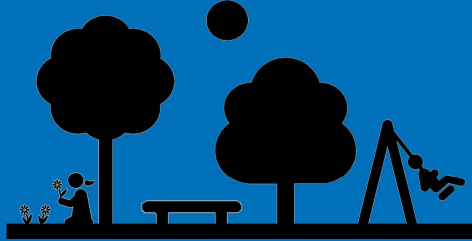


Settlement Layout Optimization

APPROPRIATE COMMUNAL OPEN SPACES (COS)



In line with UNHCR's Master Plan Approach, **The Planning Principle of COS** stresses that an appropriate proportion, number, organization and equitable distribution of Communal Open Spaces are essential for the sustainability of any settlement on the long-term. COS should consider cultural, social and environmental aspects, such as size, degrees of privacy, social function, and natural setting in their design.

Keep in mind:

- Allocate an adequate % of the total usable area for COS.
- Plan different types of COS and define a clear hierarchy.
- Distribute COS in equitable manner and increase their quantity in denser settlements.
- Include interconnections and transitions between COS through the circulation network.
- Define the size and shape of COS according to their function and cultural context.
- Encourage green and planted spaces; take advantage of and protect natural environment features.
- Highlight the multi-use / multi-functional nature of specific COS, especially in dense settlements.
- Consider an Age, Gender and Diversity inclusive approach when planning and designing these spaces.

Background

The concept of optimized design and planning of communal open spaces (COS) was developed in an academic partnership between UNHCR/SDC and the Swiss Institute of Technology of Lausanne (EPFL). This short guideline elaborates on larger research, identifying 7 design principles to guide site planners in optimizing the layout of settlements for internally displaced people (IDPs) and refugees.

Definition of COS

In the context of refugee or IDP settlements, COS refer to non-built gathering spaces which are accessible to the community without restrictions and used for various community activities. COS may be associated with (but not subordinate to) a public facility or service, a livelihood or recreational activity, and may therefore contain light physical structures, including those that provide shade or delimit spaces.

Importance of COS in Settlements

With around 100 million people forcibly displaced over the world in 2022, and the average lifespan of refugee camps reaching 20 years, many camps have evolved into city-like settlements. In these contexts, the appropriate planning and design of open spaces are essential for the wellbeing of displaced populations and the sustainability of settlements on the long-term.

While their value is often underestimated, Communal Open Spaces (COS) are crucial for the protection of refugees and displaced populations. Their proper integration into settlements promotes social interaction and supports violence mitigation. These spaces strengthen social integration, a sense of community, and the resilience of displaced populations. COS are also conducive to supporting livelihood activities and environmental protection, as well as benefiting physical and mental health.

HIERARCHY

Public COS:

Open to all users; easily accessible; no enclosure used at different times of the day; located in highly active places promoting (large) social gatherings.

Semi-public COS:

May be open to all users; promoting specific activities targeting specific groups; may include some type of enclosure; usually smaller than public COS.

Semi-private COS:

Higher degree of privacy; users defined by proximity or activity; may offer shared services; may be enclosed; usually the smallest type of COS.

MAIN COS TYPOLOGIES

Typologies are context-specific

The design and planning of each refugee or IDP settlement is unique. The social and environmental context, as well as the needs of the displaced population, should determine the quantity, types and morphologies of COS required.

Plazas, Squares and Courtyards

Generally uncovered, unbuilt, sparse or unplanted spaces, used for multiple purposes, events and activities depending on their location within the settlement. They can be of small to medium size (e.g. small squares, courtyards) and serve part of a neighbourhood, or of large size (e.g. large squares, plazas) and serve big public gatherings. They can include seated areas or be associated with public buildings such as community or religious buildings (e.g. public market plazas, community squares, etc.).



Green Spaces

Characterized primarily by vegetation, partially or completely covered with grass, trees, shrubs etc. May also contain water features. (e.g. Community gardens, parks and planted areas). In some cases, and depending on their design and use, buffer zones can be considered green COS.

Outdoor Sports Areas

A wide range of facilities in open areas whose surfaces can be modified to suit their function (e.g. football fields).

Outdoor Children's Areas

Specifically directed to promoting physical activity and entertainment for children (and not subordinated to a school, child-friendly or educational facility), (e.g. public playgrounds).



Equitable distribution & clear hierarchy

Design and planning of settlements should favor an equitable distribution of COS, providing a variety of types that target all groups in proportion to their needs.

A clear hierarchy provides smooth levels of transition between the public and the private spheres, with various degrees of intimacy and usage, while allowing for interaction and communication.

The hierarchization of COS can be directly linked to the spatial scale defined by the settlement modular approach in the UNHCR Emergency Handbook and Master Plan Approach:

- Settlement scale: public COS (e.g. plazas or large green areas).
- Sector scale: public or semi-public COS (e.g. plazas or sport fields).
- Block scale: semi-public or semi-private COS (e.g., squares, community garden, playground).
- Community scale: semi-private COS (e.g., courtyard or kitchen garden).



Adequate size & distance

The size of a COS is a critical feature that directly impacts its usability. Dimensions should relate to the targeted activity, purpose and number of users. While the size of green areas will depend on various aspects including the existing natural features, there are international recommendations for sizing of outdoor sports or children's play areas.

Plazas, squares and courtyards dimensions vary greatly, as they are conditioned by the targeted population, cultural preferences, space availability, foreseen usage and surrounding urban morphology. In general, smaller and more frequented spaces are preferable to larger ones.

Furthermore, and according to UNHabitat and other current renowned urban theorists, residents should ideally have access to open/green spaces within a **300-500m walking distance** from their houses.

Low-risk Unbuildable Areas

Spaces that, due to their natural attributes (e.g. gullies, watercourses, steep hills, etc.), cannot be built upon but are often used periodically for various outdoor activities without presenting a risk to the population (e.g. areas prone to short-term floods, used as gathering spaces).



Cox's Bazar, Bangladesh - ©UNHCR/Sultan Mahmud



Zaatari Refugee Camp, Jordan - ©UNHCR/Yousef Alhariri

[Other Potential COS]

Residual Areas

Residual areas are generally not considered COS as they were not designed as such. In protracted and highly dense settlements, these undefined residual spaces can prove to be precious public spaces, as they become essential for gathering, recreational or small-scale commercial opportunities for displaced communities (e.g., undefined spaces between public facilities).

Convertible Circulation Areas

Circulation spaces that can be used for temporary or sporadic activities such as meetings, events (i.e. weddings), recreation or economic activity. Such flexible spaces can regain their primary function in a few minutes (for instance in an emergency).

Collective Seated Areas

Usually small spaces with seated areas, intended as meeting and waiting points (e.g. waiting areas for public transport).

Adjacent Spaces to Circulation

Located at the sides of roads or as extensions of pavements whose public use does not impede vehicular or pedestrian circulation. Most often used on an ad hoc basis for informal small-scale commercial purposes (e.g. sales stalls).

Not considered as Cos:

- *Circulation Elements (streets, roads, and alleys).*
- *Open Spaces within or subordinated to public facilities (Markets, school courtyards, etc.).*
- *Spaces associated with main infrastructures (water tanks, wastewater treatment areas, etc.).*
- *Non-buildable high-risk areas (with steep topography, at high risk of landslides or flooding).*
- *Protected ecological areas (natural reserves, etc.).*
- *Vacant/expansion areas (areas reserved for the possible expansion or incorporation of new facilities and/or their subordinated open spaces).*



Kalobeyei Integrated Settlement, Kenya
©UNHCR/Samuel Otiendo

Land-Use proportions of COS:

Currently, there is no specific land use ratio targeted for COS in settlement planning. The UNHCR Master Plan Approach recommends reserving 15-20% for public spaces, but this figure includes both open spaces and public facilities. International recommendations for open spaces in urban contexts suggest considering 15%-20% for open spaces (including green areas).

Several factors can affect these proportions: topography or other natural features, urban morphology, housing schemes, density, services found in the host communities, cultural traits, etc.

ENVIRONMENTAL CONSIDERATIONS

Including environmental considerations in the design and planning of COS helps to support and maintain the ecological balance of the natural environment and to address the risks produced by climate change and hostile environments.

The design of COS should follow natural landforms and use permeable, traditional and natural materials. Furthermore, they have a major role to play, either through their vegetation or as a strategic part of the

infrastructure network to protect the natural and inhabited environment. As a supportive effort, COS have the potential to:

- Reduce pollutants (incl. CO₂)
- Regulate temperature
- Mitigate flood risks
- Protect areas from wind and erosion
- Recover landscape and wildlife natural habitat
- Reduce conflict over the use of natural resources

CONTEXT STRATEGY

Every cultural and social context is unique. It is therefore important to integrate cultural traditions, social practices and climate into the design of COS, as well as following technical and urban planning standards. The following section provides key concepts and elements that contribute to the appropriate design and planning of COS.

→ **Participatory Design:** a bottom-up approach with participatory planning ensures community engagement and identification, creating safer, more equitable spaces, as well as better maintained, (self) organized and functional design.

→ **Accessibility and Interconnectivity:** accessibility depends on closeness to the COS & interconnectivity, both crucial to promoting equity and inclusion of vulnerable groups.

→ **Diversity and Inclusion:** a mix of activities and user groups encourages interaction. COS must provide spaces appropriate to various groups' needs, considering age, gender and diversity, while preventing conflicts and exclusions.

→ **Protection and Safety:** gradual transition of private to public sphere provides security & belonging, while greater interaction increases vigilance and collective responsibility, reducing crime and vandalism.

→ **Attractiveness and Comfort:** physical parameters can invite or inhibit communication between people. Human-scale and culturally adapted spaces increase well-being.

→ **Flexibility and Evolution:** a flexible space allows for multiple types of users and more frequent interaction. The improvement of open spaces is an evolving process, based on the community's own coping strategies.