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## Unit: - V

**Perspective Drawing and Town Planning-** Elements of perspective drawing involving simple problems, one point and two point perspectives, energy efficient buildings. Concepts of master plan, structure plan, detailed town planning scheme and action plan, estimating future needs - planning standards for different land use, allocation for commerce, industries, public amenities, open areas etc., planning standards for density distributions, density zones, planning standards for traffic network, standard of roads and paths, provision for urban growth, growth models, plan implementation, town planning legislation and municipal acts, panning of control development schemes, urban financing, land acquisition, slum clearance schemes, pollution control aspects

### Elements of perspective drawing involving simple problems

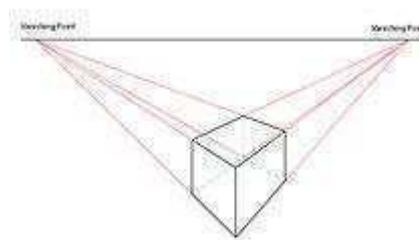
**PERSPECTIVE DRAWING** is a technique used to represent three-dimensional images on a two-dimensional picture plane. In our series of lessons on perspective drawing we explain the various methods of constructing an image with perspective and show how these are used by artists and illustrators.

#### One-point perspective

A drawing has one-point perspective when it contains only one vanishing point on the horizon line. This type of perspective is typically used for images of roads, railway tracks, hallways, or buildings viewed so that the front is directly facing the viewer. Any objects that are made up of lines either directly parallel with the viewer's line of sight or directly perpendicular (the railroad slats) can be represented with one-point perspective. These parallel lines converge at the vanishing point.

#### Two-point perspective

A drawing has two-point perspective when it contains two vanishing points on the horizon line. In an illustration, these vanishing points can be placed arbitrarily along the horizon. Two-point perspective can be used to draw the same objects as one-point perspective, rotated: looking at the corner of a house, or at two forked roads shrinking into the distance, for example. One point represents one set of parallel lines, the other point represents the other. Seen from the corner, one wall of a house would recede towards one vanishing point while the other wall recedes towards the opposite vanishing point.



#### Three-point perspective

Three-point perspective is often used for buildings seen from above (or below). In addition to the two vanishing points from before, one for each wall, there is now one for how the vertical lines of the walls recede. For an object seen from above, this third vanishing point is below the ground. For an object seen from below, as when the viewer looks up at a tall building, the third vanishing point is high in space.



### Four-point perspective

Four-point perspective, also called infinite-point perspective, is the curvilinear (see curvilinear perspective) variant of two-point perspective. A four-point perspective image can represent a 360° panorama, and even beyond 360° to depict impossible scenes. This perspective can be used with either a horizontal or a vertical horizon line: in the latter configuration it can depict both a worm's-eye and bird's-eye view of a scene at the same time.

### Energy efficient buildings

1. the energy needed to fulfill the user's requirements for heating, lighting, cooling etc., according to levels that are specified for the purposes of the calculation
2. The "natural" energy gains – passive solar, ventilation cooling, daylight, etc. together with internal gains (occupants, lighting, electrical equipment, etc.)
3. the building's net energy use, obtained from and along with the characteristics of the building itself
4. the delivered energy, represented separately for each energy carrier, inclusive of auxiliary energy, used by heating, cooling, ventilation, hot water and lighting systems, taking into account renewable energy sources and cogeneration. This may be expressed in energy units or in units of the energy ware (kg, m<sup>3</sup>, kWh, etc.)
5. renewable energy produced on the building premises
6. generated energy, produced on the premises and exported to the market; this can include part of
7. represents the primary energy usage or the CO<sub>2</sub> emissions associated with the building
8. represents the primary energy or emissions associated with on-site generation that is used on-site and so is not subtracted from
9. represents the primary energy or CO<sub>2</sub> savings associated with exported energy, which is subtracted from

### Concepts of master plan

A master plan is an overarching planning document and spatial layout which is used to structure land use and development. 'Master plan' is an all-encompassing term. Its scope can range from 10 year implementation at the regional scale, to an illustrative plan of small scale groups of buildings. There is no formal process for master planning and every design team will have their own individual approach. In order to demonstrate the opportunities for maximizing the benefits of combining Suds with the design vision, a typical master planning process has been developed, and it is shown here. Stages A – B form the preparation stages of the process, where the brief for the master plan is developed and the baseline analysis is conducted. Stages C – E step through the design process, moving from strategic land use arrangements to a concept design of streets and buildings. Broadly speaking, there are three key land use components to consider in the master planning process as design moves towards more detailed proposals

## Concepts of structure plan

**Structure Planning** is a type of spatial planning and is part of urban planning practice in the United Kingdom and Western Australia. A structure plan in any jurisdiction will usually consist of a written component, supported by maps, photographs, sketches, tables and diagrams and a 'plan' component consisting of one or more plans illustrating land use and infrastructure proposals for the area being planned.

### Detailed town planning scheme and action plan

**DETAILED PLANNING SCHEMES** Currently, there are many approved detailed planning schemes, some of which have been implemented but there are many more planning schemes which have not been adopted for implementation. Consequently spatial growth proceeds unguided with conspicuous negative implications to people and the urban environment. This situation is a result of the following reasons, among others:

- Inadequate involvement of stakeholders in plan making
  - Disregard of land rights and other interests in land during plan preparation
  - Planning schemes are not displayed in affected localities
- Lack of awareness about existence of a planning scheme
- Schemes are not prepared in a form that display the expected spatial outlook (image)
- Schemes are not accompanied by infrastructure investment plans and budgets
  - Lack of resources for settlement of third party interests to secure public land and carry out cadastral survey
  - Poor coordination among developers and utility agencies
- Poor enforcement of development control measures there are however potentials that could be harnessed to redress the situation such as the high demand for building land and the existence of resources among potential developers. The aim and objectives of these guidelines are thus to facilitate preparation and implementation of detailed planning schemes for new areas which will create conducive environment for human habitation and contribute to sustainable development.

### Planning standards for different land use

Various types of planning have emerged over the course of the 20th century. Below are the six main typologies of planning, as defined by David Walters in his book, *Designing Communities* (2007):

- *Traditional or comprehensive planning*: Common in the US after World War II, characterized by politically neutral experts with a rational view of the new urban development. Focused on producing clear statements about the form and content of new development.
- *Systems planning*: 1950s–1970s, resulting from the failure of comprehensive planning to deal with the unforeseen growth of post-World War II America. More analytical view of the planning area as a set of complex processes, less interested in a physical plan.
- *Democratic planning*: 1960s. Result of societal loosening of class and race barriers. Gave more citizens a voice in planning for future of community.
- *Advocacy and equity planning*: 1960s & 70s. Strands of democratic planning that sought specifically to address social issues of inequality and injustice in community planning.

- *Strategic planning*: 1960s-present. Recognizes small-scale objectives and pragmatic real-world constraints.
- *Environmental planning*: 1960s-present. Developed as many of the ecological and social implications of global development were first widely understood.
- *Tenure responsive planning*: 2015-onwards. It recognizes that land use planning should be collaborative but with the purpose of tenure security improvement. This is a hybrid approach whereby traditional, advocacy, democratic and bottom-up efforts are merged in such a way that they focus towards tenure security outcomes.

Today, successful planning involves a balanced mix of analysis of the existing conditions and constraints; extensive public engagement; practical planning and design; and financially and politically feasible strategies for implementation.

Current processes include a combination of strategic and environmental planning. It is becoming more widely understood that any sector of land has a certain capacity for supporting human, animal, and vegetative life in harmony, and that upsetting this balance has dire consequences on the environment. Planners and citizens often take on an advocacy role during the planning process in an attempt to influence public policy. Due to a host of political and economic factors, governments are slow to adopt land use policies that are congruent with scientific data supporting more environmentally sensitive regulations.

Since the 1990s, the activist/environmentalist approach to planning has grown into the Smart Growth movement, characterized by the focus on more sustainable and less environmentally damaging forms of development.

### Estimating future needs

- Mortality forecasting models assuming well-established cohort patterns, for instance for the 1930s 'golden generations', are oversimplified and considerably less firm than often claimed. The assumption that improvement in mortality will slow down may require re-consideration
- Policies on long-term care have influenced alternative living arrangements for older people, even though the trend towards residential independence continues
- Demand for informal care by disabled older people from their adult children is projected to rise faster than supply over the next 20 years, with a 'tipping point' reached after 2017
- The numbers of disabled older people will increase sharply, but the average number of years people live with disability will not alter
- Halving dementia-related disability could reduce the size of the disabled older population by 10 per cent. A shorter period of disability at the oldest ages seems attainable, but only through halving the prevalence of major diseases which would require major advances in preventive and treatment strategies
- Changing demographics will affect family relationships and availability of kin, and lead to patterns of more complex relationships involving step-children, half siblings and former partners
- Despite high mortality rates, 36 per cent of women and 26 per cent of men in institutional care in 2001 were still alive three years later - a finding relevant to both families and service providers planning financing of care.

## Allocation for commerce

E-commerce has become one of the fastest-growing industries in the past few years. As per the stats, 60% of buyers plan to spend more money via online shopping. There is no doubt that developing an e-commerce website is the latest trend for online businesses. In this blog, we will analyze the 6 key factors to the success of an online store.

### 1. Platform and Theme

Choosing an appropriate platform is the first and foremost step you need to do to build a sales-driven e-commerce site. There are various platforms to choose from: WordPress, Magneto, Shopify, Joomla, Drupal, Zen Cart, Open Cart, ecommerce, etc.

WordPress is considered to be one of the best platforms for e-commerce websites. Nowadays, WordPress is not only used for blogging; it is also used for news magazine, portfolio and e-commerce purposes. Its popularity can be shown by the fact that there are over 140 million installations of WordPress. One-sixth of all sites, in the top million sites by traffic, are powered by WordPress. WordPress easily integrates e-commerce themes and plugins to customize the appearance of the frontend and functionality in the backend, and therefore maximize e-commerce functionalities.

## Allocation for industries

The free allocation for each installation is calculated using benchmarks developed for each product, as far as possible. The current 54 benchmarks (52 product and 2 so-called fallback approaches based on heat and fuel) were elaborated based on extensive technical work.

Generally speaking, a product benchmark is based on the average greenhouse gas emissions of the best performing 10% of the installations producing that product in the EU.

The benchmarks are based on the principle of 'one product = one benchmark'. This means that the methodology does not vary according to the technology or fuel used, the size of an installation, or geographical location.

Installations that meet the benchmarks, and are therefore some of the most efficient in the EU, will in principle receive all the allowances they need to cover their emissions.

Installations that do not reach the benchmarks will receive fewer allowances than they need. They will have to

- reduce their emissions,
- buy additional allowances or credits to cover their emissions, or
- Combine these two options.

## Allocation for public amenities

**Storm water:** Signify cant sections of the Downtown CRA were developed prior to the new storm water control requirements adopted by the City. Therefore, a large amount of the storm water in the Downtown runs directly into Lake Dora without any retention. The City has adopted Land Development Regulations that comply with both Lake County and St. John's River Water Management District storm water regulations. The City is currently preparing Storm water Master Plan Update encompassing all lands within the City limits, including the redevelopment area. In order to attract private sector investment into Downtown while at the same time ensuring that the storm water runoff is addressed at a regional level,

the Plan recommends that the City/ CRA should work with the St. Johns Water Management District to provide for a master storm water permit for the entire Downtown redevelopment area. The area-wide master storm water permit would streamline the process and eliminate the need for individual property owners to obtain permits from the various permitting entities.

**Water, Sewer and Wastewater Systems:** The City of Tavares anticipates the need to treat 2.698 million gallons per day (MGD) of wastewater in its service area within 10 years. The City is currently working on a long-range Master Plan to determine build-out, as well as coordinate the population projections of the Comprehensive Plan with those currently under study by Lake County for use in the Metropolitan Planning Organization traffic studies. Although the existing wastewater treatment facilities is considered adequate to meet the current demands, the Plan recommends that the City should conduct a detailed study to expand existing pumping station capacities to accommodate the projected increase in densities recommended in this Plan. Since the City's first wastewater treatment system was constructed in 1971, there are many structures that still are not connected to the City's treatment plant. When the treatment plant was made operational, all structures with waste disposal facilities were to connect to the plant. During the period of connection, some of the structures were not connected because of problems with getting the sewage to the sewer lines or because individual property owners did not comply with the requirement to connect all sewage disposal facilities to the sewer lines. The Plan recommends that the City continue with its efforts to eliminate all septic systems within the City limits.

### **Allocation for open space**

These guidelines constitute a companion document to the UMBC Policy on Space Allocation and both documents should be consulted when making office space allocation and reallocation decisions.

#### **Principles**

- All faculty and staff will be provided with a suitable working environment for the type of work they perform.
- Office space will be provided to units to support adequately their core missions and functional needs.
- Office space, like all space, is a University property that will be allocated to a given unit, as available, in a manner that best advances University priorities. No unit "owns" the space that has been allocated to it.
- Office space allocations are made to units, not to individuals.
- Office space, like all University space resources, should be deployed in the most efficient and effective manner to best serve programmatic and strategic goals.
  - Each unit should manage its office space needs within the space that has been allocated to the unit at any given time.
- Existing office space should be used to maximum functionality and efficiency.
- Shared office and open office arrangements are encouraged whenever possible to efficiently use the campus' limited space.
- Conference rooms and office service spaces are encouraged to be shared among one or more units whenever possible to maximize space utilization.
- Office space that has been allocated to a unit can be reassigned to another unit in response to University needs and priorities.
- Responsibility for assignment and reassignment of office space will generally follow divisional hierarchy. The ability to allocate and reallocate office space within a given division resides ultimately with the

corresponding division Vice President/Dean or his/her designee. Unit heads (chairs, directors) have the responsibility to address office space needs within their respective units.

- Office space vacated due to a substantial reduction in program size, reduction in workforce, or program elimination resulting in office space being unoccupied (refer to next section for further guidance) reverts back to the university space pool. The Provost is responsible for ensuring that a process for reassignment of vacant space is established.

- Office space vacated due to a unit's relocation to another building, floor, or suite reverts back to the university space pool. The Provost is responsible for ensuring that a process for reassignment of the vacant space is established. Guidelines for Allocation of Office Space

- In general, the office space allocation priorities are as follows:

- (1) Tenured, tenure-track, full time non-tenure track and research faculty and unit full-time staff requiring a high level of privacy for working on confidential matters or meeting with students, staff and others;

- (2) Active adjunct, visiting and part-time faculty, and unit part-time staff; and

- (3) Postdoctoral fellows, graduate students supported through teaching or research assistantships, active emeritus/retired faculty.

- Offices may be private, shared, open, or in cubicles as appropriate and available.

- The accompanying table outlines the recommended office sizes and types for specific employee categories. For current offices, the types and sizes will necessarily vary from these recommendations due to existing building configurations and availability of appropriate spaces. For new buildings, these recommendations will serve as the standard for programming new space.

- Offices will be assigned based on need, availability, and suitability for the intended use.

- Assignment of multiple offices for faculty and staff is not allowed unless there is a true demonstrated need. Under such circumstances, a faculty or staff member may be assigned a secondary office (ideally in a shared arrangement), provided it is not located in the same building as the primary office. All decisions related to multiple offices will be made on a case-by-case basis and require the approval of the appropriate Vice President/Dean in consultation with the Provost.

- Post-doctoral scholars, graduate students and part-time faculty and staff should be assigned office space in a shared office arrangement.

- Each unit should ensure that all offices are occupied. When offices are left unoccupied for significant periods of time, such as during sabbaticals or other leaves, units should use these spaces to alleviate pressing space needs. If an office space remains under-utilized for a period longer than one year, the unit may be required to provide a justification for maintaining use of the space.

- Emeritus/retired faculty and staff may be provided shared offices, if space is available within a unit, as long as they remain engaged in unit activities. These shared offices are intended to allow an individual to maintain contact with their unit, discipline and colleagues. An emeritus/retired faculty or staff member actively engaged in teaching or research may retain a private office at the discretion of the unit, if space is available.

- When possible, if units desire to consolidate their space assignments for reasons of academic interaction and administrative efficiency, contiguous spaces will be provided. However, close proximity cannot be guaranteed depending upon the space and financial resources available at any given time.

- Periodic evaluation of office space allocation should be made by the unit head to insure that all office space is being used to maximum functionality and efficiency.

- Official space inventory reports recording all office space allocations will be maintained by Facilities Management.
- To support an accurate and complete record of space allocations, units will verify to Facilities Management on an annual basis its office space allocation and names of personnel assigned to occupy specific rooms.
- The Provost's Office will periodically request Facilities Management to evaluate and analyze the adequacy of a unit's office space allocation based upon criteria such as the number and types of personnel, the location, functional layout, and changes in programmatic needs.
- Office space may not be assigned to non-campus organizations without prior approval from the appropriate division head and the Office of the Provost.

### **Objectives and Functions of Residential Density Guidelines**

1. Residential density is a quantitative measure of the intensity with which land is occupied by either development or population. Control of residential density is a fundamental component of effective land use planning, as the relative distribution of population has major implications for the provision of public facilities, such as transport, utilities and social infrastructure.
2. In order to boost the short- to medium- term land supply for housing use, there is a need to make efficient use of the scarce land resources, in particular land more immediately available for development within a shorter timeframe, by maximizing the residential density to the extent permitted by planning terms in order to augment the supply of land in Hong Kong and living space of Hong Kong people.
3. In the 2014 Policy Address, the Government announced that, except for the north of Hong Kong Island and Kowloon Peninsula which are more densely populated, the maximum domestic plot ratios that can be allowed for housing sites located in the other Density Zones of the Main Urban Areas and New Towns would be raised generally by about 20% as appropriate. In accordance with the established practice, the Government will duly consider factors such as traffic and infrastructural capacity, local characteristics, existing development intensity and various possible impacts of the proposed development in the area concerned. The 2015 Policy Address also mentions that the Government will increase development intensity as appropriate in order to optimize land use.
4. The maximum plot ratios in the relevant Density Zones should not be considered as an automatic and across-the-board specification, but a general guidance for the maximum plot ratio to be considered or tested for individual sites for residential development in the planning process where there is scope to allow such an increase in terms of infrastructure capacity and planning considerations, that is, where planning terms permit.
5. **The main objectives of density policy are:**
  - (a) to promote an acceptable standard of environment and amenity for the occupants of residential areas;
  - (b) to ensure an appropriate balance between the residential population of an area and the capacity of the existing or planned facilities and infrastructure required to service it;
  - (c) to maintain an efficient intensity of land use and make the optimal use of land resources

in the context of competing demands on a limited supply of developable land;

- (d) to maintain safe levels of development and population in areas where there may be potential risks due to adverse geotechnical conditions, neighboring hazardous installations, etc.;
- (e) to provide for a variety of urban form for urban design reasons and to satisfy the demands of different market sectors; and
- (f) particularly in rural and/or heritage and nature conservation areas, to ensure development is of an appropriate scale in relation to its setting

### **Density zones**

**Zoning** is the process of dividing land in a municipality into zones (e.g. residential, industrial) in which certain land uses are permitted or prohibited.<sup>[1]</sup> The type of zone determines whether planning permission for a given development is granted. Zoning may specify a variety of outright and conditional uses of land. It may also indicate the size and dimensions of land area as well as the form and scale of buildings. These guidelines are set in order to guide urban growth and development.

The theoretical and practical application of zoning can be divided into categories. Countries around the world utilize different types of zoning.

### **Types of Zone**

#### **Land Use Zoning**

Basically, urban zones fall into one of five major categories: residential, mixed residential-commercial, commercial, industrial and spatial (e. g. power plants, sports complexes, airports, shopping malls etc.). Each category can have a number of sub-categories, for example, within the commercial category there may be separate zones for small-retail, large retail, office use, lodging and others, while industrial may be subdivided into heavy manufacturing, light assembly and warehouse uses. In Germany, each category has a designated limit for noise emissions (not part of the building code, but federal emissions code).

In the United States or Canada, for example, residential zones can have the following sub-categories:

1. Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including: boarding houses, hotels, motels
2. Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including: apartment houses, boarding houses, convents, dormitories.
3. Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including: buildings that do not contain more than two dwelling units, adult care facilities for five or fewer persons for less than 24 hours.
4. Residential occupancies where the buildings are arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants.

## Planning standards for traffic network

There are two principle areas of road planning, via, residential and arterial, the latter being the major distribution system to the local street network. This Chapter primarily provides guidelines for road planning in residential neighborhoods, whilst the reference documents and Planning and Land Management (PALM) should be consulted for planning of the rural and urban arterial road systems. A fundamental requirement of the planning process is for designers and planners to determine networks that respond to the following inputs:

- Environment.
- Environmental sustainability
- Demography and demographic trends.
- Neighborhood identity.
- Integration of movement modes.
- Recreational / community needs.
- Strategic residential planning.
- Public transport issues.
- Pedestrian and cyclist requirements, including access for disabled persons.
- Whole of life costs. The road transport network should:
  - Reflect a broad based (e.g. metropolitan / district level) land use / transportation strategy.
  - Translate that strategy into a series of movement routes and elements that perform desired functions, such as those listed above.

The spectrum of movement elements range from high level roads (high volumes, high speeds, and no travel constraints) to low level streets and places (low volumes, low speeds, shared spaces, human scale and interconnectivity). It is not the intent of this document to provide design and planning advice for town planning other than that which is necessary for practitioners to understand the role of road networks in the overall transport system. In this context the Integrated Land Use and Transport planning in the ACT discussion paper (PALM, 1999) outlines directions for accessibility. A key Guiding Principle of Accessibility is that movement around the city by walking, cycling, public transport and driving should be easy and accessible. Priority should be given to the needs of transport modes in the following order of precedence:

- Walking
- Cycling
- Public Transport
  - Commercial Vehicles
- Private cars

## Standard of roads and paths

- (1) The purpose of this chapter of the policy is to support the provisions of the Reconfiguration Code and the Infrastructure Works Code for the design of roads and paths under the planning scheme.
- (2) In supporting these codes this chapter augments the provisions of the following -
  - (a) *Queensland Streets*;
  - (b) *Queensland Urban Drainage Manual (QUDM)*;
  - (c) *AUSTROADS Parts 13 and 14*;
  - (d) Department of Main Roads design manuals.

## Applicability

This chapter applies to all applications under the planning scheme for construction of new roads and paths, or alterations to the design of existing roads or paths within the planning scheme area.

## Road Function, Width and Movement Network Design

### General

- (1) The local government's approved specifications for road construction works conforms to *AUS-SPEC # 1 - Construction*, except as amended in this policy.
- (2) The use of the word road in this chapter may also include streets but not vice versa.

### Streets

- (1) Streets are designed in accordance with the requirements of *Queensland Streets* except as specifically described in relation to conditions of reconfiguration approval for developments, or as specified in this chapter of the policy.
- (2) *Queensland Streets* is the principal document for the design of reconfiguration layouts. This chapter of the policy is intended to augment this document and takes precedence.

### Roads

- (1) Where conflict exists, this chapter of the policy takes precedence.
- (2) Roads are designed in accordance with the requirements of -
  - (a) *Queensland Streets*;
  - (b) *Queensland Transport Design Manuals*;
  - (c) *AUSTROADS*;
  - (d) This chapter of the policy.
- (3) Industrial uses, commercial uses and park residential roads are designed based on -
  - (a) *Queensland Streets*;
  - (b) This chapter of the policy;
  - (c) *AUSTROADS*;
  - (d) Department of Main Roads design criteria.
- (4) Park residential streets are those streets serving areas zoned Park Residential in the planning scheme. Commercial streets are those streets servicing commercial activity in the planning scheme.

### Provision for urban growth

In the next 40 y, the number of urban dwellers in the developing world is forecast to grow by nearly 3 billion

(1). While this urban demographic transformation is unfolding, climate change is expected to affect the global hydrologic cycle. Anthropogenic emissions of greenhouse gases will likely raise average global temperatures, with temperature changes expected to be greater near the poles than the equator. Climate change will also likely alter precipitation patterns, with some areas becoming wetter and others becoming drier

(2). for some regions, climate and demographic trends will present a fundamental challenge: how will water be provided on a sustainable basis for all those new urbanites?

Freshwater provision to urban residents has three components: water availability (is there enough water nearby?), water quality (how much treatment is needed before it is clean enough to use?), and delivery (are systems in place to bring water to users?)

(3). this article examines only the water availability component, recognizing that for many cities challenges of water quality and delivery are paramount. Throughout this article, "water availability" and "water

shortage" refer solely to the amount of water physically available, not accounting for issues of water quality and delivery. In a sense, our estimates of water shortage are conservative: we assume cities can use all nearby water and map where problems of water shortage are likely to remain.

This article models how population growth and climate change will affect water availability for all cities in developing countries with >100,000 people. These cities had 1.2 billion residents in 2000, 60% of the urban population of developing countries and, according to our demographic projections, will account for 74% of all urban growth globally from 2005 to 2050

Growth model

**Smart growth** is an urban planning and transportation theory that concentrates growth in compact walkable urban centers to avoid sprawl. It also advocates compact, transit-oriented, walkable, bicycle-friendly land use, including neighborhood schools, complete streets, and mixed-use development with a range of housing choices.<sup>[1]</sup> The term "smart growth" is particularly used in North America. In Europe and particularly the UK, the terms "compact city", "urban densification"<sup>[2]</sup> or "urban intensification" have often been used to describe similar concepts, which have influenced government planning policies in the UK, the Netherlands and several other European countries.

Smart growth values long-range, regional considerations of sustainability over a short-term focus. Its sustainable development goals are to achieve a unique sense of community and place; expand the range of transportation, employment, and housing choices; equitably distribute the costs and benefits of development; preserve and enhance natural and cultural resources; and promote public health.

### Plan implementation

An implementation plan breaks each strategy into identifiable steps, assigns each step to one or more people and suggests when each step will be completed. For example, if one strategy is to create a membership campaign, one step might be to design a membership brochure. This project might be assigned to a member of the marketing or development staff and might be planned for completion in December of this year.

If there is no effective method to carry out the strategic plan, the strategic plan is likely to collect dust and can lead to planning backlash, the feeling that planning is a waste of time. In an industry where the scarcity of resources is always a key limiting factor, good planning is essential.

However, creating an implementation plan is challenging. It requires the planner to identify each step required to mount a particular strategy. This activity in itself is a good test of the plan. If one does not know how to implement a given strategy, then the strategy is likely not going to be implemented.

Creating an implementation plan does far more than simply test the ability of the organization to make a strategy happen, however.

### Plan implementation, town planning legislation and municipal acts

Town planning measures may affect the property interest of many individuals as town planning implies certain amount of control over the individual's rights to use his 'property'. Hence, community has to have adequate legal powers to enable it to enforce necessary regulations and control in the use of land for the general good of the community. '

Property' means a certain thing (like land, building, etc.) that is owned. It may be said that 'property' is an intangible interest created and protected by law and governing relations between the owner and others,

including the community as well. In this sense, the owner has 'property' or has 'property interest' in his land. His property interest consists of:

1. 'Right' to keep others off his land,
2. 'Powers' to transfer his land to other, and
3. 'Privileges to use his land.

The owner's privileges to use his land are often affected by town planning measures. These measures have to operate within the 129 following two limits, such that the land owner's privileges and other interests in land or not adversely affected.

1. Planning measures must satisfy the constitutional requirement of procedure established by 'law', in that the regulation must be in the public interest, i.e., they must be directly related to public need, safety and morals or welfare.
2. Town planning measures must be in accordance with the provisions of a statute, which provides legal backing to the local government unity to draw its planning powers. The measures must not exceed the substantial planning powers delegated by the Act to the local planning unit and they must be adopted in accordance with the specified procedures. These are important aspects which should be followed strictly as otherwise courts may 'strike down' all the planning measures as unconstitutional. If procedures are not followed as set down under the rules and regulations, even the measures undertaken with good intentions may become 'invalid' under the law.

### **Panning of control development schemes**

Development control is the process by which authorities manage the extent and nature of growth in local areas. Landowners or leaseholders wishing to develop are typically required to apply to a local authority (depending on the proposal) for permission prior to commencing any development work. Such development control – regulating and managing what is built where, and when – allows authorities to manage land across a large area. It allows authorities to balance competing needs – such as allocating land for farming, while accommodating the growth of cities and towns – and to protect areas with particular values.

Development is mostly controlled by town planning regulations. There are some requirements of national legislation, but most development control is by locally-based zoning and development provisions, in the form of Town Planning Schemes. Schemes set out development provisions specific to land within a designated area. All surveyed land is classified in a 'zone', and the schemes set out what types of development are appropriate in each zone, and the standards and guidelines that apply.

Landowners or leaseholders wishing to develop on their land must apply for Development Permission, and proposals for development must comply with the requirements. When an application is made for Development Permission (to subdivide land or to build), the proposal is assessed by technical experts within the authorities against the provisions of the Scheme. Applications are assessed to manage potential impacts on roads and traffic; public health, safety and amenity; natural environments and systems; and people and lifestyles.

### **Urban financing**

As the world continues to rapidly urbanize, investment in good urbanization holds the key to sustainability. Global challenges like combating poverty, reversing rising inequality, and mitigating climate change will be increasingly won or lost in cities. Financing sustainable urbanization is therefore an investment in our present and future. Local government capacity must be expanded to harness private sector participation,

leverage local assets through value capture, and partner with central governments to invest in urbanization.

Since financing for infrastructure is insufficient, the path to long-term finance is to diversify sources. One source is more private participation. This can be through loans from commercial banks, issuing municipal bonds or implementing Private-Public Partnerships. Brazil, China and India are leading the way (Brazil alone was able to implement PPP for over US\$300 million from 1990 to 2014) but more is needed, especially in rapidly urbanizing countries.

Land-based financing is an underutilized source of funding. Land values typically increase with urbanization and public investment and this “unearned increment” is socially generated. Ways to share this value include value-based annual land taxes, betterment levies, capital gains taxes, developer exactions, and land readjustment. A transparent and up-to-date fiscal cadaster is essential to utilization of such tools.

Creditworthiness attracts funding and supports good governance. By improving creditworthiness, cities embed the principles of good financial management and transparency. This allows them to develop bankable projects and access credit markets. Creditworthiness allows cities to begin to design and utilize complex financial products such as bonds, pooled financing, and access less costly loans from commercial banks and multilateral development banks.

Though the investment needed to meet unmet and growing needs is huge, quality urbanization can also leverage huge benefits which greatly outweigh costs in the long-term. When investment in cities is guided by good urban development and planning principles, it unlocks the potential for endogenous sources of growth, making sustainable development attainable.

Cities are growing and will continue to expand. Planning in advance of urbanization in conjunction with urban finance for implementation will help cities avoid unplanned and informal growth. Urban extension and infill in efficient patterns can reduce diseconomies of agglomeration and support long-term competitiveness.

The implementation of plans for compact, connected, mixed and integrated cities can be made possible by a three-legged approach that joins planning with legal and financial support. Therefore, finance supports good planning, and good planning supports finance through its economic benefits. By linking finance, planning, economic activity and value capture, a virtuous cycle of investment and growth can be created. Building future cities by linking good urban design, effective financing, and good institutions can create growth, jobs and wealth; it also promises the solution to the challenges of climate change and social inequity. Well-planned urban finance and investment can unleash a broader base of economic activities, allowing a wider range of participation in the urban economy and stimulating bottom-up prosperity.

### **Land acquisition**

**Land acquisition in India** refers to the process by which the union or a state government in India acquires private land for the purpose of industrialization, development of infrastructural facilities or urbanization of the private land, and provides compensation to the affected land owners and their rehabilitation and resettlement.<sup>[1]</sup>

Land acquisition in India is governed by the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR) and which came into force from 1 January 2014. Till 2013, land acquisition in India was governed by Land Acquisition Act of 1894. On 31 December 2014, the President of India promulgated an ordinance with an official mandate to "meet the twin objectives of farmer welfare; along with expeditiously meeting the strategic and developmental needs of

the country". An amendment bill was then introduced in Parliament to endorse the Ordinance. Lok Sabha passed the bill but the same is still lying for passage by the Rajya Sabha. On 30 May 2015, President of India promulgated the amendment ordinance for third time. Union Government of India has also made and notified the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Social Impact Assessment and Consent) Rules, 2014 under the Act to regulate the procedure. The land acquisition in Jammu and Kashmir is governed by the Jammu and Kashmir Land Acquisition Act 1934.

### **Slum clearance schemes**

**Slum clearance, slum eviction or slum removal** is an urban renewal strategy used to transform low income settlements with poor reputation into another type of development or housing. The clearance of the slum destroys low income homes as well as illegal squatting sites, displacing inhabitants into different housing areas with the intent of breaking up continuous zones of poverty.

This has long been a strategy for redeveloping urban communities; for example slum clearance plans were required in the United Kingdom in the Housing and Slum Clearance Act 1930. Similarly the Housing Act of 1937 encouraged similar strategies in the United States. Frequently, but not always these programs were paired with public housing or other assistance programs for the displaced communities.

Critics argue that slum removal by force tends to ignore the social problems that cause slums. Poor families, often including children and working adults, need a place to live when adequate low income housing is not providing otherwise. Moreover, slums are frequently sites of informal economies that provide jobs, services, and livelihoods not otherwise available in the community. Slum clearance removes the slum, but it does not remove the causes that create and maintain the slum. Similarly, plans to remove slums in a number of non-Western contexts have proven ineffective without sufficient housing and other support for the displaced communities; for example academics describing such strategies as detrimental in Nigeria, where the slum destruction puts further stress on already short housing stock, in some cases create new slums in other parts of the community.<sup>[4]</sup> Some communities have opted for slum upgrading, as an alternative solution: improving the quality of services and infrastructure to match the community developed in the slum.

### **Pollution control aspects**

#### **The Pollution Control Approach**

The environmental consequences of rapid industrialization have resulted in countless incidents of land, air and water resources sites being contaminated with toxic materials and other pollutants, threatening humans and ecosystems with serious health risks. More extensive and intensive use of materials and energy has created cumulative pressures on the quality of local, regional and global ecosystems.

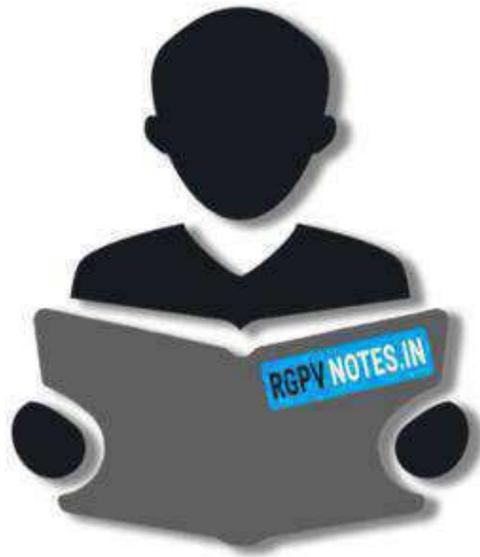
Before there was a concerted effort to restrict the impact of pollution, environmental management extended little beyond laissez-faire tolerance, tempered by disposal of wastes to avoid disruptive local nuisance conceived of in a short-term perspective. The need for remediation was recognized, by exception, in instances where damage was determined to be unacceptable. As the pace of industrial activity intensified and the understanding of cumulative effects grew, a pollution control paradigm became the dominant approach to environmental management.

Two specific concepts served as the basis for the control approach:

- The assimilative capacity concept, which asserts the existence of a specified level of emissions into the environment which does not lead to unacceptable environmental or human health effects
- the principle of control concept, which assumes that environmental damage can be avoided by controlling the manner, time and rate at which pollutants enter the environment

Under the pollution control approach, attempts to protect the environment have especially relied on isolating contaminants from the environment and using end-of-pipe filters and scrubbers. These solutions have tended to focus on media-specific environmental quality objectives or emission limits, and have been primarily directed at point source discharges into specific environmental media (air, water, soil).





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