COMMUNITY FACILITIES PLANNING FOR EXISTING AND NEW COMMUNITIES IN DEVELOPING COUNTRIES.

DR. SAYED ETTOUNEY
COMMUNITY FACILITIES PLANNING FOR EXISTING AND NEW COMMUNITIES
IN DEVELOPING COUNTRIES -
COROLLARIES FROM EGYPT'S EXPERIENCE.

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ABSTRACT

Community Facilities planning is a key element in physical and comprehensive development of existing and new communities, in terms of land requirements, investment share and complex relations and interactions with other land uses. Community Facilities provision standards and features greatly affect the overall performance, the outlook and quality of urban settlements.

In developing nations appropriate community facilities planning and implementation is a crucial factor in the success or otherwise of development programmes.

This paper critically reviews the accumulated experience of community facilities planning in Egypt, where an ambitious development programme was initiated and undertaken since the mid-seventies and till now, aiming at the upgrading of existing settlements and development of new communities (traditional and autonomous). Adopted approaches are highlighted, deficiencies and limitations pinpointed and the interrelation between community facilities programming & spatial organization in the settlements' physical plans is reviewed.

Basic concepts to improve service facilities planning - from an urban design viewpoint - are then put forward. The suggested key principles for appropriating community facilities provision includes:

- Landuse mix & integration of housing, community facilities and integrated industries,
- Multi purpose facilities, i.e. maximum utilization of development land & built areas allocated for community facilities and,
- Minimum provision standards, with local standards and practice and cultural variability in mind.

The discourse is also supported by selected examples from new communities developments, in Egypt.
Introduction

The physical form features and performance of urban settlements is determined through the spatial relations and interactions of two key form elements, functions and linkages. Functions or major activities in man's habitat fall into three major categories, residential, service facilities and industrial. These dominate urban forms and jointly occupy most of its landcover with varying shares and relative importance.

Community facilities is a key factor in the spatial organization of urban settlements in terms of: land budget (amounting to some 25 - 40% of total land cover), internal and external features and relation with other key form elements especially circulation and housing areas.

Furthermore community facilities draw its relative importance in the physical development of existing & new communities from a number of factors including: its effect on residents welfare and quality of living together with the high cost of its provision and maintenance.

In developing nations inferior provision standards and lack of community facilities is a common problem in existing urban areas, hence adequate provision and appropriate location is a key criterion in upgrading existing settlements and developing new communities.

The principal factors affecting community facilities programming, planning and implementation include:
- The size of settlements in terms of population and land cover,
- The spatial and functional characteristics of settlements and the related landuse mix and activity patterns,
- Hierarchy of basic planning units (urban enclaves) and related features, i.e. population profiles, areas and internal structure, social mix etc,
- Intensity of activities and landuses,
- Classification of community facilities, components, administrative frame work and interrelations,
- Norms and standards of provision (internal and external),
- Socio economic and cultural determinants &
- Development costs (initial and running) and investment shares.

During the past decade Egypt carried out an ambitious development programme encompassing existing and new communities. Among the main objectives of the development drive are, the restoration of balance to the urban structure, upgrading existing settlements (in terms of tissue, infrastructure and service facilities) and opening new gates for development outside the densely populated Nile valley.

A relatively large number of new communities were planned, initiated and currently they are at various stages of development. These comprise: independent settlements, satellites, desert extensions of existing cities, autonomous settlements etc.

Development programmes paid great attention to community facilities planning and spatial organization as a central issue in the planning studies. The accumulated experience provides a wealth of data, conceptions and approaches to community facilities planning in developing countries.

The present work critically reviews selected features of Egypt's experience, highlighting merits and deficiencies and suggests guidelines for community facilities provision and spatial organization

This is carried out through three consecutive sections:
- community facilities planning in new settlements - highlights from Egypts
experience.
- Discourse: Selected key issues in community facilities planning and spatial organization.
- Conclusions: Development guidelines - An urban design checklist.

Community Facilities Planning In
New Settlements - Highlights from
Egypt’s Experience.

Egyptian New communities may be classified into four categories in terms of location, function & relation to existing urban structure, these are: independent cities, cities in Cairo Region, desert extensions twin cities & satellites. The planning studies for these settlements were completed during the past decade, which may be conveniently divided into three consecutive phases; 1976 - 1979, 1979 - 1983, 1983 - 1986.

The Community facilities planning review in this section is based on the analysis of seven selected settlements (Master and structure planning studies) that cover the four categories and the three consecutive development phases, namely:
- Tenth Ramadan (500 000 population), Sadat City (500 000) and New Ameriyah City (500 000) are independent cities that belong to the 1st phase (1), (10), (9), (8).
- Sixth October (350 000) & El Obour (240 000) are within Gt Cairo Region and belong to the middle and 3rd development phases respectively (3), (2).
- New Menyah City (120 000), Upper Egypt, is the twin of an existing City, physically separated but may be regarded as its extension - 3rd phase (4).
- New Shattah Settlement (35 000), is a satellite for Damietta City, N.E. Delta - 3rd phase, (5).

The approach to community facilities planning and spatial organization in each of the seven settlements is briefly reviewed and distinct features presented. Tables 1 & 2 summarize and comparatively analyse selected aspects of the service programmes. These together with the Master plan configurations and conceptual diagrams, Figures 1 - 7 delineate a brief overview of the selected approaches.

Tenth Ramadan new city plan was the first to be completed, the studies were jointly undertaken by Swedish and Egyptian teams (1), (10). The approach to community facilities was rather conventional adopting western standards of provision, hierarchy of planning levels and central place spatial distribution of neighbourhood & community services (while city services distributed along a central spine), Fig. 1.

The provision standards are the highest in Egyptian new towns, Tables 1 & 2.

Similarly Sadat City plan was the joint effort of American and Egyptian experts and is characterised by its comprehensive community facilities programme, thrifty in land provision & contextually aware, (9). The programme was linked to a distinct conception of spatial organization of facilities along service spines joining the various levels of community enclaves and providing activity axes around which the city is structured, Fig. 2.

Service spines concept was since adopted in most Egyptian new cities master plans and New Ameriyah city N.A.C. and sixth October were first to follow, Fig 3 & 4. The decision to follow the spinal configuration was justified on the grounds of flexibility and maximum accessibility together with enhancing social interaction and mix.
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<th>SETTLEMENT PROVISION ASPECTS</th>
<th>SERVICE FACILITY</th>
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<th>2. BASIC EDUCATION SCHOOL COMBINED</th>
<th>2.1 PRIMARY</th>
<th>2.2 PREPARATORY</th>
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In the N.A.C. plan (a joint Egyptian-Dutch product), the format of the community facilities programme and its contents were greatly influenced by Sadat city rationale, though the provision standards were much higher (8). A higher feature that characterized N.A.C. services programme realization in the master plan was the decision to combine the services of each two neighbourhoths in one local centre serving an extended local area with population of the order of 8000-12000 residents. This marked a minor deviation from the spinal concept Fig 3, i.e. a community served by a spinal centre and four

**TABLE 2**
Community Provision Standards in Selected New Communities
A Comparative Analysis of Per Capita Shares (sq.m./Resident).

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<td>COMMERCIAL FACILITIES</td>
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<td>OPEN SPACES &amp; RECREATIONAL FACILITIES</td>
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<td>COMMUNITY FACILITIES TOTAL SHARE</td>
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<td>TOTAL BUDGET (HECTARES)</td>
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<td>TOTAL COMMUNITY FACILITIES (HECT.)</td>
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<td>PERCENTAGE OF COMMUNITY FACILITIES TO TOTAL LAND BUDGET</td>
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*EXCLUDING INDUSTRIES ADJACENT AND DOWNWIND THE CITY, SOLID WASTES, CEMETERIES.
FIG. 1
Tenth Ramadan New City, Egypt—First Phase Plan (150,000 Resid.), Hierarchy Of Services: City Spine, Community & Neighbourhood Centres

FIG. 2
Sadat New City, Egypt—Master Plan (500,000 Resid.), Hierarchy Of Service Spines: City, District And Neighbourhood.
FIG. 3
New Ameryah City, Egypt—Master Plan (500000 Resid.), Hierarchy Of Service Spines, Concept And Application.

FIG. 4
Six October New City, Egypt—Structure Plan (350000 Residents), Hierarchy Of Service Spines; City, Districts And Neighbourhood.
FIG. 5
Shattah New Settlement, Egypt-Master Plan (35000 Residents), Local And City Centres.

FIG. 6
Elobour New City, Egypt-Master Plan (240000 Residents), Hierarchy Of Centres; diagramatic And Spatial Distribution
FIG. 7
New Menyah City, Egypt-Master Plan (120000 Residents), Service Facilities Distribution, Local And City Centres.
isolated nuclei (local centres). An attempt to restore the spinal distribution of sub-community services by allowing mixed development along the main roads linking community centre to local centres was later developed and adopted.

Six October community facilities plan (3), benefited from the accumulated experience from earlier studies. It was also influenced by the introduction of the basic education system which replaced the elementary schooling and extended compulsory education to include preparatory level, i.e. combined elementary and preparatory education in one stage. The basic education school become the nucleus of neighbourhood services.

As mentioned earlier the physical plan adhered to spinal distribution of services and also suggested mixed development along main roads, Fig. 4.

The provision standards were moderate and latter decisions to increase the city’s target population further reduced the suggested standards.

El Obour new city community facilities programme - concise in format and different in terms of emphasis and contents from preceding attempts presented a minimal approach to service provision, and was characterized by:
- adoption of local areas (12000 residents) as basic planning units,
- dispersed commercial facilities,
- rationalization of open spaces and taking into account parts of public buildings' sites in the provision standards and
- decentralization of services (2)

The plan emphasized local identity and direct access to service facilities and avoided spinal organization, Fig. 6.

New Menyah City (4) belongs to the first generation of Upper Egypt new community developments, the site characteristics, soil nature and the harsh environment called for compact planning and minimum provision standards. The adopted standards are among the lowest in terms of land requirements and per capita shares. The concept is also marked by integrating community and city services in an articulated spine, the maximum exploitation of mixed landuses which is used to link the detached neighbourhood centres into one another and to the central spine. Fig.7.

Shattah new settlement (5) is small by comparison to Egyptian new communities, its size, population target and adopted standards are realistic and manageable. The community facilities programme is minimal and provides a successful module that can be used in upgrading existing communities and newly developed settlements (25 - 40 thousands population). It combines economic use of land and accessibility to related residents. Fig. 5.

Discourse: Selected Key Issues in Community Facilities Planning and Spatial Organization.

Tables 1 & 2 summarize selected features from the reviewed sample of Egyptian new communities. Table 1 confines its comparative illustration to the neighbourhood level, it highlights provision-standards variability as regard: site area, total built area, population served, total land budget and total per capita share. Table 2, shifts to the macro level and shows the total per capita share of key facilities, i.e. educational, commercial & open spaces together with total share of community facilities in sq.metres per resident. The figures for Shattah new settlement (35000 population) are included, in spite of its modest rank and size, for reference only and to accentuate some of the adopted standards (e.g commercial facilities).

The presented provision standards should be read with the completion dates, respective phases, and the spatial organization conceptions (reviewed earlier).
in mind.

At the neighbourhood level there is a general agreement as regard, basic community facilities range and provision standards though the total per capita share decreased in recent developments. The Sadat city figures (though belongs to the 1st generation of settlements) closely agree with the lower figures, adopted in latter studies. Generally speaking the indicated standards and related spatial conceptions for the neighbourhood facilities justify the following deductions:

- There is a shift towards larger population thresholds in community facilities provision, i.e. larger local areas. This does not reflect on the provision standards nor conflicts with recent trends towards dispersion of service facilities.

- The accepted levels of percapita shares of community facilities ranges between 4 and 4.5 square metres per resident (0.4 - 0.45 hectare/1000 population).

Total provision standards, Table 2, considerably differ in the reviewed sample though a downward trend can be pointed out in the figures compiled from recent studies, with Sadat master plan again confirming the wisdom of minimum provision. The range of per-capita share of the total land budget for community facilities is rather wide and suggests a need for guidelines and limitations. The per-capita range is of the order of 10 - 20 sq.metres per resident, i.e. 1 - 2 hectares/1000 population for the city's community facilities. The lower end of the wide range, adopted in the Sadat city plan (9) and in recent Urban developments (2) (4) compares well with the standards encountered in existing cities though it maintains a justifiable improvement. (the total share of service, facilities in existing middle and major cities is of the order of 6 - 8 m²/resident - See for example Shbin el Kom structure plan study, (6).

The review of community facilities programmes in Egyptian new settlements clearly indicate three major problem areas in terms of provision standards and spatial organization namely; educational facilities, open spaces & green areas and commercial & retail facilities. These draw their relative importance from their land requirements, high investment cost and critical relation to the different levels of urban enclaves (and the related problems of accessibility and socio-cultural requirements), see also Ettouney (7).

The major problems affecting educational service provision includes: the high percentage of population in the respective school age groups (e.g. for basic education, 6 to 14 age group, it reaches 18 - 24%), the proliferation of education systems and types of schools (e.g. religious, technical, languages, separate & mixed sexes etc), the location of schools and accessibility etc. (7).

As for commercial, retail and service industry, the key issues are: the problem of optimum and adequate standards (which is accentuated further by the lack of national data and performance standards), location and relation to served population, the suitability of local patterns of mixed levels of commercial services, the balance and shares of private and public investments etc...

Open spaces also presents an acute problem area and suffers from dual standards and the huge gap between existing and proposed standards together with the adoption of Western provision figures and conventional spatial organization and hierarchy.

Environmental conditions (i.e. hot arid climate and maintenance cost of green areas together with behavioural patterns and local attitudes towards green areas and public open spaces - collectively add to the problem of definition
of provision standards and allocation of these facilities.

Furthermore the reviewed community facilities programmes shared two distinct merits, namely:
- Equity, income levels of the served communities have little effect on provision standards.
- Comprehensive nature and outlook.

These, coupled with flexible phasing, contextually aware implementation and maximum use of local resources are likely to secure success and effective performance for service facilities and enhance the development process in developing nations.

Conclusions: Development Guidelines – An Urban Design Check List.

The accumulated experience from recent Egyptian new communities development projects – marked by progressive contextual awareness – provides sound bases and a comprehensive frame work for service facilities programming and spatial organization in 3rd world countries’ existing and newly developed settlements. It should be pointed out that service facilities planning for existing and new communities – in limited resources contexts – only differ in terms of: the physical limitations of the setting and existing facilities stock and land availability.

The analysis, synoptic review of the selected sample of new Egyptian settlements and the brief discourse of the key issues presented here – highlight some facets of the collective approach to community facilities planning in a developing country. The key aspects for effective community facilities spatial organization and planning, from an urban design perspective, may be summarized as follows:

- **Minimum provision standards** in terms of floor space and land cover (guided by local practice) should be adhered to.
- **Land** should be exploited as a **major resource** in service provision and performance.
- **Maximization of use**, buildings and sites should be efficiently used in terms of time and space (e.g. overlapping of functions, multi purpose spaces and lands, minimum circulation and peripheral areas).
- **Mixed development**: community facilities should be accommodated within, integrated into housing areas and allowed in ground floors whenever possible. This is likely to enhance the vitality and variety of living patterns, secure intensive use of urban land and maximize accessibility and effective utilization.
- **Accessibility**: in terms of distance & time – should be an integral feature of service facilities designs and plans. Contextually aware spatial organization is likely to secure accessibility, e.g. compact planning, design for cyclists and pedestrians & mixed uses.
- **Decentralization and dispersion**: this is closely related to accessibility and development principles and calls for maximum integration between the services and the served population. In other words community facilities should enhance local identity of urban enclaves.
- **Open spaces**: provision standards and allocation should be determined within the limitations of the environmental and socio-cultural features of the setting to ensure minimum capital and running cost (e.g. this may be partly achieved through designation of open spaces to public facilities & territoriality with respect to urban enclaves hierarchy).
- **Commercial and retail facilities**, should be integrated into housing areas and public uses.
- Education Facilities (lower levels, compulsory), should be developed as community development nuclei comprising cultural, social welfare and recreational functions.

Community facilities provide the effective core and connective tissue for urban fabric, play a critical role in shaping visual and local identity and retain a considerable portion of capital and running costs of physical developments. They represent a crucial factor in the success or otherwise of urban development rationales especially in 3rd world countries where limited resources is coupled with ambitious development goals. A fact that need to be deeply rooted in development planning practice and substantiate the call for further investigation, exchange of experience & findings and compilation of data & design criteria on this realm in developing nations.

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