongoing maintenance of the dwellings, the blocks (e.g. sanitary connections and technical installations) and the immediate setting and landscape elements. Most of the users suggested that overcoming those problems is a role to be entrusted to community based organizations (CBOs).

Actors / Actions	Users	Tradesmen	Small Contractors	General Contractors
Wall Construction		●	●	●
Wall Finishing	●	●	●	
Floor Finishing	●	●	●	

Proposed / Planned

Actors / Actions	Users	Tradesmen	Small Contractors	General Contractors
Wall Construction			●	
Wall Finishing		●	●	
Floor Finishing		●	●	

Actual / Current

Figure 4: Proposed versus actual roles for the actors in the gradual completion process.

3 Epilogue - On the merits and drawbacks of the approach

The partially completed flats approach and its implementation provided a real test for the conception of users' participation. The assessment of the selected samples of related large-scale developments emphasized the linkage and interdependence between participation and affordability. The undertaken post occupancy evaluation pointed-out the merits of the approach and its application, as well as the shortcomings and drawbacks; that need to be seriously addressed, (see also in this respect, the set of recommended guidelines for the transformation of walk-up apartment blocks, Ettouney, S. and Abdel-Kader, Nasamat [14])

The partially completed dwellings allowed low-income groups to gain access to dwellings they could not afford if they were completely finished. With their limited income, they were both able to pay the loan instalments and gradually complete their

dwellings over an extended period of time. They were also free to determine and manage their priorities; e.g. starting by adding new partitions before finally finishing the walls and floors of their flats, or vice versa.

Few drawbacks were clearly noticed. The recommended low-income target group was denied access to the housing units. Policy shifts allocated the partially completed flats instead, to a different group of higher income. The adherence to the initial objectives was essential in order to reach and answer the needy user's demand. Moreover, on the organizational level, the management of the partially completed dwellings, blocks and external settings was (and still is) evidently lacking. Sustainable management and maintenance provided by NGOs or CBOs may indeed be the answer.

It is reasonable to conclude that, if the highlighted shortcomings are compromised, the partially completed flats approach could prove to be among the appropriate-most housing solutions to urban low-income families in developing contexts.

N.B.: *The studies and underlying research for this chapter was completed in 2003.*

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Chapter Five
Incremental Housing Development 2010: Lowering the Cost, Lowering-Not the Standards – A Conceptual Framework

Introduction.

The serious-most challenges of low cost housing were and still are: lowering the development cost without compromising provision standards and the quality of living in housing projects. They continue to top the list of research interests of scholars and institutions (academic and civic), both in the developed and developing countries and settings. Two general conceptions/approaches are still prominent in addressing the said challenges in low cost developments, namely:

- Provision of "affordable" completed low cost dwellings and settings with lower (as low as it can get) standards hence cheaper elements, components, details and finishes.
- Provision of "incrementally" developed housing projects, i.e. phasing the development cost over an extended period (spanning the life and operation of the dwelling), thus meeting the "initial" cost limitations at the initial phase without denying the users their rights to expand and upgrade the standards of their dwellings in later phases (according to needs and affordability).

The present chapter critically reviews the two said approaches to low cost housing, together with the underlying conceptions; highlighting valid and current regional and international research contributions. A design and decision making tool/frame-work is then put-forward to enable the involved actors (designers, developers and authorities included) to recognize and compare the merits and drawbacks of possible "scenarios" of action, in low cost housing developments.

The discourse comprises five closely related segments, in the following sequence:

- On the challenge of low cost housing; an introduction.
- Related thoughts, conceptions and approaches - a critical review.
- A design and decision making tool in low cost housing development.
- Application and evaluation of the proposed tool.
- In praise of incremental low cost housing development - Epilogue.

1 On the Challenge of Low Cost Housing.

Housing for low income groups has been and will always be among the major concerns and challenges of Developed and Developing Countries, including Egypt. Since the mid Nineteen Seventies, the Egyptian government adopted and implemented with varying success – a variety of low-cost housing development strategies; manifested in housing projects directed to low income groups; including: site and services schemes, core housing projects, and partially completed dwellings in apartment blocks. The said housing development and provision strategies recognized the capacity of the dweller to participate in the development process.

The government sponsored and financed many research projects undertaken by different governmental research institutions, to define means and approaches to lower the cost of the dwelling, mostly developed within a predominant strategy of completely finished housing projects. The said strategy has the obvious merits of the impressive image and impact of completed and finished projects, reflecting the efforts of the central and local governments. Its main drawback is arguably inherent in the approach to lower the cost. Lowering the cost is generally measured in terms of the cost per unit area (square meter) of the proposed dwelling units. Low cost is in turn reached through lowering the standards of all the components, elements and finishes of the dwellings. Compromising the standards approach proved to have negative impact on the quality of the initial product and possible future upgrading.

Monitoring housing schemes development in the Egyptian context during the past four decades, clearly points-out that the development process is a dynamic and open-ended process. A process characterized by continuous action and change that is manifested in the users and dwellers interference and alterations of their dwellings. The alterations vary according to the development scheme, but it is always there, whether in the case of informal housing, site and services schemes, core housing, partially finished and totally finished dwellings. This dynamic process ought to be recognized and integrated in housing policies addressing low income groups. In order to benefit from the "Dynamics" of the development process and to formulate scenarios for phasing the cost (instead of merely lowering the cost) and improving standards and quality of the product, it is essential to have a better understanding of the process in terms of: its stages, phases, actions undertaken and involved actors.

2 Related Thoughts, Conceptions and Approaches - a Critical Review.

The recognition of the dynamic development process usually encounters some resistance from both the Central & Local government and related bodies and the professionals who are traditionally biased and geared to neat completed solutions and products. Habraken [1] suggested that, "the idea of change in itself is alien to the professional culture". He stressed that the idea of user decision-making clearly implies that designers may not decide certain things they are deciding now, but leave them to the future. He believes that it is possible to learn about the built environment by introducing the concept of change. It is through its patterns of transformation that the built environment reveals its most permanent structure. According to him "housing projects and neighbourhoods grow and develop over time. There is not such thing as instant environment", [2].

Understanding the dynamics of the development process and adopting the concept of change; simply implies that any dwelling should be phase - developed. Hence; in dealing with the cost issue, it would be more appropriate to consider the concept of "Phasing the Cost" instead of "Lowering the Cost". The "Dynamics" of development and cost "Phasing" are two key factors in the strategies of incremental housing development and construction. Goethert [3] pointed-out that "Incremental construction and expansion of housing is the key process of increasing housing stock and housing quality in most cities". Furthermore he stated that; "Through the incremental process, the low income sectors could be transformed to good quality middle income housing, given sufficient time and limited constraints", [3]. The inhabitants/users could invariably improve the standards of their dwellings within time. Incremental development of housing projects conception, strategies and approaches were advocated and applied by the authors, [4].

In order to tackle the issue of standards, it is necessary to understand the nature of those standards. Some standards are dealing with vital key issues, others with secondary and relative issues. Vital key issues are mostly physical, quantitative and related to safety and health, including structural stability and provision of infrastructure networks. Relative and secondary issues on the other hand are qualitative and flexible, including activity and physical density, acceptable crowding, minimum areas per inhabitant, types of finishes, components and installations. In most development scenarios, the final/completed housing project is the outcome of

the collective efforts of the authorities, public as well as the private sectors and individuals. It should be pointed-out that the issue of standards and quality control is critical for works and actions undertaken by the government and related organizations. The issue of standards is rather relative, flexible and open-ended in the works undertaken by the users or dwellers; who could accept modest standards at the beginning of occupancy, with a view to possible future upgrading and betterments.

When considering the issue of standards, it is equally important to address two main subjects:

- First: to breakdown the levels of development of housing projects into components and physical systems in order to understand which components are basic, i.e. cannot change within time (having an impact on the safety and health measures of the project), and which components are secondary; i.e. could be gradually dealt with and upgraded.
- Second: the recognition of the institutions, individuals controlling the components/elements of housing projects; this control is related to their capacity to take decisions, to finance, to physically undertake action towards projects components/elements within time.

In order to address the concept of phasing the cost, it is necessary to discuss the different approaches to phasing the development process. It is equally important to identify the actors participating in the various phases of the process.

2.1 Stages and Phases of the Development Process

In project management, the development process (physical and non-physical) is a sequence of stages, comprising: problem identification, feasibility study, program elaboration, conceptual design, tender documents, bidding, implementation, running and maintenance. This may be summarized and regrouped into fewer stages, namely: conceptual design, implementation, running and maintenance. The said stages apply to any project (in full, part, scale or level); e.g. the planning and design of a neighbourhood, the design of a dwelling or even the design of the internal layout and finishes of a flat. The stages of development encompassed in project management are essential because of the presence and awareness of the inherent notion of time. In considering development phasing and stages, it is important to understand the relation between housing projects levels and related actions.

The concept of levels as presented by Habraken [5], stipulates that; it is possible to distinguish five "Levels" in any housing project, each level deals with different physical systems. The levels are presented in a hierarchal order; descending from the higher level (Urban Structure) downwards to the lower levels (Tissue, Building, Infill, and Furniture). In the physical world, there is a distinction between those elements belonging to a higher level (e.g. "circulation network and streets" at the "Urban Structure" level) and other elements belonging to lower levels (e.g. "partitions" at the "Infill" level). Through the levels, it is possible to identify the physical systems that should not be modified and those that could be altered within time. On the level of the "Building", permanent elements related to the construction system are referred to as "Supports". On the "Infill" level, there are many physical systems that could be altered within time, including: internal partitions, kitchen and bathroom fixed fixtures, all conduits and installations for electricity, heating, water supply and drainage and gas, [5].

The concept of levels and the recognition of the related physical systems, help to tackle the issue of phasing the action and in turn phasing the cost. The Egyptian development experience supports the proposition pointed-out earlier, that the development process is a dynamic and hence an open-ended process. Projects are predominantly gradually implemented, whatever is the income group, whatever is the development policy.

There is always the concept of phases for the project, certain phases get a priority, and others follow within time. In the development process, certain basic elements could be completed within a relatively short period of time, while other activities would continue to occur during the lifetime of the project; e.g. the upgrading of the internal finishing. The authors participated in the design, assessment and monitoring of housing projects for the Egyptian Government providing partially completed dwelling to be gradually finished according to flexible phases, [6], [7], [8].

The concept of phases in the dynamic development process is closely related to the financing scenarios of housing project. In the case of completing all the development elements in a short period of time, most of the allocated investment for the project is used immediately. On the other hand if the implementation of the basic elements is

undertaken in a short period of time, leaving the completion of other elements to be spread over time; only part of the total investment is needed in the near future with the rest of the investment is gradually needed for the subsequent phases of development. The gradual allocation of investment over time is likely to be affected by:

- Housing "phases" that allow the immediate use of the completed/provided facilities and assets (otherwise the physical product will remain unused and would be considered as a waste of invested capital).
- The "actors" playing a role in providing the investment for the initial and subsequent phases.

The acceptance of Development as a dynamic open-ended process phased and spread over time, and deciding the portion of capital/money to be invested in the various phases of the development project are the keys to the concept of lowering the cost of housing - keeping in mind that the low cost product in the initial phase of development is a resource that could be upgraded in the subsequent phases.

The recognition of "Levels" in housing projects and the physical systems related to each "level" allows the definition of actions needed/related to development phases; thus lowering the cost of the initial phases without lowering the prospective standards of the future project. Effective phasing of the cost is strongly related to the actors involved in the development process.

2.2 Actors in the Development Process.

The concept of "levels" allows defining the controllers and the decision makers for the various elements of each development "Level". The professionals are likely to operate at the higher "levels", while the inhabitants/users could be the responsible operators at the lower "levels"; depending on the scenario of development and the nature of the project. In the case of "site and services" schemes for example, the professionals would mainly operate on the levels of the "Urban Structure" and the "Tissue", while the users would be better responsible for the levels of the "Building" and below. Similarly in "core housing" schemes, the professionals would produce the core of the house leaving the later expansion of dwelling to the users/inhabitants.

The recognition of the levels inherent in any housing project helps to breakdown the complex projects into more specific sub-projects that could be dealt with through

professionals and users. Each sub-project is thus treated as an entity that should be developed according to the previously discussed stages of project management; i.e. the sequence of conceptual design, implementation, to operation and maintenance. The involved actors in the development process were identified in earlier studies. Habraken [9], classified the actors involved in the process into two main groups, namely; the professionals and the users/dwellers. He also pointed out that other entities/actors could have a role, e.g. the collective users, local government bodies, municipalities etc.

The Egyptian experience shows that the roles are usually played by local government and related authorities, intermediate bodies related to public or private institutions (including; housing cooperatives, owners associations, investors and developers), and the users (individuals, inhabitants, dwellers). The authors delineated and discussed the possible roles and potentials of the various actors in the Egyptian housing development context, [10].

3 A Design and Decision Making Tool in Low Cost Housing Development.

In order to formulate a design and decision making tool/matrix combining the roles of the various actors in the different stages of development, it is possible to start with a table consisting of three main rows and three main columns, see table 1. The rows represent the three principal stages of development, namely: the conceptual design, the implementation and the running and maintenance stage. The columns show the possible key actors involved in the process, namely: the professionals and the users.

The professionals in this respect include the government and the intermediate institutions. The users are the individuals and the inhabitants.

Table 1: Actors and Stages in the Development Process

Actors / Stages of Development	Professionals		Users Individuals/ inhabitants
	Government	Intermediate institutions	
Conceptual Design			
Implementation			
Running and Maintenance			

Since the key stages of development comprise all “levels” of the housing project, from the “urban structure” to the “internal layout” of the household, the tool/matrix

should show the previously presented "levels" and related physical systems with each development stage. Table 2 shows an example of the introduction of the "Levels" and related "Physical Systems" to the chart/matrix - in front of the implementation stage, three levels of action are indicated; i.e.: the "Tissue", the "Building" and the "Infill" (for simplification, only three of the five possible "Levels" are presented in the proposed tool).

The physical systems related to each level are also presented (e.g. the sub-systems related to the "infill", including: the outer skin, the internal partitions, the finishing). For each stage of development, for the various levels of action to be accomplished by the actors, the actions could be incrementally taken according to phases and, needs and budgets. The duration of the phases is rather flexible and is likely to change according to the variables in the development context. It could be a month, a year or more. However, it is possible to consider the possible spreading of an action over various phases. Accordingly it is possible to show the different phases for any action (1^{st}, 2^{nd}, 3^{rd}, 4^{th} phase and so on) on the tool/matrix table.

Postponing the action means that there is not an urgent need for its early accomplishment. It could however be carried-out to the required standard when it is needed and is affordable. Table 3 shows the possibility of integrating the development phases (without defining the duration of each) against the levels of action undertaken by each actor.

Table 2: Actors, Levels of Actions and Related Physical Systems.

Stages	Levels of Action and Related Physical Systems / Actors			Professionals		Users Individuals/ inhabitants
				Government	Intermediate institutions	
Implementation	Tissue	Road Network				
		Water Supply and Drainage				
		Electric Network				
		Landscaping				
	Building	Supports	Vertical Elements			
			Slabs			
	Infill	Outer Skin	Walls			
			Openings			
		Internal Partitions	Walls			
			Openings			
		Finishing	Walls			
			Floors			
			Ceilings			
		Plumbing	Piping			
			Equipment			
		Electric Work	Conduits			
			Equipments			

Table 3: Actors, Levels of Actions, Related Physical Systems and Phases.

Stages	Levels of Action and Related Physical Systems / Actors and Phases			Professionals								Users Individuals/ inhabitants			
				Government				Intermediate institutions							
				Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4
Implementation	Tissue	Road Network													
		Water Supply and Drainage													
		Electric Network													
		Landscaping													
	Building	Supports	Vertical Elements												
			Slabs												
	Infill	Outer Skin	Walls												
			Openings												
		Internal Partitions	Walls												
			Openings												
		Finishing	Walls												
			Floors												
			Ceilings												
		Plumbing	Piping												
			Equipment												
		Electric Work	Conduits												
			Equipments												

The extensive table/matrix could provide a useful design and decision making tool to be used to:

- Show the different actors participating in the development process according to different scenarios: completely finished dwellings, partially completed dwellings, core housing projects, site and services schemes, etc.
- Highlight the initial phase and latter phases of housing projects, together with the related the actions, systems and subsystems and related identified standards since they represent a potential and a base to which further future development will be added to.
- Assess the cost of the initial phases that needs to be allocated and spent in a relatively short period of time.

4 Application and Evaluation of the Proposed Tool.

Tables 4 and 5 demonstrate the possible distribution of roles on the different actors in two different development scenarios. The phases appearing in the tables are assumed in the light of the accumulated experience from the recent history of housing projects development in the Egyptian context. The actions related to the initial phase are highlighted by dark tones in tables 4 & 5. The initial phase represents the backbone of the project, as it provides the basic permanent components to which other elements could be added later. The standards for the components of the initial phase ought to be defined and endorsed by the central or local government and the involved

agencies. The two applications of the proposed tool on tables 4 and 5 show that the cost of the initial phase could either include the cost of all the components and elements of the housing project, or some of those components. In the case of totally finished dwellings, the total budget is allocated from the initiation of the project: in this situation, lowering the cost is dependant on lowering the standards of most components of the physical systems as stated earlier. In the case of partially completed dwellings, core housing projects and site and services schemes; the cost of the initial phase is relatively less. Accordingly the project's budget is spent on fewer components and elements of better standards. The subsequent phases of the projects are incrementally developed, allowing the users to phase the cost and provide acceptable standards that could be modified and upgraded within time.

5 In Praise of Incremental Low Cost Housing Development - Epilogue.

The present paper addressed the issue of lowering the cost of housing projects targeting low income families and demand groups. It pointed out that lowering the cost should not compromise achieving appropriate acceptable standards through the project's life cycle. The incremental nature of the development process, calls for housing projects to be "incrementally" planned and implemented; i.e. in "Stages" and "Phases". Each "Stage" comprises and is developed in coordinated "Phases". The "Phases" in turn are to be carried out by the involved actors in the process. This in essence means a radical and effective transformation of low cost housing developments, through phasing the cost and maintaining better standards and quality of living. The discourse pointed out the potentials and merits of phasing housing development; hence combing initial essential phases that should be accomplished according to appropriate (relatively higher) standards and the subsequent flexible and open-ended phases that could be achieved according to acceptable and affordable standards that could be upgraded in time. In other words, phasing the cost allows reaching affordable housing units without lowering the standards and downgrading the environments of low cost housing; hence turning low-cost to a potential rather than a constraint.

N.B.: *The information and research data necessary for the elaboration of the present chapter were ready to the authors by 2011.*

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Table 4: Possible Action and Cost Phasing in Partially Completed Apartment Buildings.

Stages	Levels of Action and Related Physical Systems / Actors and Phases			Professionals								Users Individuals/ inhabitants			
				Government				Intermediate institutions							
				Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4
Conceptual Design	Tissue	Road Network		■											
		Water Supply and Drainage		■											
		Electric Network		■											
		Landscaping		■											
	Building	Supports	Vertical Elements	■											
			Slabs	■											
	Infill	Outer Skin	Walls	■											
			Openings	■											
		Internal Partitions	Walls										■		
			Openings										■		
		Finishing	Walls										■		
			Floors										■		
			Ceilings										■		
		Plumbing	Piping	■											
			Equipment										■		
		Electric Work	Conduits	■											
			Equipments										■		
Implementation	Tissue	Road Network		■											
		Water Supply and Drainage		■											
		Electric Network		■											
		Landscaping			■	■	■		■	■	■				
	Building	Supports	Vertical Elements	■											
			Slabs	■											
	Infill	Outer Skin	Walls	■											
			Openings	■											
		Internal Partitions	Walls						■	■			■	■	■
			Openings						■	■			■	■	■
		Finishing	Walls										■	■	■
			Floors											■	■
			Ceilings											■	■
		Plumbing	Piping	■											
			Equipment										■	■	■
		Electric Work	Conduits	■											
			Equipments										■	■	■
Running and Maintenance	Tissue	Road Network			■	■	■								
		Water Supply and Drainage			■	■	■								
		Electric Network			■	■	■								
		Landscaping			■	■	■			■	■			■	■
	Building	Supports	Vertical Elements							■	■			■	■
			Slabs							■	■			■	■
	Infill	Outer Skin	Walls							■	■			■	■
			Openings							■	■			■	■
		Internal Partitions	Walls											■	■
			Openings											■	■
		Finishing	Walls											■	■
			Floors											■	■
			Ceilings											■	■
		Plumbing	Piping							■	■			■	■
			Equipment											■	■
		Electric Work	Conduits							■	■			■	■
			Equipments											■	■

Table 5: Possible Action and Cost Phasing in Incremental Development (Core Houses).

Stages	Levels of Action and Related Physical Systems / Actors and Phases			Professionals: Government Phase 1	Professionals: Government Phase 2	Professionals: Government Phase 3	Professionals: Government Phase 4	Professionals: Intermediate institutions Phase 1	Professionals: Intermediate institutions Phase 2	Professionals: Intermediate institutions Phase 3	Professionals: Intermediate institutions Phase 4	Users Individuals/ inhabitants Phase 1	Users Individuals/ inhabitants Phase 2	Users Individuals/ inhabitants Phase 3	Users Individuals/ inhabitants Phase 4
Conceptual Design	Tissue	Road Network													
		Water Supply and Drainage													
		Electric Network													
		Landscaping													
	Building	Supports	Vertical Elements												
			Slabs												
	Infill	Outer Skin	Walls												
			Openings												
		Internal Partitions	Walls												
			Openings												
		Finishing	Walls												
			Floors												
			Ceilings												
		Plumbing	Piping												
			Equipment												
		Electric Work	Conduits												
			Equipments												
Implementation	Tissue	Road Network													
		Water Supply and Drainage													
		Electric Network													
		Landscaping													
	Building	Supports	Vertical Elements												
			Slabs												
	Infill	Outer Skin	Walls												
			Openings												
		Internal Partitions	Walls												
			Openings												
		Finishing	Walls												
			Floors												
			Ceilings												
		Plumbing	Piping												
			Equipment												
		Electric Work	Conduits												
			Equipments												
Running and Maintenance	Tissue	Road Network													
		Water Supply and Drainage													
		Electric Network													
		Landscaping													
	Building	Supports	Vertical Elements												
			Slabs												
	Infill	Outer Skin	Walls												
			Openings												
		Internal Partitions	Walls												
			Openings												
		Finishing	Walls												
			Floors												
			Ceilings												
		Plumbing	Piping												
			Equipment												
		Electric Work	Conduits												
			Equipments												

Chapter Six

Decrying Sensible Housing Development – Recapitulating Incremental, Partially Completed Low-Cost Housing, Egypt; Decades Later

Introduction

Most Developing nations suffer from exploding and hard to harness Housing problems; those are primarily manifested in a steadily expanding gap between supply and demand in the lower socio-economic sectors of population. The problems are further accentuated by rapidly deteriorating housing stock, high rates of population growth, regional imbalance, urbanization explosion, low productivity, deficient housing & construction industry, inappropriate formal housing policies and inadequate housing and development legislations.

The current inherited housing deficit in the lower incomes sector in Egypt is arguably the sum of: the needed new housing stocks to cover replacement of the deteriorating, illegal, low-standard stock, and the fresh demand of new comers to the housing market. The said deficit is estimated to total some 3.5 million housing units, Ettouney [1], Rageh [2].

Housing provision for low income groups has always been among the major challenges and concerns of Egyptian Governments and institutions (central & local) since the early 1950's. The government, central agencies and the public sector institutions were and still are the sole supplier of low income housing since the mid nineteen fifties and till the present. Their collective contribution covered a humble fraction of the total built housing units during the past five decades; with most of the added stock (70% - 80%) attributed to the informal sector, [1], [2].

The housing problem in Egypt is characterized by a set of inter-related features, Ettouney, Abdel Kader [3], [1], [2]; including:

- An expanding affordability gap; where the completed "low cost" housing units are beyond the abilities of the lower income target groups.
- Exaggerated adopted building & sites standards of the newly completed formal "low-cost" dwellings.
- Casual/inappropriate locations and settings of low income housing projects – mostly located according to land availability, with little if any regard to: users'

needs, and urban activities (residential, community facilities and work-places and networks) integration and interrelations.

Central and local governments and related agencies can never balance the housing deficit and meet the escalating demand in the lower income housing sector, through their preferred policies of provision of "completed" mass housing projects in newly-developed and existing urban areas. The calls for coupling housing provision with: enabling prospective users/communities, decentralization and local control, positive community action and participation, were hardly perceived and rarely adopted, [1], [2], [3].

Different strategies and policies were declared, adopted and implemented at large, with varying zeal and returns. Most of the said policies were abruptly abandoned without serious assessment of the underlying objectives, process and product.

Among the most ambitious housing policies adopted by the Ministry of Development & Housing, Egypt; in terms of objectives, implementation and scale was: "the Partially Completed Low Cost Housing Projects for Lower Income Families". The said policy recognized the potentials of the users, and the underlying concept (and products) was welcomed by the executives and politicians, as it enjoyed the image and external appearance of completed projects at its inauguration. The project conception and related prototypes were later undersold and abandoned by the Ministry and affiliated bodies, and scenarios of "Partial Completion" were avoided since. The Challenges of housing the poor and lower income families are still persistent in Egypt, as in most "Developing" nations. This supports the present study's advocacy and objective recapitulation of the relevance of the conception of "Incremental" development, partial completion and users' deployment in housing developments.

The present study points-out earlier and closely related publications by the authors on the said issues, and comprises four sections; namely: Advocating Incremental Housing Developments -"Partially Completed Low-Cost Housing for Lower income Families, Egypt" Two decades later - Guidelines for Effective Incremental Housing Developments and an Epilogue: The Cost of Ignoring the Obvious: Problem Solving Processes & Planning Rationales in Developing Contexts.

1 Advocating Incremental Housing Developments.

In order to develop an effective housing policy for lower income groups, it was essential to review the related previous experiences in order to analyze, assess and build on. Thus extensive research has been undertaken, to compile and critically review local and international studies and applied research in the field. The said research followed the rational steps of the "problem solving" process. The process phases and sequence varies from one research group to the other. Some abridge the process into three main steps, namely: Conception, Implementation and Assessment/Evaluation. Others stretch into seven to nine steps comprising: Problem Identification, Data Collection, Data Analysis, Development of Alternative Solutions, Evaluation & Selection of Proposed Solution, Implementation, Monitoring & Assessment of Implemented Solution (in order to identify the positive and negative aspects), Feedback and recycle; i.e. repeating the sequence with better: identification and understanding of the problem and means of addressing it. The "continuous" cycle of "Problem Solving" could/should be repeated as long as the problem and challenges persist and proposed policies, plans and actions (to meet it) are applied.

To meet the challenges of formulating "Incremental Housing Development" proposals for the lower income families, Egypt, the authors followed the afore-mentioned "problem solving" sequence; deploying the available wealth of information to cover the first steps. The "formal" housing policies, adopted by the government and related agencies; since the mid nineteen fifties, through the nineteen sixties and seventies were compiled and critically reviewed. Furthermore, the "informal" projects developed by the low income communities, were surveyed and analyzed. The said data and related information was covered in the numerable progress and final reports of the Egyptian New Settlements planning and development studies; within the ambitious national Reconstruction & Development policy initiated in the mid nineteen seventies. Those planning and development reports were the outcome of the comprehensive studies carried-out by joint Egyptian experts and international teams responsible for the preparation of development strategies and plans, including: The New Sadat City [4], The 10th of Ramadan City, The New Ameriyah City [5], The Six of October City [6]. Major joint research

projects on housing and context (carried out and completed in the same period) also provided another source of useful data and information; including: the Cairo University MIT research on "the Construction Industry in Egypt" [7], the Abt Associates Inc., Dames and More Inc. and GOHBOR on "The Informal Housing in Egypt" [8]. The review phase also benefited from related published papers by the research team members, as those by; Goethert, R. [9] and Wheaton, W. [10].

The "Analysis" of the compiled data and findings allowed the proposition of alternative policies to address low income family housing. The policies recognized users' potentials and abilities to complement the government (and related institutions) formal efforts in housing low income groups. Accordingly a policy of "Incremental Development", embracing the conception of "Partially Completed dwellings", was formulated and proposed, 1987, Ettouney, Abdel Kader [11]. The "Incremental Development" policy offered minimal housing prototypes comprising; dwellings of various areas (45, 60, 75 and 90 square meters), with a finished external envelope (façades and common/public areas) and unfinished interiors with basic electrical and sanitary installations. The concept aimed at combining; the completed external appearance of apartment buildings and sites, with the unfinished interiors - to be incrementally completed according to the means and needs of the users. The policy fostered the concept of "lowering the cost without lowering the standards", since the standards are improved within time throughout the lifetime of the dwellings and the project, Abdel Kader, Ettouney [11], [12]. The authors benefited from being members of the research teams that studied earlier housing policies, as well as consultants to the Ministry of Development & New Communities, Egypt, responsible for formulating housing policies proposals. They were assigned to prepare the integrated design documents for "the partially completed dwellings" prototypes, in order to implement the suggested policy, [11], [12], [13].

Public and Private Sector general contractors were commissioned by the Ministry of Development & New Communities to execute the designed prototypes in projects distributed all over the Egyptian Governorates. Contracts for building about quarter a million dwellings in 26 Governorates have been signed in two years (1987 and 1988), [11], [12]. Additional units were contracted in the subsequent years; till 1992. The total number of built units could have reached three quarter of a million

dwellings. The massive spreading of the implemented prototypes (footprints) and projects could be checked through aerial imagery of the layouts provided by Google Earth satellite imaging. Figure 1 shows selected locations in the New Communities, Egypt; where the prototypes were built. A large number of the dwellings were built at the "New Communities", in the Gt. Cairo Region, including: New Settlement # 1, New Settlement # 3, "Obour" New City, "Sheikh Zayed" and "6 of October" New City. Other units were built in housing projects located in Northern New Communities, Egypt; e.g. New Damietta and "Ameriyah/Bourg El Arab" New City, as well as in many other new and existing settlements. The planned large scale deployment of the "partially completed" prototypes called for further research aiming at appropriating the design of "partially completed" prototypes to fit the various development contexts and related determinants and to address the challenging issues of external outlook and internal organization. Thus a research project was initiated and jointly carried-out by: the FRCU, Cairo University, Egypt, and Florida International University, USA, to address the said issues of fitness between prototypes and contexts; it formulated approaches and presented applications (façade treatments and floor plans) to achieve visual identity, environmental fitness and cater for users needs, [12], [13].

2 Partially Completed Low Cost Housing for Low Income Families, Egypt; Two Decades Later - An Assessment.

More than two decades elapsed since the beginning of the implementation of the "partially completed dwellings" policy and related projects. It is necessary to review and assess the present status of the implemented projects, to complete the cycle of "problem solving", and to find-out to what extent it accomplished the targeted objectives, and to point out the positive and negative aspects of the policy's large scale implementation. The Ministry of Development and New Communities - after a change of its top officials in the early nineteen nineties - abandoned its adopted policy (without undertaking: proper assessment of the experience or evaluation of the implemented projects) and shifted to the provision of housing for middle and higher income groups. To pinpoint the relevance of "problem solving" cycles and rationales, the present work continues its discourse by briefly assessing the outcome of the adopted and later-abandoned "incremental development" policy and products. The brief assessment deployed a representative case study - a neighbourhood located at

"Sheikh Zayed" New Community, Gt. Cairo Region, Figure 2, to allow a qualitative investigation of the policy and related projects, as well as users' participation in the development process.

The selected neighbourhood comprises a completed housing project, that was financed by the government and the Ministry of Development through its "Housing and Development Bank", Egypt. The dwellers/users are paying the dwelling costs by instalments, at a low interest rate (not exceeding 6% per annum), for a duration of 40 years. The study of the sample project addressed the following interrelated questions:

- Did the project reach the target users/socio-income group?
- Did the users/dwellers benefit from the concept of "incremental development" and the gradual internal completion of their dwellings?
- The duration/phase for the internal completion of the dwellings, and
- Did the approach help to maintain and upgrade the standards of the project?

As for the first question; over the past two decades there have been changes in the socio-income groups benefiting from the project. The users generally belong to low income group; though they socially belong to different social groups. The inhabitants comprise; labourers and artisans who mostly rented or bought the dwellings from the original owners; as well as highly educated, white collar professionals and their families. The dwellings are predominantly occupied by single families, though some are shared by groups of individuals (as in the case of labourers and technicians); sharing the rooms and services.

As for the second question addressing the concept of gradual internal finishing, the answer is rather affirmative, (see also Abdel Kader, Ettouney [15]). The dwellers gradually finished their dwellings and beyond. In many cases they interfered with and gradually modified the external elements and details of the facades; closing balconies to acquire more closed spaces and better privacy, changing the colours of the façade areas related to their units, modifying: the details, materials, size and location of windows, and adding air-conditioning units, satellite antennas and advertising signs for rendered services by occupants (general practitioners, lawyers, accountants, etc.).

Regarding the third question, of the time span for the completion of internal finishing; it was found out that the related activities took a relatively long time (starting before moving to the dwelling and continuing intermittently thereafter till the present), with the same (completion/ finishing) action repeated and paid for twice or more, to meet the occupants' changing needs over time.

As for the fourth question regarding the achieved standards; it was clear that the slack/loose development control over users' interference with the external facades negatively affected the visual quality of the apartment buildings and the general outlook of the residential area. The neighbourhood became repulsive to some of the earlier residents, belonging to certain social groups (with higher qualifications and white collar professionals), forcing many to leave the project.

The Ministry of Development and New communities, and the related agencies, the Housing & Development Bank and "Sheik Zayed" New City Development Office, with the shift in allocation policy, and provision of housing units to middle and higher income groups, changed the Master plan for the entire settlement, designated whole neighbourhoods to private developers to build gated communities and higher incomes resorts, and to help in marketing the new developments it face-lifted the facades of the "partially completed" apartment buildings and upgraded the landscaping and the space-between, Figure 2. The refurbished, upgraded, (and more expensive) project started to attract new settlers of relatively higher income and social status, than the originally targeted socio-income groups.

In order to effectively delineate, monitor and assess the mechanisms of "gradual development", a matrix table summing-up the stages of development, the phases of development of each stage as well as the actors responsible for development was formulated and developed. The table could be used at the various stages of development, to show the expected or proposed scenario before implementation, and to monitor and assess actions and performance after implementation and during the life-time of the project and components. The matrix table was presented and discussed in an earlier paper, by the authors, [16]. A new version of the matrix is presented in Table 1, allowing the combination of two stages of development, the planned/expected and the post implementation stage (two decades later). The

juxtaposition shows that the actual phasing concept is more spread over time than predicted. It also points-out the continuous intervention of the Development Authority (Sheik Zayed New City Development Office) in the development process, in order to control the development and components, and to safe-guard and up-grade the standards of the dwellings, buildings and settings.

3 Guidelines for Effective Incremental Housing Development:

To complete the "Problem Solving" cycle, assessment of the implemented policy and related projects (based on post occupancy evaluation) should follow. Critical assessment is an essential step in the problem solving process and rationales, in order to pinpoint the positive and negative aspects as well as the emerging potentials of the proposed conceptual framework and the actual experience. This may in turn allow enhancing the merits, compromising the pitfalls and drawbacks and exploiting the promising potentials. This has not been comprehensively undertaken by the responsible governmental organizations; prior to abandoning the implemented policy and products, and proposing new scenarios and conceptual framework for low cost housing (for the low income demand groups). The lack of impartial assessment denied the development and housing authorities the benefits and potential of the concept of "gradual completion" in saving capital investments and scarce resources, and hence allowing more low income families access to decent and affordable dwellings.

The assessment of the implemented policy and products and post occupancy monitoring, together with the findings and propositions of earlier works by the authors in this respect (Ettouney, Abdel Kader [11], [14], [15]); may be rephrased into a set of key guidelines for effective low cost, incremental housing development; namely:

- Acceptance and recognition of the ability of the target users/dwellers to effectively participate in the incremental housing process, through gradual development of their dwellings.
- Gradual housing development is the key for effective use of scarce housing (central & local) funds and resources; as it combines the merits of: less capital investment at the early phases of development, cost-effective

partnership with actual users in the: completion, maintenance and upgrading of their habitats.

- Serious, creative and sustainable development control and interactive supervision should be rendered by governmental organizations and development authorities; to monitor and continuously assess development, provide technical support and manage the setting.
- Empowering local communities and civic society's organizations in the gradual development process as guardians of: standards, environmental quality, collective image and community identity.

4 Epilogue: The Cost of Ignoring the Obvious: Problem Solving Processes and Planning Rationales in Developing Contexts:

Many policies for housing low income demand-groups were adopted and implemented in Egypt, over the past five decades; most (including the presented "partially completed" low cost housing) were abandoned and replaced by new policies and plans, without adequate assessment and critical evaluation. "Problem solving" principles, planning rationales and development processes, invariably call for building on and benefiting from valuable lessons; earlier experience provide. Innovative new policies should always be formulated and developed through the phases and stages of "problem solving process and planning rationales" cycles and sequences. The said cycles are comprehensive, flexible and open ended, comprising; goals and objectives definition, programs delineation, setting features, contextual determinants and resources recognition, analysis and evaluation of earlier experience, developing alternatives (proposals), implementation, and then: monitoring, continuous assessment and feedback. Two elements of the "problem solving" rationales are crucial in securing effective and sustainable policies and plans proposals (in housing developments among others), namely:

- Collecting and documenting (related data and information), analyzing and evaluating earlier experience, adopted policies and products; before the formulation of the new proposals.
- Continuous monitoring and assessment of the implemented policies, plans and products; after implementation.

Ignoring one or both of the seemingly obvious links in the "problem solving and planning rationales" is illogic and hardly justifiable. The obvious resulting costs of: wasting invaluable (time, money and material) resources, repeating mistakes and pitfalls and falling short from achieving reachable objectives; collectively make such negligence a serious decry against sense and sensibility. In turn it justifies the present endeavor and discourse in recalling and representing the seemingly obvious: the validity of "problem solving and planning rationales", enabling communities and users and "sensible" Incremental Housing development.

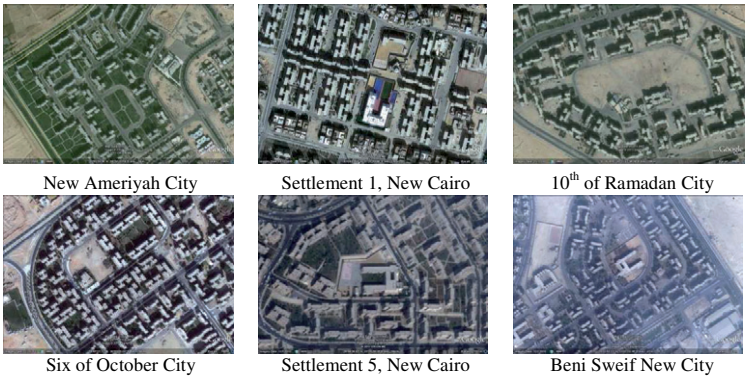
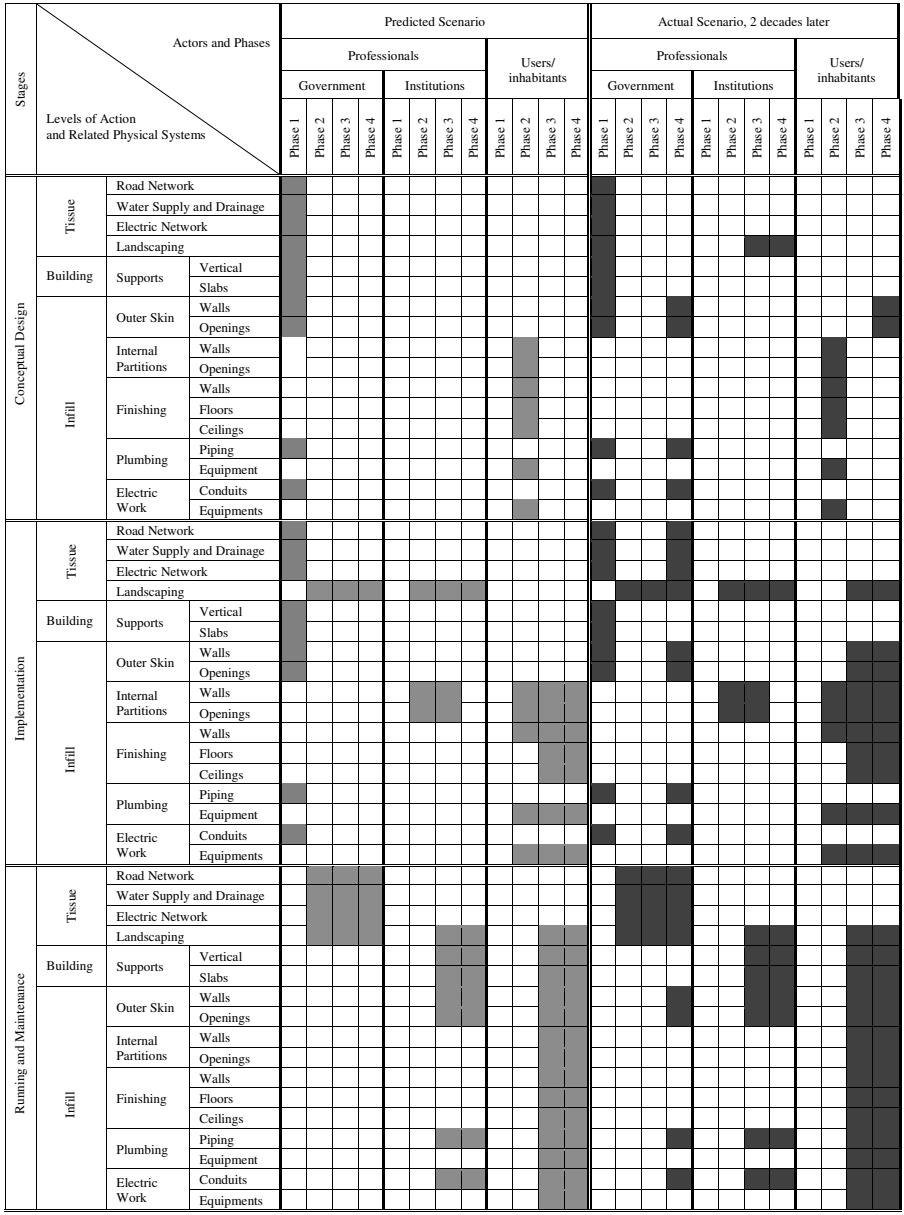


Figure 1: Different neighbourhoods in different New Communities using the partially completed low cost housing prototypes.

Figure 2: Sheikh Zayed project before and after upgrading.

Table 1: Predicted phasing scenario for partially completed dwellings versus actual phasing scenario according to case study.



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Chapter Seven
Architectural Character and Community Identity In New Settlements

Introduction:

Physical and architectural character is a major attribute to local and community identity, which is widely accepted as an essential requirement in man's habitat and living environments. Character is arguably the synthesis of complex and clashing components. On one level community character is the resultant of physical and non-physical aspects and on another, the reflection and recording of community culture and heritage; architectural and other wise.

In new settlements and newly developed communities the “character” issue surpasses the traditional challenges posed in existing areas, namely: enhancing the prevailing “character”, ensuring continuity and controlling change. In such new settings the issue is transformed into the complex process of generating character for new communities.

This paper looks into the critical issue of “character” generation in new settlements. It outlines a comprehensive approach for character generation, which is based on the contributions and researches of the authors. Three facets of the issue are presented in the following sequence:

- On the issue of character in newly developed areas, with reference to Egypt.
- Recent research into character provision and design for local identity in settlements’ development.
- Character generation; guidelines.

The discourse is supported by selected examples from the Egyptian context and recent research finding, at Cairo University

1. On Character and Identity in Newly Developed Areas.

Character of places is a rather complex notion that combines physical and non physical aspects and reflects collective features of the built environment and the culture of related communities. Architectural and physical character emerged, since the mid-sixties, as a central theme and a major occupation of "Postmodern" urban

and architectural design. It surfaced as a result of the said failure of "Modernism" in addressing and expressing community and users' needs for identity and socio – cultural differentiation, as well as its doctrines of forced simplicity, universal solutions and tight visual expression, [4, 5].

Character may be defined as the visual references in and to communities; the flavour of places and the complex conception of feature that typifies a locality. It combines; setting, form(a1) structure, physical tissue, buildings, culture and people. Thus it carries the traces and output of the community in a given place and time. Character is a corner stone in urban design; i.e. the collective architecture of communities; a means and an objective, a design determinant, a criterion and a tool, [1, 2, 4, 6].

As a conception; character covers and extends beyond identity (what is unique and unrepeated in a locale), style (the mechanical, ordered and repetitive formal features and vocabulary, that recalls certain conceptions and past experience, surpassing localities, communities and time) and fashions (sets of visual elements and combinations reflecting certain biases and idiosyncrasies and predominantly oriented towards the external appearance), [4, 6, 7, 8].

Character dual nature; physical and non physical is the logical resultant of the array of overlapping attributes affecting it. It occupies a prominent place in the development problems list, in existing and newly developed communities and human settlements. This is manifested in the absence of and/or difficulties of maintaining change in the built environment.

The situation is by far worse in Developing Nations, because of the long list of problems and deficiencies characterizing human settlements and settings, including: environment quality, deteriorated fabric and infrastructure, lost continuity between the old and the new, poor management of resources and development processes, lack of visual references, cultural decay and alienation, [1, 2, 4, 5].

New settlements and newly developed areas are thought to be easier to control in terms of overall quality; and were mostly adopted as a panacea for the said urbanization problems. Its architecture and townscape considerably suffered from the drawbacks of "Modernism" and the misunderstanding of the complexities of short – term, immense scale developments. It further suffered from the forced simplicity of

completed mass – housing which dominated its environs and character (or lack of), [1, 2, 4]

In new settlements identity is further accentuated because of the absence of distinct formal and architectural language that can positively provide the bases for character. It is justifiable to assume that it is easier to enhance excellence than to initiate it, and that the relative freedom to build and shape man's habitat in the absence of the community to – be adversely affects the form and appearance of newly developed areas.

In Egypt there is a general acceptance that, negative character is a major feature of urban settlements (existing and new). This is manifested in visual chaos, lack of effective development control, poor and mediocre architectural output, indifferent public taste and deteriorating aesthetic appreciation. There is hardly an effective and dependable recording of Egyptian regional architecture and related character in-spite of the considerable wealth of excellent stock of buildings, architecture and townscapes, [1, 2, 4], Figures 1 & 2.

The Egyptian new settlements, totalling some twenty or more major urban areas are strategically located outside the traditionally populated Nile Valley and Delta – carried most of the problems of the existing settlements as well as the deficiencies of the newly developed setting outlined above.

The new settlements were started twenty years ago, and though they are at different stages of development, they invariably suffer from; lack of identity, distinct character, heterogeneity and community expression - which is further accentuated by the closely related problems of: inefficient land use, irrational development, insufficient attraction to prospective residents. The Egyptian New Settlements were developed within the bounds of theoretical frameworks and conceptions marginally aware of character importance, but are by far unsuccessful in fostering it in the course of their development.

2. Recent Research into Character Provision and Design for Local Identity in New Settlements.

The failure of most New Settlements in Egypt to deal with and manipulate “character” in its development may be attributed to many factors, including:

- The lack of understanding of the complex relation between physical “character” and culture (general and local).
- The general acceptance of the notion that; "character" (with its visual and formal associations) is the sole responsibility of professionals; designers, architects and planners.
- The absence of dialogue and interaction between the designer(s) and the public in development procedures.
- The vague definition of conception, components and levels of “character”, hence the poor the ability to manage it.
- The stereo-type elements of new developments, mass-housing, standard community facilities and set solutions (spatial and otherwise); leading to diluted images, and lost identity.

The above aspects called for thorough investigations and research into the notion of “character” and identity. The authors carried out and supervised a number of Character-related studies, during the past decade; the conceptions and finding of which are currently combined in an extended work on the subject. Highlights from selected recent works will be briefly presented to indicate the richness, challenge and promise of the issue in hand. The central themes and conception of the selected studies are outlined in brief, inviting and open ended statements.

2.1 Culture and Character Generation [1, 2, 4, 5, 9]

- The relation between the appearance of localities and its people tends to be ignored in the development of settlements.
- This may be the result of the complexities of the said interrelations and difficulties of integration into conventional design processes.
- The relations between culture and the built output of communities need to be understood, to allow; recording, analysis, synthesis and utilization.
- Character is the visual expression of community culture and its positive aspects closely relate to its peaks "Heritage".
- Culture and the built form, may be approached as a relation between the latter and the three complex aspects of culture, namely:
    - Elements of culture: knowledge, traditions and beliefs, etc.
    - Phases of culture: development, stability, change and transformation.
    - Levels of culture: direct, indirect and hidden.

- Isolated communities provide an excellent setting for understanding the complexities of the relation between culture and the built output.
- Contextual determinants (physical and non physical) are the easiest to follow in reading the relation between culture and the built output, Figure 2.

2.2 The Designer – User, Character Generation [1, 2, 4, 5, 11]

- Physical and community character is too complex to be generated by check lists and development guidelines.
- The complexities of culture call for collective, open-ended design of localities.
- The dialogue between the designers and users is altogether lost in newly developed regions.
- Architecture, housing, community facilities are "invariably" "produced" as completed "packages", reflecting the limitations of the conventional design processes.
- Solutions to the lost designers and users dialogue may benefit from:

    - Recognition of the users and community potentials and roles in shaping new developments.
    - Developing common “aesthetic” language between the designer(s) and community.
    - The transformation of the designer role into an "enabler", rather than a "creator" of communities.
    - The space between (urban spaces) provides the perfect setting for exchange and interaction between the designer and community, hence a corner stone in character generation.

2.3 The Morphology of Character [1, 2, 4, 9, 10, 11, 12, 13, 14]

- The complexities of character are behind failure in integrating it into conventional design and development procedures.
- Character analysis can greatly benefit from the related realms, conceptions and tools of design and planning; theories and aesthetics.
- Character involves three sets of levels, namely:
    - Spatial levels: macro, local, micro; e.g. regional, local and immediate character, geographic settings.

- Scale levels: architectural and building typology, form(a1) & physical, general (site and local levels).

- Components levels: basic elements, elements relations, elements effects.

The three tiers lead to complex array of relations, as each level may be applied on the other(s).

- Architectural and urban form aesthetics can be manipulated in reading and manipulating character components.

2.4 Mass Housing Appearance and the Deterioration of Character [1, 3, 13]

- Mass housing is among the main reasons behind the negative character and lost legibility of places.
- The technical problems related to mass housing facades are by large due to three closely aspects, namely:
  - Monotony, forced regularity and uniformity.
  - Lack of character and identity.
  - Disregard to contextual considerations and determinants.
- Mass housing conventional appearance could be improved through:
  - The exploitation of local and regional architectural vocabulary.
  - Respect to site and setting determinants.
  - Development of quality details and components.
  - Utilization of envelope's visual elements in creating alternatives and variation, Figure 3.
  - Exploitation of collective facades in breaking monotony and mechanical repetition of single building.
  - Allowing room for differentiation and users identity.

2.5 Character Analysis and Regeneration [1, 2, 19[, Figure 4.

- Simplification of the complex relations underlying character recording, analysis and regeneration is crucial in integrating character into design processes.
- The third dimension, collective facades and related details are closely related to: urban morphology, physical tissue, plot subdivision and patterns and intensity of development.
- The language of collective facades is a key element in the character of localities.

- The elements of collective facades include: width of plots, width of structural and design bays, heights, single and collective skylines voids and solids, profiles, rhythms.
- The visual rhythms (horizontal and vertical); i.e. the relation between consecutive bands or zones (predominantly solid or where voids occur), are of great importance in recoding, analyzing and regenerating character.
- Fenestrations are key elements in architectural and regenerating character.
- Fenestrations are key elements in architectural and physical character; their features, details, dimensions, proportions, forms and locations are prime elements in the character matrix.
- Understanding the predominant "character" rules in existing settings allow successful regeneration of character in new areas.

3. Character Generation – Guidelines

Reading recording, analyzing and synthesizing character of existing localities and human settlements are essential means for successfully approaching character generation in newly developed areas. Character generation should thus be regarded as the creative continuation of regional, local and community cultures and visual references; rather than the free creation of new visual and physical orders.

The preceding sections and reviewed work suggest: "continuity", "contextuality" and flexibility" as three key notes in character generation; together with a number of related principles and guidelines.

Character generation guidelines define an approach and a loose conception rather than strict rules and static principles. The simplicity and economy of the following guidelines should never conceal the inherent complex intricacies.

Character Generation Guidelines (A conceptual check list)

- Define contextual determinants: physical and non physical, cultural and environmental.
- Respect contextual determinants as form delineators.
- Search for the users-to-be and future communities; define their origins, background, profiles and related physical environments.

- Establish means of dialogue with prospective users, and representatives, sample representative or similar (accessible) groups. The dialogue should cover aesthetics, visual references and preferences.
- Design for individuality, differentiation, heterogeneity, privacy, possession, and territoriality.
- Allow for and encourage individual and community contributions to architectural design and the built environment.

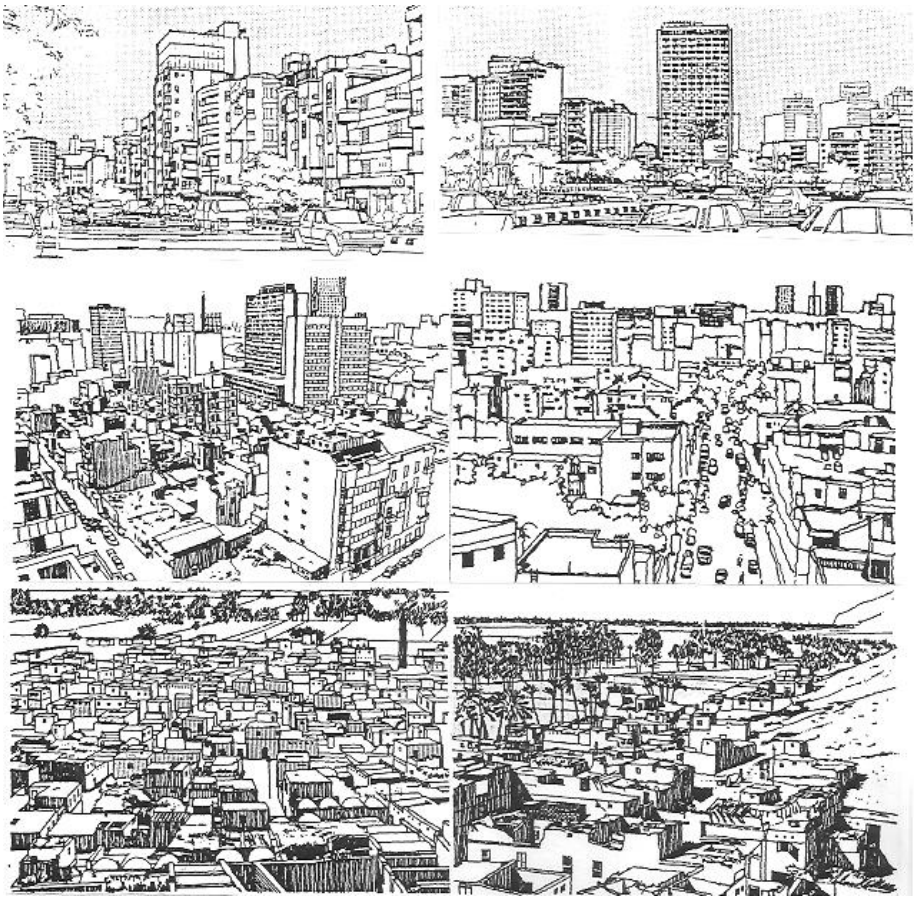

Figure 1: Existing Egyptian urban and rural settlements – Selected examples highlighting local character deficiencies, merits and potentials, [3, 9, 10].

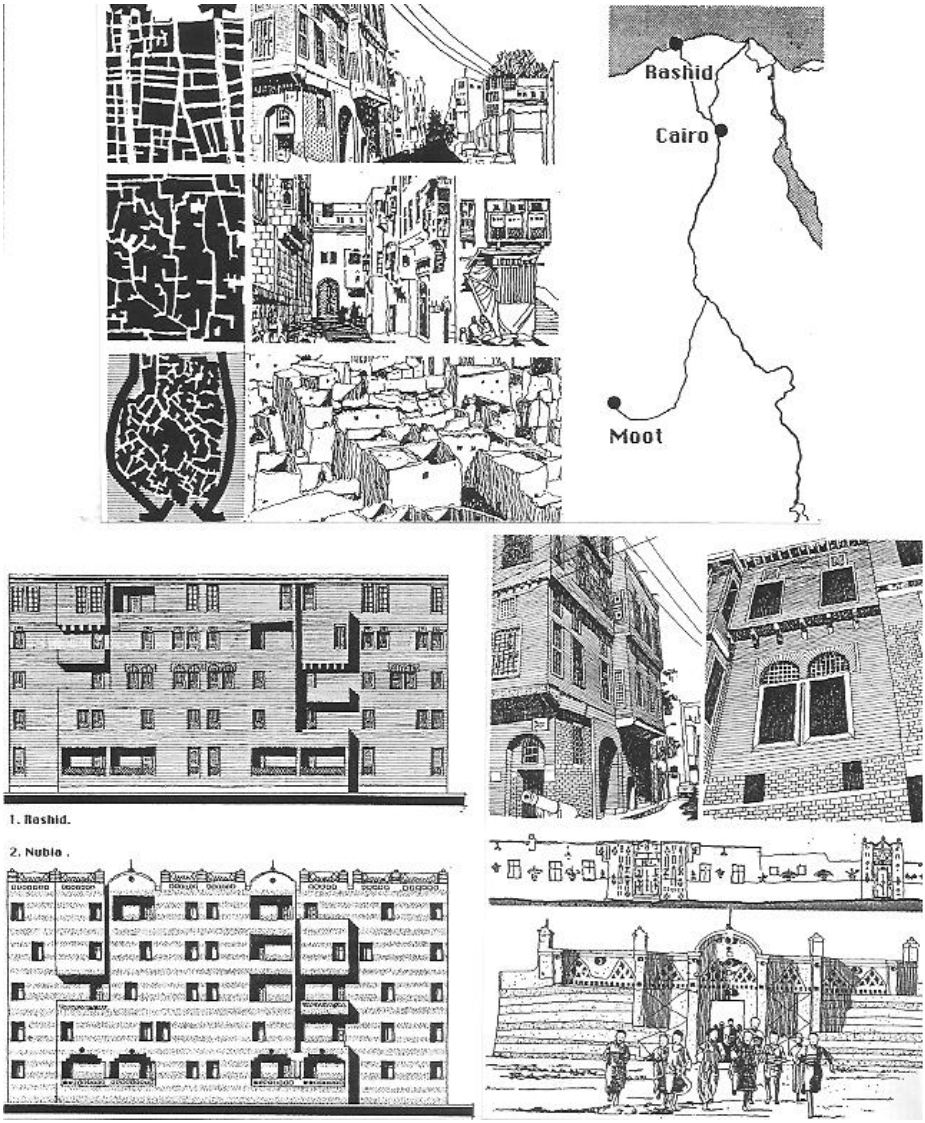

Figure 2: Local context and culture as character generators –
Two examples showing existing and developed architectural character in Rashid and Nubia, Egypt, [3, 10].

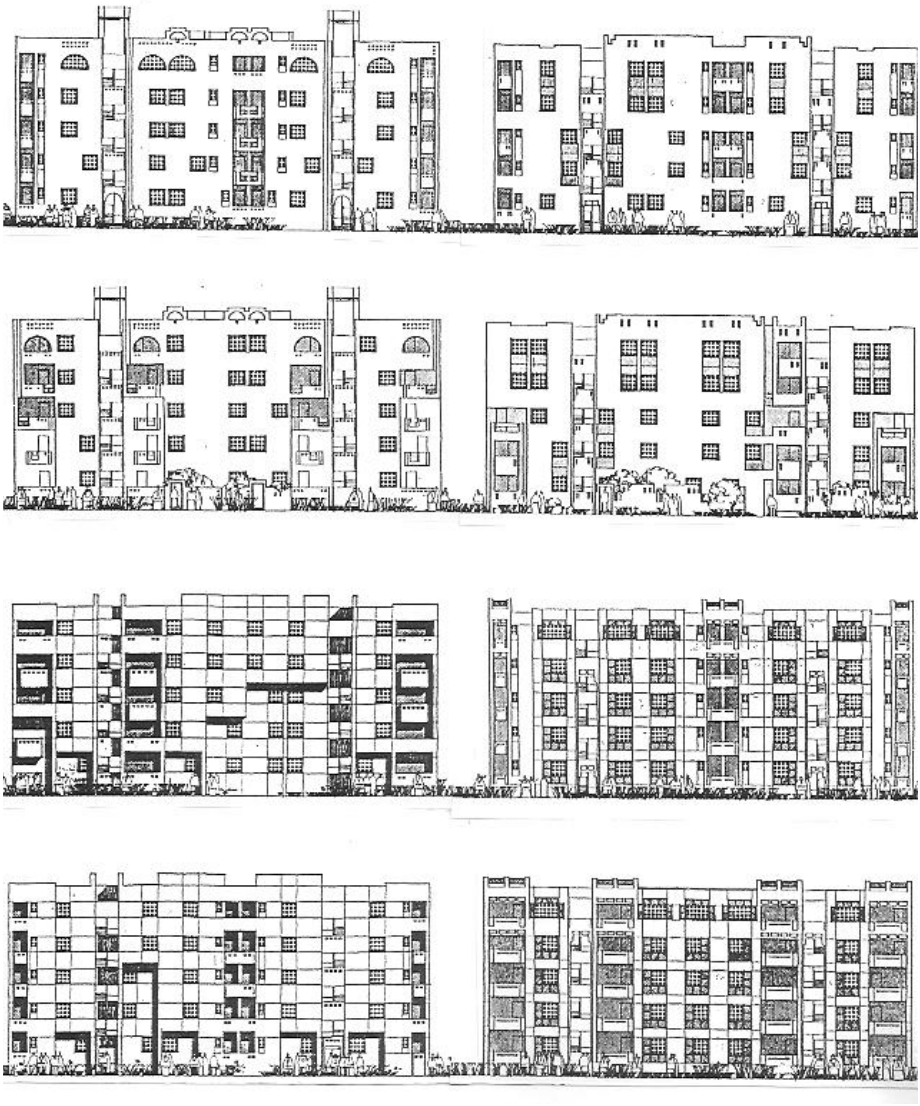

Figure 3: Tackling the monotony of public housing facades –
Generated variations for low cost housing prototypes, Egypt, [3].

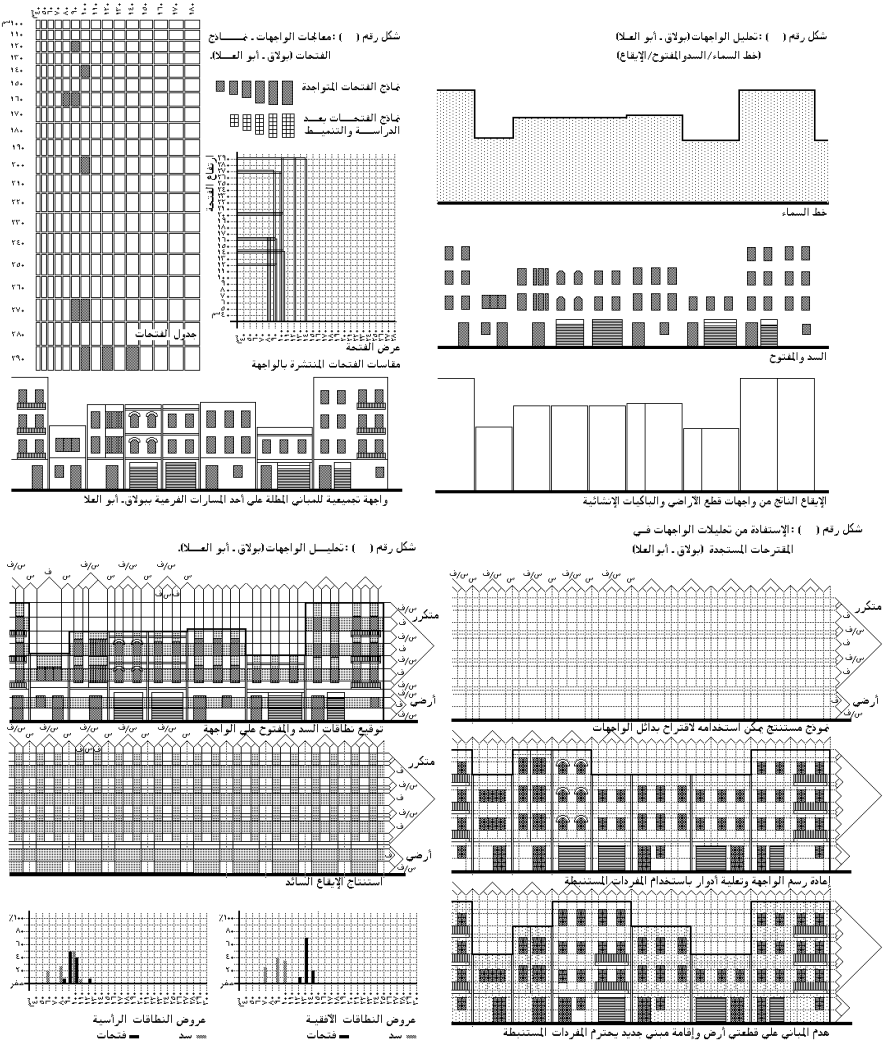

Figure 4: Recording, analyzing and generating architectural character, [2].

- The space between is the public not the designers realm.
- The architect / urban designer as an enabler means a designer working with and for the community; this suggests a resident architect / urban designer and phased completion of public projects.
- Morphology of character (levels, components and effects) should be clearly understood and exploited.

- Urban design and architectural aesthetics provide excellent tools in character analysis, understanding and generation.
- Tame and exploit mass housing in character generation; give special attention to: contextual fitness, details, vernacular, local & heritage references, collective design, differentiations and users expressions and the space between.
- Review regional and local guidelines for character components' analysis, summarizing key elements including: plot widths, width of bays, vertical and horizontal rhythms, fenestration details, heights, skylines, profiles, textures, colours and special treatments.
- Critically question visual and formal doctrines of "Modernism" and related notions.

Epilogue

The character generation issue can only be addressed within the conception and frameworks of comprehensive development; culturally aware and community oriented.

N.B.: *The studies and underlying research for this chapter was completed in 1994.*

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** Awarded M.Sc. and Ph.D. theses solely or jointly supervised by the authors.

Chapter Eight

Exploiting Architectural Heritage in Touristic Development. Cultural Disparity and Visual Preferences in Formulating the Architecture and Settings of Touristic Projects, with Special Reference to Egypt.

Introduction:

The present work looks into the complex issue of architectural references and visual sources in new community developments, and the closely related notion of invocating, recalling and exploiting traditional and historic styles in touristic projects; as safe means of securing and combining quality, identity and instant appeal. It addresses the roles of the involved actors in deciding on appearance in development scenarios; emphasizing cultural disparity and illusive visual preferences, and pointing-out the need for liberal and enlightened development control.

The work; backed by earlier research and a two folds research project, poses critical questions and a set of propositions, to allow better understanding and suggest further investigation of architectural heritage incorporation into physical and touristic developments.

1. Prelude:

Tourism was (and still is) generally accepted as a reliable economic base in Egypt's drive for comprehensive development since the late Nineteen Fifties and till the present. The past two decades witnessed a steady rise in tourism and related development activities. The physical manifestations of the growing interest, investments and achievements in tourism are evident and easy to follow in; the growth axes and integrated regional development zones designated to tourism, as well as the escalating numbers of touristic projects, resorts, villages, hotels and other leisure facilities.

The colossal volume of rapidly executed touristic development activities coupled with the relatively limited earlier local experience in comprehensive and large scale touristic development, spontaneous and planned, public and private; posed and faced the issue of physical/architectural appearance; in other words, the identity and character of newly developed schemes. The issue of external appearance or adopted architectural features and treatments, recently gained remarkable importance in spite of its apparent marginality and seemingly superficial nature; because of the interaction of a number of closely related factors, including:

- The Marketability of touristic development, and the hot competition between developers in attracting and meeting potential demand (users, buyers and tourist agents, etc.) to the product (buildings & settings),
- The emergence (and growing awareness) of the conceptions and mechanisms of contextuality and conservation of natural and physical resources, in architecture, urban and community design,
- The collective rise of culture, tradition and heritage as a collective notion, objective and means in societal, political and physical development.

Furthermore architectural appearance and "uniqueness", identity and distinct character of new buildings and environs, in the post-modern epoch, overshadowed function and utility; becoming an end in itself, loaded with intangible associations, cultural dimensions, symbolism, prejudices and whims.

On a more immediate level, architectural appearance in spite of its inherent complexities is readily accessible to all, regardless of specialization, status, idiosyncrasies and prejudices. This is particularly valuable in looking into the three involved-most actors in the touristic development game, namely:
- the developer/owner/controller.
- the form-maker: designer/professional.
- the end user (actual or potential)/community.

Facades and the external outlook of buildings can be read, grasped, evaluated and criticized by all/every body; the results of such interaction is then carried through and labelled/extended to the entire development. Facades and appearance are also regarded as the key to the quality and (personality) identity of physical developments.

There is, as indicated above, a general acceptance of the importance of differentiation, distinction and uniqueness in marketing architectural products in the days and age of advanced technology, mechanical repetition and mass production.
Architectural heritage; the stock of excellence, whether historic, traditional or vernacular, provided an invaluable means in tackling the dilemma and challenges of contextuality, differentiation and market-appeal. The said stock (formal and popular) of buildings, components treatments and finishes provided the designer, at little or no cost, with a formal/configurative language and expressions associated with the community (people and place); hence both satisfied and met the images and

expectations of the other two (actors) poles of the development trio; i.e. the developer/controller and the user/consumer of tourism and products.

Traditional forms, stereotype treatments, combinations and details were thus recalled, copied, transformed, applied, misused and exploited into modernistic, almost completed configurations. Architectural heritage was generally abused and confused, with few limited exceptions, where its essence, physical and symbolic, was incorporated into the form generation process and successfully reflected in the final outcome; generated/realized forms and settings. The creative and committed endeavours in invocating and interacting with architectural heritage are over-shadowed and engulfed by: mediocrity and superficiality, the kitsch and obvious, blind copying and eclectic compositions. The vogue of the tradition related products and the absence of critical evaluation on the one hand and the cultural dimensions inherent in the processes of form generation and touristic development on the other, further complicated the issue in hand: i.e. heritage in development.

Cultural disparity and conflicts, hidden and declared, among the involved actors: developer/controller, designer/professional and users /communities, were hardly addressed or seriously investigated; and though the same words are used and common grounds are defined as regard heritage and tradition invocation and incorporation; there exists a wide gap separating the actors' conceptions, understanding and visual references and associations. Cultural disparity and said gap also extends and separates; the parties involved in tourism, here and there, the local and the other.

The present discourse addresses the complicated issues of the visual appearance of touristic developments within the frame work of culture and heritage, in an attempt to answer the urging interrelated questions: who dictates the vocabulary and visual messages of new development, its architecture and settings?, and what are the causes (stresses) behind the evolving architecture, in new resorts and touristic projects?.

The discourse benefits from the research into the issues of character, townscape and physical aesthetics and, culture and heritage supervised and undertaken by the authors during the past two decades at Cairo University, Egypt. It also exploits the findings of a limited research project carried out in two graduate courses by postgraduate students reading for the Diploma and Master of Architecture, during the

first and second terms of the academic year 1997-1998, under the supervision of the authors. The project looked into various aspects of the issue in hand, including:

- Visual references, image and perception of the language of form,
- Consumption and reuse of tradition and heritage, and
- The roots, causes/ and reasons behind formal and visual expression.

With the limitation and nature of the present setting in mind, this work is structured into five, almost independent and yet closely related segments; including this prelude which introduces the other four parts, namely:

- On the key words and notions, reintroducing the obvious - appearance, builtscape, heritage, tradition and character.
- On culture, tradition invocation and form, propositions and questions - cultural disparity in touristic developments
- Interlude: A research project into the roots of appearance, in touristic settings.
- Epilogue: Development control and heritage exploitation.

2. Reintroducing the Obvious; Architectural Appearance, Tradition and Character in Newly Developed Touristic Project in Egypt:

The issue of the architectural treatment of facades and settings in general, may simply be approached on the grounds of deciding on visual vocabulary and combinations (language); where invocating tradition and architectural heritage will simply become the incorporation of related vocabulary, motives and themes into the new developments and architectural forms.

In touristic developments the importance of marketability of the built products; architecture and settings, and the closely related emphasis on identity, quality and appeal; collectively bring together the notions of appearance, heritage and character. An appearance that is unique and distinct appeals to and attracts potential users and communities. Identity and uniqueness, in turn are closely related to the conceptions of character and excellence (in tradition and heritage).

The terms are used and seem common enough to the involved parties as well as to those following and evaluating physical development (general and touristic) and its outcome. It is becoming generally accepted that; "character" and "identity" can be

attained in new developments, through the creative manipulation of "heritage" and "tradition" into architectural treatment and compositions. This is stated as if character is well defined and readily accessible, as well as the notions and contents of tradition and heritage, not to mention the complexities of architectural appearance and builtscape.

All is (thus) casually approached and addressed and the obvious becomes vague and illusive, undefined and incomprehensible, hence it is imperative to reintroduce and combine the illusive notions of appearance, heritage and character if the issue of invocating and reusing tradition is to be seriously investigated.

External appearance is the accessible-most in built-settings; it is arguably the tangible and the physical that can be seen and touched. It comprises; facades and components, the space between buildings and masses as well as urban/built fabric (or tissue), solids and voids and form morphology. External appearance is (almost) synonymous to the notions of builtscape (townscape) and visual architectural character of physical (urban) developments. It comprises the ingredients of architectural composition, as well as the elements and components of the collective builtscape and character [1].

In other words external appearance is the result of the play with and interaction of architectural elements in a single building on one level and the interrelations of juxtaposed buildings on another level, as well as the relation between the collective built form and the settings on a third level [2].

In large scale projects, appearance of builtscape is usually the responsibility of one designer (or a design team); i.e. the result of conscious and determined mental, creative and technical efforts.

Physical architectural character is usually attached to urban settings where the builtscape is the resultant of collective architectural work of different builders, a more complex notion than mere architectural appearance, as it is the relatively uncontrolled product of community work and interaction between buildings and the setting; and where architects and professionals are instruments and actors in the complex building game. In those settings appearance is the collective responsibility of the society at large, professionals included.

Culture and cultural variability is always present whether it is a matter of a single, well defined touristic project or an expansive builtscape comprising a multitude of developments. The various levels of culture from the hidden to the exposed, direct and indirect as well as values and prejudices, references and evaluation scales, invariably emanate and influence development processes and actions through the involved actors [3].

Heritage and tradition architectural and otherwise are integral part of the cultural setting that influences form generation activities directly and indirectly. Recalling (revitalizing) heritage and tradition became lately an effective means in mobilizing societal will in comprehensive development drives [4]; which suffered for decades from general deficiency and absence of societal support and involvement. Heritage and tradition were thus exploited and integrated in the conceptions of independent and sustainable development [5].

In the post modern era in architecture and urbanism it is becoming acceptable and commendable to turn to the setting, context, community culture, traces and built heritage for visual references, for borrowing, copying, developing and enhancing. Tradition and heritage products, themes; hence turned into a source book for all to approach, use and misuse [6]. In essence it provided an easy tool for claiming uniqueness, distinction and differentiation as it combines the inherent merits of links to communities and locales.

The chains linking builtscapes, appearance, visual character, culture, heritage and tradition, may be followed, with relative difficulty, through the actors involved in the building process and development, touristic and otherwise. The difficulties and complications are due to the number of actors involved as well as the differences among them, regarding the most basic; e.g. what is worthwhile in tradition and heritage? And what to pick and select from the stock of excellence?

Invocating tradition and heritage in building and development is an illusive and controversial issue [7]. Apart from direct copying and restoration of wholes (buildings and settings) where the origin and the clone are physically identical (or almost); recalling and manipulating tradition is as abstract and relative as the notions of: perception, understanding, image, visual references of tradition and heritage, physical and nonphysical [8].

3. Propositions:

Current and recent research into the labyrinths of: development, culture, tradition, heritage and character of locales; enables us to put-forward a number of developed queries and propositions that are challenging and controversial, open ended and flexible.

The propositions collectively cast light onto the issue in hand, helping in analyzing its facets and contents and allowing critical investigation and better understanding. The propositions though closely related; may be approached, discussed and assessed separately.

- The main reasons for turning to the traditional and historic in touristic developments include:
  - The importance of identity and differentiation in marketing architectural products,
  - The negative nature and the adverse effects of Modernism and products; placeless, faceless, internationality / universality [9].
  - Contextuality; i.e. recalling solutions and features that proved to be environmentally and functionally sound [10]; e.g. fenestration size and location (porosity), heat resistance, passive cooling and ventilation, privacy provision, taming sun light and glare, etc.
  - Availability of funding and relative financial ease.

- The traditional and historic images provide safer solutions for appearance and identity, acceptable by most; in comparison to other visual and configurative trends, visual fashions and whims, e.g. deconstruction, high tech alternatives and the like.

- The traditional and historic have three clear and direct merits:
  - Symbolic, romantic and dogmatic/practical associations; to communities, locations, people and places.
  - Visual references availability and accessibility [11]; tradition provides live/real models at the disposal of the actors during the different stages of development.
  - Inherent quality.

- Turning to tradition and heritage in form generation and architectural treatments poses six problems, namely:
    - Cultural disparity and variability among the involved parties; i.e. distance separating images, perceptions and understanding of culture and products; physical and nonphysical heritage [12].
    - Limitations of the visual language and artistic and architectural background and command; among the involved parties/actors; ability to express and discuss visual objectives during brief formulation and form generation stages.
    - Relative freedom in picking and selecting from tradition and heritage (a bazaar free for all); freedom to borrow, invocate, eclect; freedom almost without rules or limits [13].
    - The ability of the designer; invocating tradition /heritage in a new composition for contemporary uses under different development pressures, calls for outstanding creative and intellectual abilities to be able to exploit and manipulate a distinguished product, or part there of [14].
    - The need for orchestration, control of architectural and physical products; even if quality is guaranteed, and juxtaposing excellence does not necessarily lead to excellent settings or builtscapes. Quality development control is absence and hard to attain.
    - Interacting with tradition under the pressure of fast tracking development; is likely to favour the kitsch and the obvious, superficial and immediate (15).

4. Interlude: Two Research Projects:

The two research projects were carried out in two classes in the post graduate Architectural Programme at Cairo University combining the second year students of the post graduate Diploma in Architectural Design and the readers for Masters Degree in Architecture; under the supervision of the authors during the academic year 1997-1998. The two classes, namely: Development Control-an Introduction to Urban Design and Applied Research: Urban Studies Unit, comprised a total of some 45 graduate students.

Two separate briefs were prepared and treated as independent entities for practical and procedural purposes, as each was related to an independent course, and to allow for the possibility of changes in the students joining each course. The first brief was introduced during the first term (Autumn/Winter) in the Development Control class and the second brief was introduced at the start of the second term (spring) in the Urban Studies unit of the Applied Research programme.

The two briefs complemented each other, and together covered many aspects of the issue in hand, the first brief (the Introductory) introduced the problem, raised the questions and asked for proposals to address the issue; while the second brief allowed the elaboration and application of the proposals.

4.1. Part 1: The Introductory Brief

The brief was entitled: Architectural and Urban Form Determinants - On the issue of reviving and consuming tradition. It emphasized a number of sub-issues and conceptions; including:

- The difference in visual and cultural references of the actors in development scenarios.
- The end users and target communities the touristic development and luxury residences; definition and features.
- Marketing as a prime objective in touristic development projects.
- Proliferations of architectural treatments exploiting; alien styles and prototypes as well as local and regional historic, traditional and vernacular architecture.
- Deciding on adopted treatment and architectural character; who is responsible?

The research project had the following objectives:

- To review and document examples of the architectural vocabulary, townscape features and aesthetics of recent touristic projects and luxurious residences (during the past two decades).
- To follow and establish the pressures behind it.
- To identify the roles of developers/owners/controllers, designers (Architect/ Urban Designer) and end users/ consumers; in shaping and formulating the appearance of the physical products (architecture and settings).
- To put forward a methodology for addressing the issue of form and deciding on forms with emphasis on four aspects:
    - The development context.

- Features and character, townscape and architecture of the selected projects.
- Form origins and causes/determinants.
- Views, visual references of the involved parties: the architect, developer and end user.

The context/scope focused on high income and touristic developments in Egypt during the past two decades. The research tasks comprised:

- The selection of the field study subject: a building, a group of buildings, or high income luxurious residences or touristic development.
- Recording of architectural form and settings.
- Surveying the users reaction to form: image and perception, understanding, views and assessment.
- Interviewing the designers and developers; to follow the reasons behind the adopted form and treatment of the selected development.

4.2. Part 2: The Applied Research Brief

The second research project complemented the introductory research project, it allowed the research groups to present and discuss their work, providing an opportunity for evaluation, elaboration and enhancement. It was designed to allow the research teams to closely look at the selected projects and to concentrate on one or more of its components to fulfil the indicated research objectives.

Three aspects were spelled out in detail as research objectives and tasks to be undertaken by the research groups:

- To readdress the conceptions and definitions of the stock of excellence (heritage and tradition) and visual, architectural and urban references influencing form and form generation.
- To trace and point out agreement and conflict among the actors: as regard appearance and built form and visual references: historic heritage and traditional.
- To juxtapose and compare form origins (sources) and new developments (architecture and settings).

5. Research Results and Findings

The research work covered a variety of recent luxury housing and touristic projects, in Egypt. The luxury residential developments were mostly in the new settlements

and towns in and around Greater Cairo, including; New Cairo Communities: Settlements 1, 3 & 5, Six October and Sheikh Zayed New Towns. The touristic projects were mostly in Sharm El Sheikh, Southern Sinai and in Hurghada on the Red Sea cost. Samples of the graphic material included in the submitted research portfolios are grouped in Figures 1 to 5.

The results of the two intertwined research projects; directly or indirectly supported the earlier propositions, and pointed out the following:

- The appearance and the builtscape of the new touristic and leisure developments may be classified from the view point of tradition, local culture and heritage awareness, invocation and manipulation into two main streams, namely:
    - Interactive/sympathetic stream; that accepts, seeks and adopts tradition and heritage sources.
    - Rejectionist/unsympathetic stream; that ignores and/or rejects tradition and heritage.

The two streams collectively comprise a number of directions and common practices:

- The interactive stream, includes:
    - Mediocre, insensitive, naive, and adhoc manipulation of traditional forms and elements.
    - Direct and extensive copying and (almost) holistic regeneration of traditional and historic buildings and settings.
    - Eclectic and selective; sensitive incorporation of elements, motives and details into modern and contemporary architectural forms and configurations.
    - Sophisticated, superior (advanced), synthesizing and analytic; it incorporates the essence, symbolism and hidden dimensions of the traditional, historic and vernacular into the new.
- The rejectionist/unsympathetic stream, includes:
    - Contextually aware, functional and environmentally positive and responsive.
    - International, modernistic, trendy and non-committed.
- The predominant visual styles; historic, traditional and heritage sources and origins; may be classified as follows:
    - Local styles:

- Historic: Ancient Egyptian (Pharaonic), Islamic.
- Indigenous: Nubian, rural, coastal.
- Regional: Mediterranean, Moroccan , Middle Eastern.
- Followers/Disciples of Hassan Fathy's (16), ((and the lesser known regionally and internationally; Ramses Weisa Wasef's (17)) style and idiosyncrasies; i.e. combining the historic and the indigenous.

- Alien styles:
  - European Neo Classic, Colonial.
  - Exotic, Far Eastern, Indonesian, etc.

- The involved actors, roles and influence.
  - Developers included: Local, regional, international investors.
  - Designers were mostly local, international and joint.
  - End users/consumers comprised: Local, regional and alien communities.
  - The developers invariably dictated the target appearance for the projects; the final visual character (with varying precision) was always part of the client brief to the designer.
  - Earlier successful touristic developments influenced developers and designers; as regard appearance and adopted styles.
  - The prime and preferred target consumer and end user invariably was (and still is) the foreign (international) tourist; and his projected expectations were seriously considered in deciding on appearance and style of developments.
  - An indigenous traditional or historic image, appearance and settings together with quality service are the key to marketability of touristic projects.
  - A successful design experiment (well marketed project) guarantees future demand/new commissions to the designer.

  - The Designer :
    - Most architects designed to meeting the clients' views.
    - Few initiated the adopted styles and trends and convinced the client later.
    - Most architects adopted approaches; exploited the features of a selected traditional or historic source, mostly eclectic , juxtaposing features and elements; together with their

idiosyncrasies, personal interpretation of the original, tradition and heritage. An architect cannot but be himself, (FIGURES 1-5).

- The End User:
  - Egyptians/locals appreciated the complexity and general traditional outlook; objected to domes and vaults (like the Gourna's community in Hassan Fathy's experiment) locally associated to cemeteries and tombs' architecture. They equally did not like the interiors, low ceilings, arched openings (against which one might hit his head) and the built beds that accentuated the tomb's image.
  - Alien users, enjoyed the adopted traditional and historic styles; appreciated the new visual experience and welcomed the romantic venture, setting character and exoticism.

6. Epilogue:

It is evident that invocating, exploiting and manipulating tradition is a prevailing feature in new touristic (and luxury residential) developments in Egypt. Touristic projects provide an excellent opportunity for studying the phenomenon and related facets, issues and conceptions. The study of culture, tradition and heritage and new developments (form, architecture and settings) interrelation will be invaluable in other community development realms, including, preservation, development control and urban conservation of historic and heritage areas.

The directive of invocating tradition in newly developed touristic projects in spite of its materialistic and cost-return frame work; is loaded with many interesting and challenging notions and should not be aborted nor discouraged. Positive - most among which are; resort to contextuality, awareness and respect of development contexts and related community (place and culture), the drive for continuity and avoidance of change for its own sake as well as the critical evaluation of heritage and tradition.

On another level; recalling tradition enhances the tendencies to addressing touristic development in spite of global pressures; as a private and independent process, carrying the traces of the community.

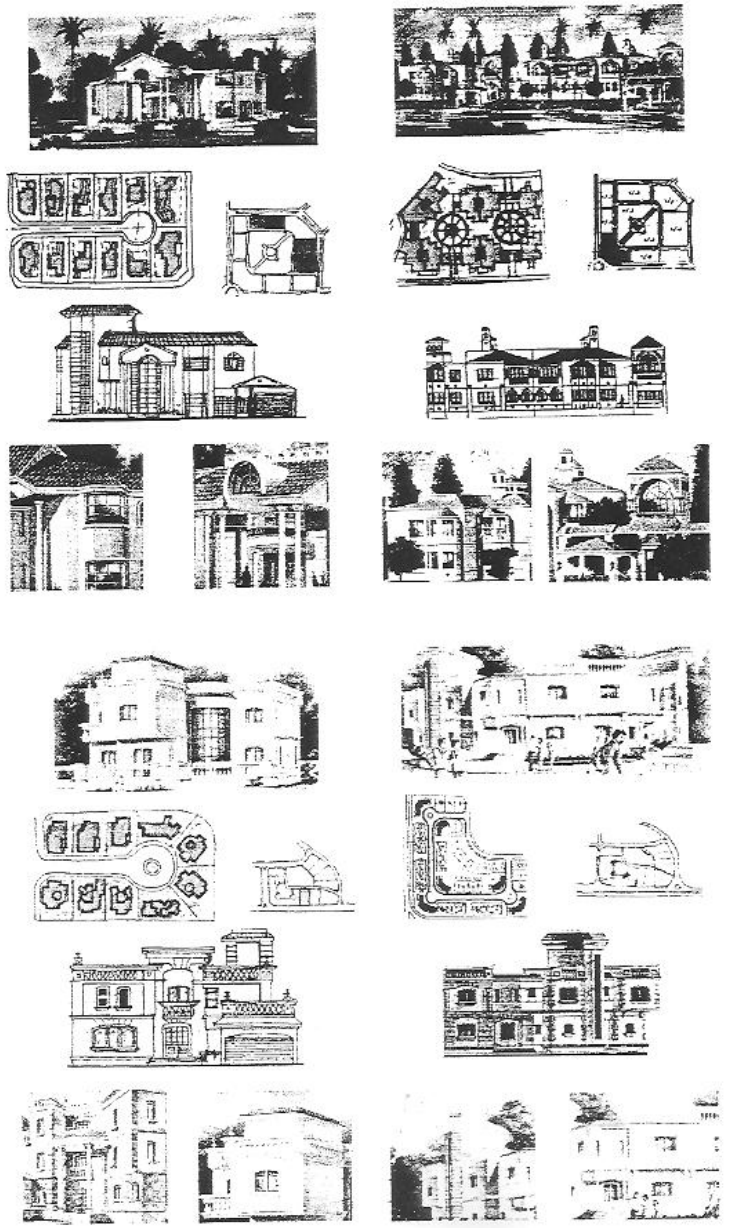

Figure 1: Architectural character, appearance and ingredients; ElNadaa (Dew) Neighbourhood, Sheikh Zayed New City, Egypt (Top),[18], and ElWorood (Roses) Neighbourhood, Sixth of October New City, Egypt, Architects(Bottom), [19].

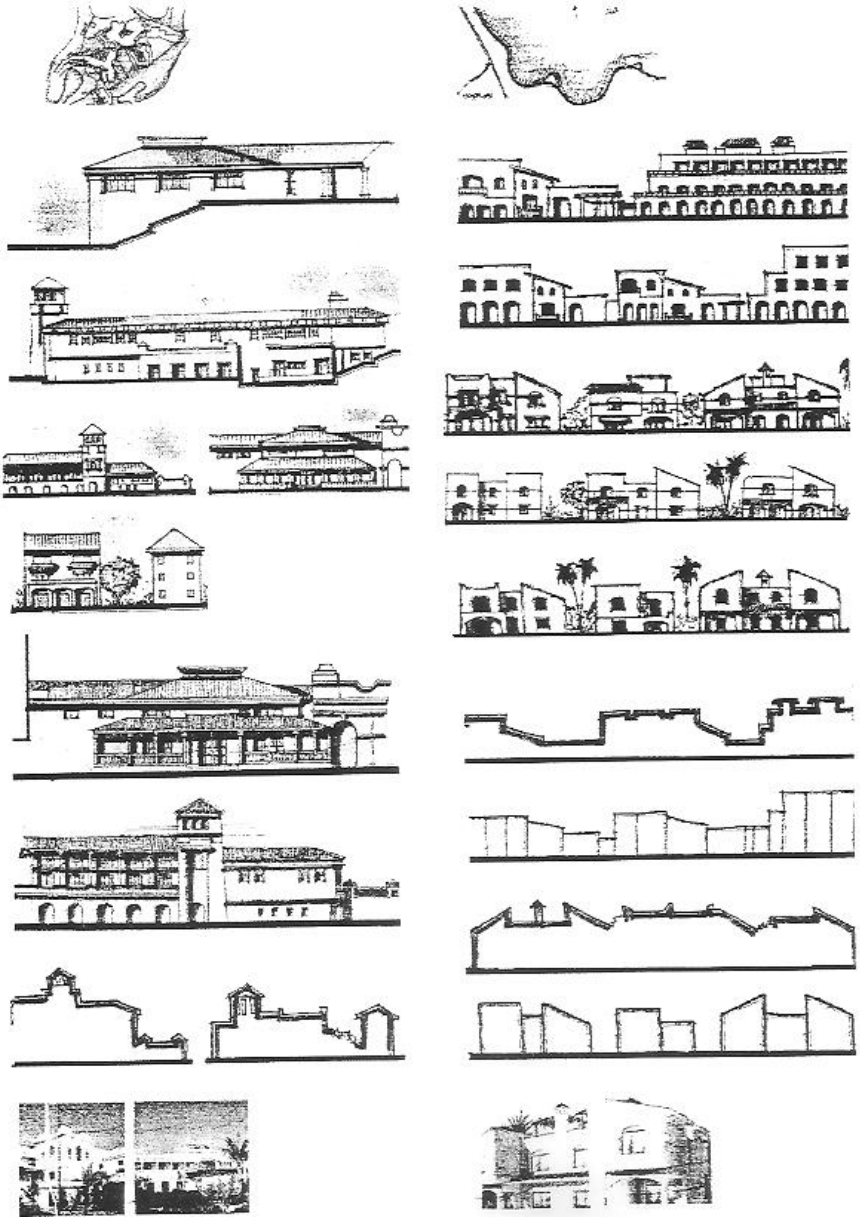

Figure 2: Architectural character, appearance and ingredients; recording and analysis, ElGouna Resort, Hurghada, Egypt: Movenpick Hotel (Left),[20], and Memphis Villas (Right),[21].

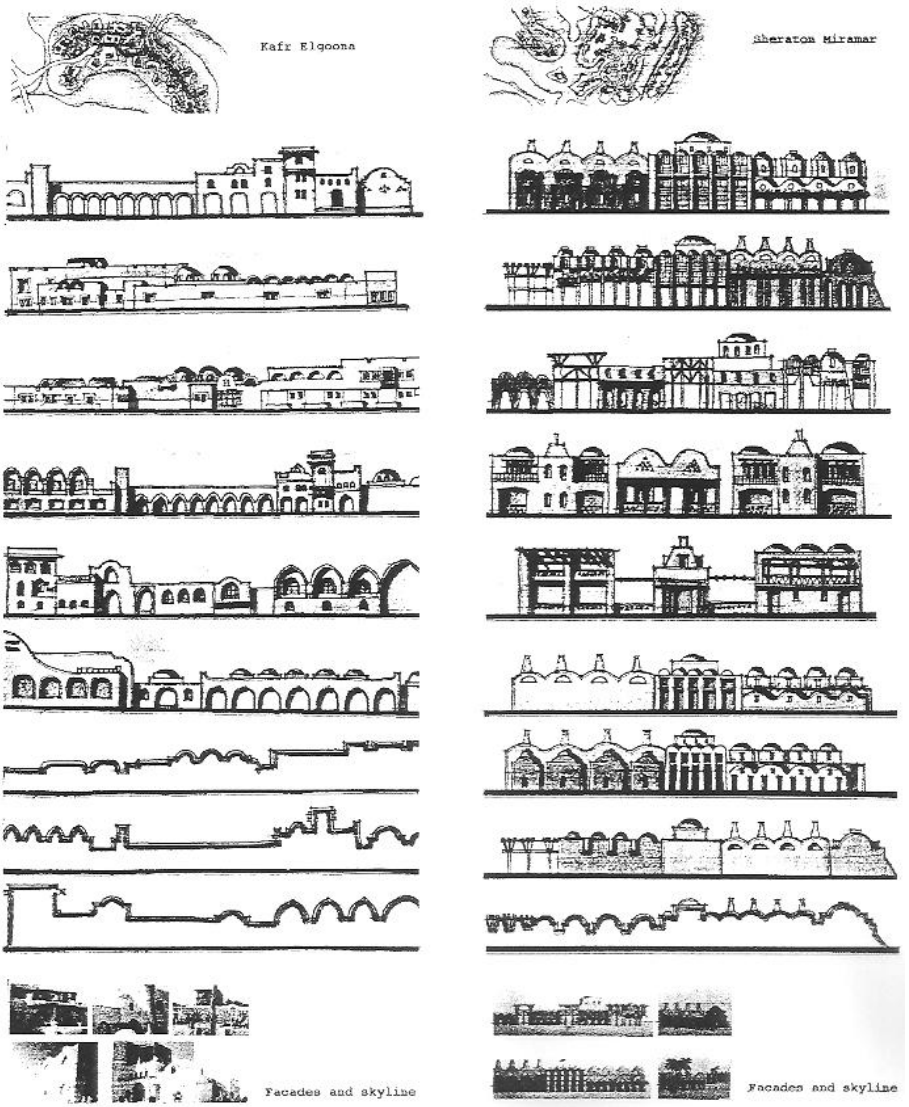

Figure 3: Architectural character, appearance and ingredients; recording and analysis, ElGouna Resort, Hurghada, Egypt: Kafr ElGouna (Left),[22] and Sheraton Miramar (Right),[23].

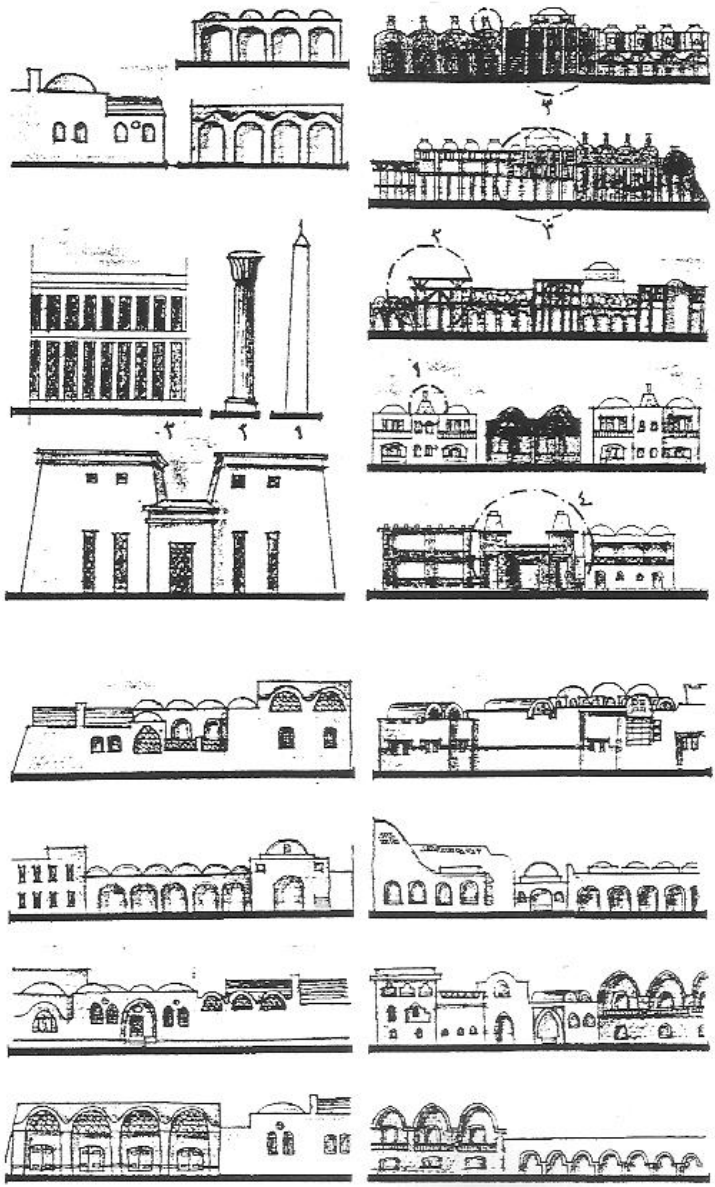

Figure 4: Architectural character, appearance and ingredients, and Traditional and Historic sources - ElGouna Resort, Hurghada, Egypt: Sheraton Miramar (Top),[23],and Kafr ElGouna (Bottom),[22].

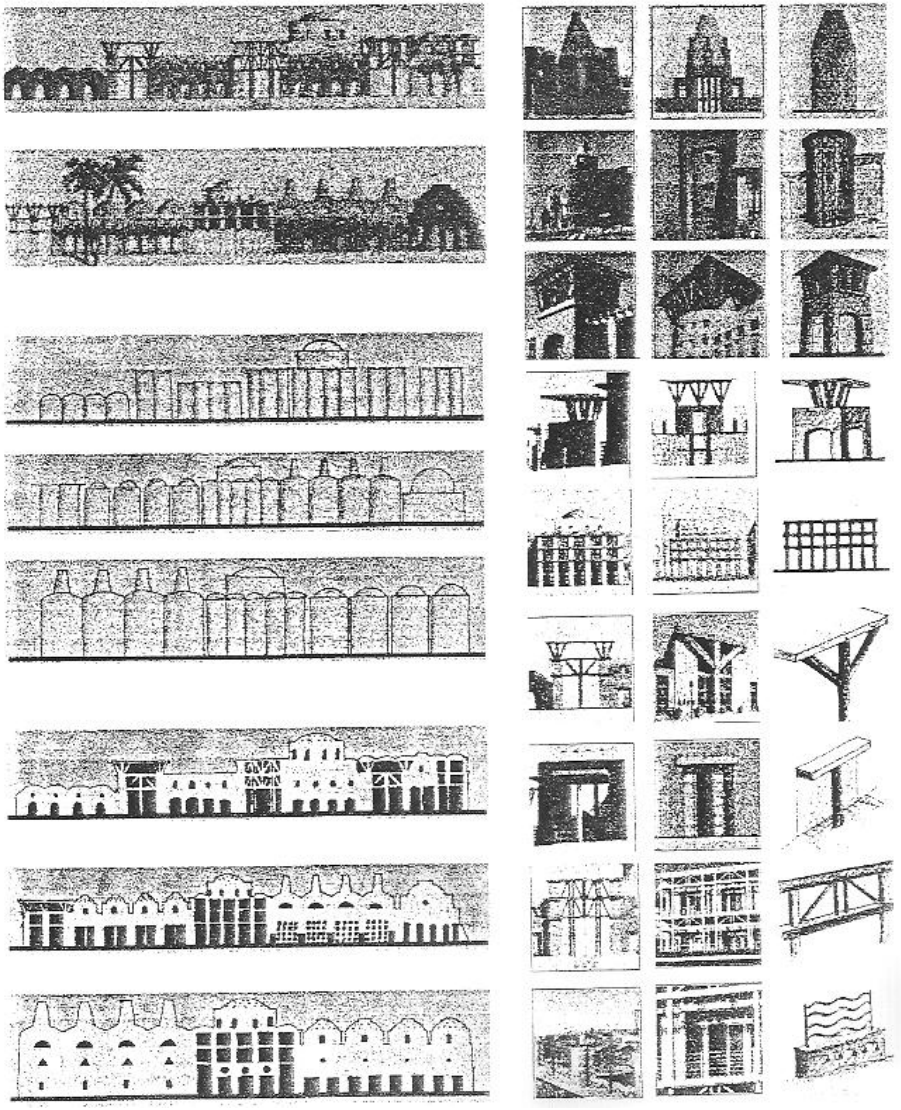

Figure 5: Collective facades, appearance and ingredients, Sheraton Miramar, ElGouna Resort, Hurghada, Egypt; heights, skylines, rhythm and porosity (Left), the Designer's architectural vocabulary and elements in earlier projects and at ElGouna,[23].

Tackling the issue of tradition revival in development process provides a parallel opportunity for investigating the illusive issues of: culture, heritage, character, visual language and community reaction, in the pluralistic phase engulfing the world community in general and the developing countries in particular. It further allows an opportunity to answer the nagging questions; who owns (influences) the language of architecture? is there a language, if the vocabulary are read differently and the meaning are disputed by the readers, actors and involved communities.

The collective language of architecture and the exploitation of tradition in turn pose the issue of control of development, in touristic projects. Development control becomes a must to protect the environment and resources and to safeguard against selfishness and greed, mediocrity and misuse. Successful tourism is based on continuity and cyclic progress; it should not be allowed to self destruct even temporarily as a result of negative life cycles or failure to attract users or damage to the environment.

Development control may thus be regarded as an integral part of the issue in hand; i.e. manipulating tradition in development contexts. In other words, should a fourth player/actor be added to the trio involved-most in development, to protect the collective interest and rights of local communities and the society at large; as well as those involved. Development control against; kitsch, heritage defacing, environmental degradation and wasting resources.

Development control in the present discourse is meant to closely look into the issue of visual character and appearance, beside the other aspects it conventionally handles; e.g. density, heights, coverage, provision for access, biological and health related factors etc... In the areas of outstanding landscape or urban value and heritage areas; the role of development control is to protect the setting's merits and potential and to preserve and enhance physical and architectural character. Its role is not to freeze and impede development but to regulate, guide and inspire.

Unfortunately when it comes to visual quality development control task becomes impossible; the worst nightmare to townscape and architectural quality is ordinary and mediocre development control; which is likely by-default to accept the unsophisticated, obvious and expected (manipulation of heritage) and to fight and oppress the creative and distinguished. With such scenarios, it is safer to restrict

development control to the manageable, i.e. the quantifiable and tangible; leaving the intangible including: invocating and revitalizing tradition to the development context, the involved community and the involved actors. After all, societies only get the architecture and builtscape it earns and deserves.

N.B.: *The studies and underlying research for this chapter was completed in 1998.*

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[6]. See also, K.Herdeg, Past Present and Future: Alternative Methods of Analysis, in Theories and Principles of Design in Architecture of Islamic Societies, (The Aga Khan Program for Islamic Architecture, 1988),p.97-98.

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[16]. For highlights of Fathy's style, recurrent themes and motives see, Chapters 5 and 6 of, J. Steele, Hassan Fathy, p.63-120.

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[18]. ElNadaa (Dew) Neighbourhood, Sheikh Zayed New City, Egypt, Architects; Dr Ahmed Faheem and Dr Hisham Bahgat.

[19]. ElWorood (Roses) Neighbourhood, Sixth of October New City, Egypt, Architects; Dr Ahmed Faheem and Dr Hisham Bahgat.

[20]. Movenpic Hotel, ElGouna Resort, Hurgada, Egypt, Architect, Shehab Mazhar.

[21]. Memphis Village, ElGouna Resort, Hurgada, Egypt, Architect, Shehab Mazhar.

[22]. Kafr ElGouna, ElGouna Resort, Hurgada, Egypt, Architects, Ramy ElDahan and Soheir Farid.

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- Project Credits:

The graphic material used in the figures are taken from the research reports presented at the Development Control and Applied Research postgraduate classes, Department of Architecture, Cairo University, 1997 -1998; by the following Masters Degree Students :

- El Nadaa & ElWorood Neighbourhoods, Sheikh Zayed & Sixth of October New Cities, Egypt, Sherif ElWageeh & Noaha ElSayaad.
- ElGouna Resort, Randa Reda, Ranya Fawzi, Reeman Reehan, Nermin AbdelGalil - Reem Mamdouh, Shahira Fahmy, Khalid ElAgroudi, Fatema Eid, Kareem AbdelRaheem.

Chapter Nine
Transforming Architectural Education in Developing Settings - Amidst' Global Stresses and Contextual Limitations.

Introduction:

Architecture is the true image, reflection and material realisation of societal features and community cultures. In developing countries, the built environment and human settlements collectively suffer from a severe chain of lacks and context's deficiencies, physical and otherwise; topmost among which are; deteriorating and underdeveloped urban, social, economic and political structures, as well as clashing cultures. Confused architectural expressions and deteriorating urban environments are synonymous with cultural conflicts and contextual deficiencies and transformation. Furthermore, the so-called "Globalisation" phenomenon, conceptually and physically overwhelms the setting in developing countries, adding to the problems of; scarce resources poor management and planning, the will and ability (or lack of it) to act and to meet the challenges of transforming existing conditions, to attain societal goals and objectives.

"Globalisation" is arguably a "game", its rules are constantly invented, changed and set by the powerful-few to their advantage; leaving the weaker, poorer and underdeveloped with no option but to join in (or perish), as the disadvantaged party. Architectural products and developments, practice and education, collectively bear the said conflicts to its core, and display it in its features and outcome. Architectural schools in developing countries, Egypt included, followed Western models, structure and details, from the outset. Most are still attempting to keep up the pace and to stay tuned to current trends and changes.

In Egypt, Architectural schools' programmes and curricula are invariably influenced by European and North American pedagogical philosophies, dogma and practices. Despite the growing awareness among the middle and younger generations of local academics, of the relative importance of the issues of; contextuality, identity, independent development, responsibility towards and committed design for local communities (mostly the poor and silent majority) - the education forum is overwhelmed by global doctrines, and Western structures, contents and distorted statutory regulations. Collectively producing architecture graduates; geared to work

in developed settings, for "other" communities, with richer resources and fewer limitations and constrains. Their "products" are invariably divorced from the real world, designed for "virtual" (imagined) communities and predominantly faceless, mediocre and alien to development contexts. The prevailing political structure and practice; together with societal traditions, values and cultures; negatively add to the burdens of architectural education; enforcing non-democratic monologues, suppressing analytical criticism and critical thinking and stifling creative and innovative skills, abilities and intellectual search.

The present discourse points-out the impossible task of transforming architectural education in the problem laden developing contexts. It highlights the conflicts between the ambitious progressive aspirations and endeavours within the bounds of academia (with references from and views towards the developed world) and the real world surrounding it; as well as the resulting alienated architects and products.

The discourse comprises three parts, namely:

1- On Architectural Education; Transformation in Development.

2- Three Interludes:

  2/1- Architectural education; existing conditions, aspirations and challenges.

  2/2- Architecture, culture and development context, problems and limitations.

  2/3- "Globalisation"; added stresses.

3- Six propositions; for effective transformation of architectural education in developing settings.

"The rich may do anything for the poor except get off their backs."

Tolstoy

"Don't walk in front of me, I may not follow,
Don't walk behind me, I may not lead,
Walk beside me and be my friend."

Albert Camus

1- On Architectural Education; Transformation in Development

- Architecture, the realm and product, practice and the path to, architectural education, are all related to development; societal and comprehensive, in 3rd World countries.

- Architects and designers provide the setting for all development activities; the physical expression and realisation; housing, community facilities, work places and linkages.
- The limited success of development drives may partly be attributed to architects; educators and professionals; they share in the grim present and bleak future of Developing nations and environments.
- Architectural Academia is relatively divorced from reality. The time lag between graduation and effective contribution to actual/real and effective development adds to the separation. !
- Architects, unlike politicians are answerable to none, always hiding behind, technocrats, politicians, decision makers, developers and clients.
- The need for changing and transforming architectural education is related to the growing need for a different architect; suitable to the new World Order and current pressures coinciding with the dawn of the new millennium.
- The direction of the needed transformation and change (regarding the needed architect) are disputable;
    - Do we need a community oriented architect, contextually aware, committed and responsible; bare footed if need be, (are these slogans of the past?).

    Or,

    - An architect without boundaries/borders, belonging to the global village, equipped to work almost anywhere, and to move and serve "other" communities, physically or via the electronic web; a technical freak and computer wizard; conditioned to expected licence and permits' granting, bye-laws and regulation changes.

      - In other words a good architectural graduate is that who can satisfy international criteria and standards, if and when available.

      - Architects, architectural practice, hence Architectural education should be multinational, intra-regional and continental.
- Architectural education and related institutions felt and experienced the pressures of the conflicting demands of contextuality and local pressures on the one hand and global appeal and challenges on the other.
- All accentuated and stressed by the soaring advanced communications and information flow.
- Education goals and objectives were and still are influenced by the glorified references from the 1st (rich & developed) World,

- Ignoring the means to achieve them, which were (and still are) invariably an obstacle - scenarios and strategies were formulated (to secure set objectives) and to breach the gap between the backward (or lagging) and the developed.
- The resulting product is an "embryo" graduate; an architect hardly suitable for meeting local challenge and limitations, and at odds with the wider realm.
- Architectural Institutions thus repeated the pitfalls of executive and political establishments; i.e. where transformation and development were/are regarded as a drive to Westernization, in the wake of the 1st World.
- Transformation can not be divorced from the related context (immediate, local and regional).
- Transforming architectural education in development settings should cover: objectives, briefs and programmes, plans and means (all context related).
- Three critical aspects are closely related to serious transformation; namely:
    - Roles and responsibilities; i.e. who defines, evaluates and decides?
    - Adopted references, determinants and criteria,
    - Relation to the development context, culture and society.
- Development (comprehensive and societal) is indeed the framework for architecture, architectural development, practice and Education.
- The declared or hidden conflicts between local (independent) development and global pressures, deeply influence and affect architectural education in development.

Within the bounds of space and time, we will attempt to address this controversial issue, and to formulate a loose structured rationale to face it. It comprises the following three interludes (stops) and the concluding epilogue (propositions). The interludes and propositions collectively highlighting the complex and defiant nature of architectural education in development settings; and pointing-out the challenges of its transformation and development, amidst the conflict between Developed and Developing (world) orders. Putting forward minimalist propositions to enable transformation drives.

2- Three interludes:

2/1 Architectural education; existing conditions, aspirations and challenges

- Architectural education current status in Egypt, as most developing nations is characterised by a multitude of problems, and challenges; including:
- Soaring numbers of students,
- The high rates of increase of architecture students numbers (population),

- Limited numbers of faculty and assistants,
- Distorted faculty distribution and structure, lecturers, associate professors and professors,
- Gap between formal and real faculty numbers; unlimited leaves of absence to teach at local and regional universities, part-time teaching permits to local universities, informal and formal professional practice (full and part time),
- Limited full time commitment of faculties, inefficient monitoring and attendance enforcement,
- Poor management of human resources in terms of: organisation, assignment-distribution and responsibilities,
- Low faculty – student ratios; formal and real,
- Limited communication between faculty and students, in terms of duration, continuity and quality,
- Quality gap between older and new schools and departments of architecture, in terms of: faculty, space and facility, research and experience,
- Lack of identity and differentiation; similar/identical curricula and contents,
- Unbalanced structure (of curricula and contents); emphasis on the narrative, data based, void of analysis and criticism, interaction and dialogue,
- Dominance of traditional, conventional approaches, one way monologues,
- Resistance to change and experimentation,
- Restricting statutory regulations (legal framework), enforcing and supporting stagnation, limiting mobility and interchange, hindering effective selection of faculty and assistants,
- Deficient procedure for filling heads of schools positions; based on service duration, age and superficial seniority, rather than background, potentials, ability and competence,
- Limited material resources (free tuition, state sponsored higher education), restrictions on and difficulties of fund raising,
- Distorted budget distribution; most goes to (the relatively low) salaries of faculty, assistants, administrative staff and labour force, the limited rest is thinly channelled to cover facilities, fabric, research, etc.,
- Central control of (the limited) available resources, no or limited access to funds and material resources to lower levels (departments),
- Low salary scales for faculty and assistants (amounting to some 10% to 20% of faculty salaries at local private and regional universities),

- Physical problems; Limited space (internal and external), inadequate facilities (labs, workshops, library, web-access, etc.), facilities to work at school/ studios, student base provision, in terms of quantity and quality,
- Absence of critical evaluation and cumulative monitoring of the various aspects of the education process (tools and mechanism); faculty and assistants, students' performance, curricula, units, products, development plans,
- Relative limitations on selection and choice; e.g. electives, interdisciplinary mix, open learning,
- Negative attitudes, among faculty and students; including: alienation, opportunism, minimal effort and maximum return, deteriorating values and ethics, plagiarism, poor references, acceptance and glorification of mediocrity,
- Poor recording, dissemination and exchange of the various aspects of the education process, objectives, methods, teaching responsibilities, evaluation records, assignments, comparative analysis,
- Lack of faculty internal and external mobility, cross- subjects and levels, between institutions,
- Dogmatic stagnation, resistance to change and sensitivity to criticism; regarding: objectives, curricula and contents, tools and methods, interaction (internal and external),
- Absence of criticism, critical thinking, discourse and dialogue; in terms of tools, opportunity and venues,
- Superficial democracy, dominance of patriarchal and hierarchical values, on the various levels of decision making,
- Revival of reactionary and fundamentalist outlooks in form, appearance and substance,
- Architectural education development endeavours' concentrated on paper work, statutes, procedures, curricula, devoid from execution and implementation, quality, roles and monitoring, graduates follow up,
- Higher education policies, features and processes, architectural education included, is strongly influenced by state policies and central government decisions; which have a direct impact on education quality, concepts, methods and techniques.
- In most universities decisions related to the increase of the intake of fresh students is carefully taken, such an increase may vary between 5 – 8 % in a single year. Special measures are enforced to manage the planned increase well ahead of implementation,

- The national (state) universities, in Egypt, are confronted with yearly fluctuations and growing numbers and rate of fresh students' intake. In 1995, an increase in the fresh students' intake of 100% was implemented to meet earlier changes in basic education state policies. The rate of fresh student growth in the following years was of the order of 10 – 15 %.

  This posed (and still is) an immense pressure and added burdens on the resources of higher education institutions. Departments of architecture had to seriously review (and stretch to the limits) their limited resources, physical and non physical.
- Limited role of students in architectural education processes; as regard: effective participation, faculty and assistant's evaluation, policy and objectives formulation, development scenarios, resource management,
- Isolation from society and local communities,
- Limited community oriented work and research,
- Poor Societal integration and limited deployment of development plans in architectural education,
- Absence of serious market research, local and regional, to determine, needs and requirements, value management, in the light of development priorities,

Current efforts to develop and transform architectural education present conditions, performance and product, aim primarily at:

- Reaching and maintain international architectural education standards.
- Satisfying recent criteria set by International bodies and Institutions, e.g. UNESCO and the U.I.A..
- Producing graduates fit primarily for local, regional and lately for international demands' requirements.

2/2 Architecture, culture and development context; problems and limitations

- Comprehensive Development is synonymous to survival in Third World countries, the South, or (arguably) the less developed nations.
- It is the process and means through which transformation in the cultural, economic, political and physical structures could be realised, without sacrificing identity, compromising local resources and clashing with context,
- Development is both the means and an end to achieve societal goals, a process and an ultimate end,

- Development can't be borrowed, copied or "eclected"; a unique, creative and private process, its success depends on; congruence and appropriateness to society and context in question,
- The process is characterised by the skilful management of three key components, namely; goals (definition, appropriateness & acceptance), resources and context's Determinants,
- Development and transformation are very much dependent on the deployment, mobilisation and release of human resources, the top-most of communities' potential,
- The failure of development ambitions and transformation drives may be attributed to: underestimation and misunderstanding of its complexities and distorted emphasis on selected aspects (of it); e.g. economic growth, as well as the lack of community acceptance and participation,
- Development is not synonymous to Westernization. It is in essence an inward oriented, self-reliant and sustainable process. It needs not be closed to the outside world, as it could benefit from true partners; i.e. regional and international developing countries.
- Architecture, human settlements, and man-made environments are the true expressions and manifestations of community culture and values, a live registration of societal endeavours to develop, satisfy basic and complex needs and to achieve their goal and aspirations.
- The physical expressions of societies and the closely related physical aspects of comprehensive development are of crucial importance to the success or otherwise of development drives. It comprises, housing and shelter, community facilities, work places, linkages and physical setting,
- Hence the important role of architects, urban designers and planners, being the manipulators and shapers of the physical aspects of communities and development.
- The limited success of developing countries, during the past five decades; to achieve development goals and to secure societal basic needs, pointed-out the responsibility of the professionals; architects (et.al.), as well as the processes producing and directing professionals; architectural education included.
- The architects and planners of the developing nations are expected to face and alleviate the dehumanising conditions of the masses (the poor and low income majority), through creative manipulation of resources to solve the complex problems of housing, community facilities and the built environment at large.

- The scale and nature of the problem on the one hand and the relation between the architect/designer and the community on the other proved not only a challenge to the profession (and the path to, i.e. education) but also a real threat to its status, value and prospects.
- Extreme views call for the elimination of the need for architects in developing settings; on the grounds of minimising development costs and saving limited resources.
- There is also the growing doubt about professionalism, architects and designers attitudes towards communities and participation, and their ability to positively enrol in the development drive.
- Professionals are trained to solve stereotype problems in stereotyped manners, hence having a vested interest in the continuation of those problems. Many claim that professionals can not be trusted because they are answerable to none, shut from the real world; working according to their own perceptions of the conditions, needs and priorities of communities and development contexts.
- The essence of any meaningful change or redefinition of the architect's role in development is to positively transform the profession, to reshape the relationship between the community and the architect, and to critically review the process producing architects; architectural education in developing countries.
- In other words rephrasing the role of architects and urban designers in development; from producers to enablers,
- The architect as an enabler means: a professional participant in local development. His role is not to design (and produce) buildings, physical environs and complete packages but to design processes as well as loose, incomplete and open ended physical settings, to formulate means of gaining access to and utilising resources, to stage and to implement development according to community needs and priorities.
- It may also mean the end of professional practice in its traditional sense, as it is likely to affect every aspect of the process, from brief formulation, to communications' media, deliverables, relations between the involved actors, etc.
- Thus the extents and repercussions of the architects' role changes on the learning and educational processes on the one hand and professional practice on the other has yet to be fully understood, applied, monitored and tested.

- In Developing countries architects to be, should be taught how to work with people as enablers.
- This is rather difficult and will surely pose a real challenge to academia.
- In real terms the realisation of architects as enablers requires radical transformation of architectural education; with changes extending to conceptions and philosophy, objectives, curricula, methods and products.

2/3 "Globalisation"; added stresses

- Globalisation is much discussed and debated term, accepted and hailed by most, both as a must and a fate, not to be escaped or avoided.
- It is the law of the day, dictated by the mighty: "follow and join the Globalisation caravan"; no choice but to!
- A dream coming true, a barrier-free cosmos, encompassing: free trade, movement, services, information and thoughts,
- All has to sign the multitude of related pacts, treaties protocols and agreements; who can afford to be lonely? ; to be not among the best, richest, powerful-most and developed,
- The dream is well marketed; thoughts, achievements and knowledge, the fruits of civilisation are accessible, free for those who dare, who care to know, to switch on and log into,
- Most architects and academics in the realm of architecture, accepted the premise of Globalisation, the barrier free notion and the New Order promise;
- Aspiring to follow; and sincerely advocating: conference learning, shared curricula and contents, virtual design studios and abandoning the local conventions to the advanced high tech., virtual reality and the rest,
- Standards, evaluation criteria and references are borrowed and goals are re-set to fit, the advanced West (et al.), the custodians of wisdom and delineator of the New Order,
- Globalisation is a heavily loaded notion, vague and open ended, ready to encompass an array of meanings and intentions, to reflect shifting values and ethics,
- Though in essence Globalisation was always there (dare we say), the exaggerated emphasis is a part of recent power shifts and global role changing.
- Media wicked collaboration, wilful insistence, forcing the term, repeating and glorifying it, till it sinks deep in the conscience of all, laypersons and

intellectual elite, forcing it, till it becomes the respected sole context and the only course, for each and every action, endeavour and move.

- Globalisation is that polished conception of a virtual dream world, where all are partners, equals, enjoying democracy, equity, access to information, technology and resources, and environmental quality and fairness to all, irrespective of gender, belief or origin, even to the poor and the needy,
- The global paradise in reality has borders and fences, movement and flow to is restricted, filtered and processed; this applies to everything: thoughts, products and humans,
- The rules are tailored to the benefit of the creators, inventors and manipulators, indeed not to the receivers and followers,
- But the ingenious Order was accepted and swallowed by the majority in the South, believing that they are partners, allowed to fully join in, to sit at the round table and to delineate the future of mankind,
- Globalisation can only work if we all are true partners, with equal rights and responsibilities, which indeed is not the case in this new Order and setting, so why insisting that we are, zealously advocating the game and rules,
- Is this note/view merely pessimistic or sourly realistic; why we hardly hear these days about the premise of Regionalisation (the alliance of equals) instead of the continuous calls for abandoning the old & traditional alliances (mostly in the South) to dissolve into the new Order,
- Are we outside the scope of the congregation or our discourse (Transforming Architectural Education), hardly; are not we addressing the issues of; appropriate: context, references, tools and methods as well as access to resources, information and means, which collectively are all what education is about,
- The same applies to architecture education and practice; accreditation and underlying thoughts and priorities, will soon to be agreed on by World Community, levels and standards adhered to; only the mighty may defer opt out or refuse to sign,
- Even if one is aware of the false premise of Globalisation, could it be avoided?
- We should critically question and challenge the notion of Globalisation, the rules and products of the promised “virtual” paradise; (at least as a mental exercise),
- Regionalisation (between equals), protectionism, introversion, limited accessibility, lower and appropriate references and standards, slower

transformation, and adherence to contextuality and independent development are neither reactionary nor obsolete. On the contrary, all should be welcomed, researched, revitalised and cherished.

- It is again not out of the present discourse to point out to the course followed by the prospective new polar force in the new millennium (China), since 1949 and till the mid or late 1980's or even till the present,
- This is not an outcry for blind rejection of the notion of Globalisation. It is only a mere reminder that; true "Globalisation" is an arena for qualified "Global" partners and actors, if you are eligible enjoy it, if you are not go for "Regionalisation", and confine to your local and regional settings and equals first,
- The said statement fully applies to architectural education (and practice); will be rephrased in the following propositions.

3- Epilogue; Propositions:

Six propositions; for effective transformation of architectural education in developing settings.

The previous course, the introductory note and three stops/ interludes, delineated a structure and a rationale to deal with the issue of architectural education and its transformation in developing settings. It highlighted our views, understanding and biases. It also hinted at and paved the way to our minimalist propositions for effective transformation of architectural education in Egypt, and in most developing countries.

Before putting forward the set of propositions, let us reiterate the obvious, namely:

Why transforming architectural education?

Our answer is;

To produce graduates, architects, capable of satisfying the needs and aspirations of their society and local communities, equipped to meet the challenges of independent (and sustainable) development and ready to stand to (and face) the stress and pressures of Globalisation, clear and in disguise.

Our propositions are flexible and open-ended; they suggest courses and point-out possibilities, accepting and operating within contextual limitations, in most developing countries, Egypt included.

Six in all, presented in a determined sequence, but may be dealt with separately and independently.

3/1 On Globalisation

- In transforming and developing architecture, education and practice, critically question and resist "Globalisation" both as a notion and a course of action; join only as a partner, not a follower nor a mere spectator. Resist for as long as you can, don't break nor abandon the pencil or tools you make, till you can produce the alternative, albeit a computer or a web.
- Look into localities and regions for aspiration, design for limited access and controlled flow till you are ready to mix and influence.

3/2 Integration into Development

- Architectural education transformation should be closely geared to and integrated into (societal and comprehensive) development drives (actions, plans and strategies).
- It should carry the features of healthy development, i.e. independence, sustainability and community based and oriented Transformation objectives, evaluation criteria and courses of action should be formulated and selected accordingly.

3/3 Enablers not Producers

- Architecture students should be (educated) guided, trained, evaluated and monitored as enablers and not producers, capable of working for and with (local and regional) communities.
- Aim at an intellectual, committed and technically capable architect, rather than a self-centred technician and an introvert professional.

3/4 Contextual Awareness and Minimalist Appreciation

- Respect and accept context limitations, turn it to merits and distinct features of community oriented architectural education,
  Accept difference, aspire to a "minimalist", unpretentious, glamour-free settings, simple and different from the flamboyant set references.
- Accept and aspire to face the challenges of educating architecture to the masses, improve and develop large-scale architectural institutions.
- Re-examine Western (Developed and 1st world) models, at least from the viewpoints of appropriateness of the resulting graduates to the real (local and regional) context.

3/5 Low - Cost Internal Action

(Within Architectural Education Institutions)

A chain of possible, feasible and cost effective actions, including:

- Critically question the "Other" standards and game rules and inherent dogmas and biases.
- Resist imitation or replicating international western schools, critically examine underlying philosophy, objectives methods and procedures.
- Differentiate as much as possible between learning nature and vocation and practice requirements,
- Encourage differentiation and Identity, aspire to different and not analogous departments and schools of architecture,
- In teaching architecture to the masses (large number undergraduates) liberate and “enable” students to self-learn, search for information, to acquire knowledge, to innovate and not to imitate, to share in evaluation, etc.,
- Scale-down design studios into mini-studios, within the allocated space, maximise faculty-student contact, and better define responsibilities,
- Readdress “formal” creativity as a hailed merit and an end, as it mostly amounts to the ability to copy and publicise thoughts, trends, approaches and "formal expression", discreetly or daringly,
- Readdress structure and organisation hurdles and issues, including: faculty selection, evaluation, tenure tracks, chairs appointments procedures and criteria,
- Effective transformation could be secured through; true democracy and dialogue, flexibility, process- (not production) focussed, analytic and innovative learning,
- Fight and eliminate mediocre and corrupt resource management,

3/6 Low - Cost External Action

(Outside the walls Architectural Education Institutions)

- Move towards free and Independent Institutions.
- Resist “cocooning” the profession and academic institutions, develop Architectural schools (without walls), with less barriers to the outside, i.e. accessible to other specialisations, non-government organisations and to the society at large.

- True dialogue and effective criticism (of architectural education & institutions) is only attainable, through societal and interdisciplinary interaction; hence should not be confined to specialists' circles (architectural academics and professionals),
- Basic and secondary education (pre University) is an effective means and venue in the development (and transformation) of architectural education.
  Media and informed public, flourishing of architectural culture and appreciation are effective means in the transformation drive.
- Legal framework and creative new legislation is the key to secure effective change and transformation of architectural education, (internally and externally).

Architectural Education Transformation is indeed possible, low cost, cost effective and attainable to the Developing Community;
but only if We Dare, and if only In Ourselves We Trust.

N.B.: *The studies and underlying research for this chapter was completed in 2003.*

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