

THE CONCEPT OF THE URBAN FOREST AS APPLIED TO KUALA LUMPUR, MALAYSIA

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During a number of discussions in the Department of Parks and Recreation regarding the greening, beautification, and reforestation of Kuala Lumpur, I have alluded to an idea or concept of the Urban Forest or as it is sometimes called the Urban Amenity Forest. While it is currently considered, as they say, "the in-thing" in cities and towns in North America, it is, however, a concept, which I believe, has direct and very meaningful application to Kuala Lumpur. Therefore, at the request of Parks and Recreation Director Tuan Haji Khuzaimah, it pleases me to develop the concept of the Urban Forest more fully as I see it applying to the improvement of the quality of the urban environment for Malaysia's Capital City.

The urban amenity forest is a concept that encompasses the landscape or vegetation of a city. The term Urban Forest attempts to provide a new more relevant description that reflects the more natural, lower maintenance, less tailored or cared for, self sustaining vegetation and treed areas that are characteristic of the forest. This is opposed to the more formal and traditional layout of trees, shrubs, and flowers; more tailored and maintained green areas that characterise and are usually associated with, the term garden or garden city. For a variety of reasons the landscape of the modern city needs to change and is changing from one of a garden into one more closely resembling or having the characteristics of a forest landscape.

Rather than continue documenting this as it might apply generally it may be best to determine why it is an appropriate landscape concept for Kuala Lumpur and secondly what components or characteristics of the Urban Forest concept are suitable for use in Kuala Lumpur to achieve an amenity forest landscape for the city.

The objective of the Amenity Forest concept is to provide an improved and quality environment that will make living and working in the city pleasant and enjoyable.

There is a three fold responsibility that Kuala Lumpur must meet to provide greening that will produce this quality environment for the city's residents. As it is the capital of Malaysia, it has to become the standard for all other Malaysian cities. In addition, it is also a special show place in the eyes of the rest of the world as a National Capital.

Kuala Lumpur needs to adopt the Urban Forest Landscape concept because it is becoming increasingly more expensive to develop, manage, and maintain the traditional gardens and landscapes that require specialized or constant care and attention along with supplemental watering during drought periods, weekly mowing of grass, trimming, pruning and shaping of shrubs, daily raking of leaves and seasonal replacement of flowers. These types of landscapes must be reduced and replaced with less labour intensive landscapes and so that labour can be redirected and used more productively on other parks and recreation activities that provide more direct service to people. The ideal Urban Forest concept for the landscape of the city if properly thought out, developed, applied, and managed will be a natural acting and developing plant ecology. This ecology will require a minimum of care once established and so will tend to maintain itself. Trees and other vegetation would be self pruning for the most part. Raking of leaves also should not be necessary nor should there be any expensive mowing of grass in areas that are steep, on difficult or isolated terrain. There is already a natural regenerating ecology that occurs in Kuala Lumpur that is well on its way to meeting this urban forest concept. Three of the plants that make up this forest ecology have an ability to survive and flourish and are also very acceptable visually. *Wormia* with its shiny leaves and yellow flowers, *Melostoma* (*senduduk*) also with its large purple flowers and shapely bush form, along with the *Gleichenia* fern that makes a fine dense and most attractive ground cover. What better start for adding mid-canopy trees like the

wild mango and tree Hibiscus and tall-canopy trees like the forest *Eugenia*s along with groups of the national flower, the Hibiscus in forest edge plantings in the more close up and highly visible areas.

The shape, form, and disposition of Kuala Lumpur are created by the irregular and interesting topography of hills, river, and stream valleys throughout the city area. The informality and naturalness characteristic of the urban forest concept is perfectly adaptable to this informal character and layout. The specific sites for buildings, streets, and highways are informal, irregular organic forms that lack the formality and the rigidity produced by the grid layout. This does not mean Kuala Lumpur is lacking any in grandeur, far from it. The irregular topography and informality of layout give the city very special visual qualities. These can be best enhanced by the most organic and natural of things, the large individual trees and the forest landscape. The informal forest landscape is more appropriate to Kuala Lumpur than the more traditional straight rows of trees and formal plantings of street and boulevard trees common in the more rigid grid pattern cities of North America. In addition, the modern expressway separated major connector streets and perimeter loop roadways create steep banks, slopes and islands of lands not easily accessible physically but highly accessible visually. These traffic facilities also create many narrow strips of land with steep slopes and a variety of odd and irregular shaped areas. These areas are suitable locations for groups, clumps, and small groves of forest trees, forest understory shrubs and ground covers that require no special care or attention and requiring the very minimum amount of maintenance. This arrangement will create an ecology or plant association which is interesting visually and has an appropriate scale and size in relationship to the roads and streets. Thickets of trees in these spaces are the only type of vegetation that can give this appropriate scale.

Vines and creepers are a main constituent of the tropical forest. They have been little used as ground covers on steep slopes or to clothe the many hard and sometimes very large concrete surfaces of retaining walls, overpass columns, and bridge abutments occurring, throughout the

city. Vines and creepers can 'humanize' and make visually attractive and colourful what otherwise is a dull, ugly, dead surface. The vigor and lushness of many tropical forest vines has precluded their use in the traditional garden but they are most suitable for the clothing of the large, ugly, but necessary walls that are a part of the city's highways, freeways, ramps, overpasses, and all the other paraphernalia associated with traffic and vehicular movements.

The size, height, spread, and mass of only very large old trees, or forest groves are appropriate to mitigate and enhance the urban architectural structure of Kuala Lumpur. There is an overwhelming scale to 30 story towers with attached blocky undistinguished three or four story car-park structures along with their access driveways. The latter, while convenient, are damaging visually to the street. Only a landscape of bulk and size at least half of the structure area (footprint) is in any way a meaningful one. Narrow planting slots at walls, on-structure dinky window boxes and roof gardens are not places to grow this forest or for that matter a meaningful urban landscape. This type of landscape becomes only a decoration like paint or tile on a wall surface. What is really needed is a landscape which is structure, not decoration, to make the transition and provide the mitigation necessary to provide a habitable environment for people. The urban forest concept where large old trees have been retained is the only valid concept of landscape for these large urban structures.

The creation of a liveable city requires that these dominating towers must visually borrow from the city surroundings. An example of this is Bukit Nanas (Pineapple Hill) which provides an appropriate size urban forest area shared by a number of the towers that cluster around it. However, the 27 acres of this forested hill is quite insignificant and almost a diminutive bump in relation to the group of hotel towers now crowding around it and these seem now, to overly visually dominate the hill. It would help a great deal to mitigate this domination if the lower open grassed slopes of Bukit Nanas along Sultan Ismail Street (Jalan Sultan Ismail) were heavily forested right down to the sidewalk so that the mass and landscape structure of the hill is increased at this

lower street level. The Bukit Nanas urban forest area is also a fine example of a forest landscape which is virtually taking care of itself, requiring only a very minimum of maintenance and that not required of the trees and landscape itself but only as a result of people leaving trash and vandalizing the area.

In view of the foregoing, it might well be fruitful to examine the landscape and grounds space requirements for all proposals for buildings over one story high with a view to requiring developers to provide, at street and ground level 'instant' groves of large trees and a more suitable and adequate amount of 'public face' landscape. The developer should also be encouraged to save large, landmark and heritage trees on or near his developments by allowing the developer to reduce his on ground green area requirement by the amount of existing ground area coverage of the tree over his property (at the time of application). A formula that has been used for on ground green area is, 10% of the footprint for the building portion *under* 30' (3 stories) plus 50% of the footprint area of building portion *over* 30' (3 plus stories) to be on grade green space. Seventy-five percent of this green area requirement is to be in one contiguous portion abutting the public street. The urban forest concept for Kuala Lumpur will also be helped by requiring that the green space be 75% shaded by overhead foliage.

Another suggestion applicable to Kuala Lumpur is that open carpark areas require a 75-80% foliage cover for overall paved areas. There are now many techniques of growing roots under carpark surfaces. Kuala Lumpur has several suitable trees that will provide a full canopy quickly; the Red Flame (*Ponciana regia*) and the Rain Tree (*Pithecolobium saman*). These are not truly forest trees but are a heritage long associated with the city. The size of these canopy trees make them in effect, each a forest.

The urban forest in Kuala Lumpur is best exemplified by the nature reserves that thread through the unbuildable land and creek valleys of the city. These forest bands, vegetation ribbons or green belts could be extended via railroad right of ways, transmission lines, service easements, roadway edges, river and stream banks, sewage lagoon perimeters and drainage areas replacing

high maintenance, naturalizing and augmenting the existing vegetation to create a more forest like character for these areas. There are several areas where the extension of the Taman Perdana Nature Reserve through the railway cut, down and around Pusat Islam could help extend the forest right into the heart of city centre.

The reforestation and afforestation of the perimeters of ex-mining ponds and the visual scars of cuts on hillside terracing and eroded highway cuts must be a high priority of the urban forest program.

Another priority for Kuala Lumpur's urban forest program would be appropriate forest bands classed as Nature Parks around the many housing projects that would link to the surrounding undevelopable lands. This natural landscape would be an additional requirement to the parks, playgrounds, open space areas required for active recreation, but might integrate with it. There are many areas where this urban forest is possible in existing developments on the steep bank areas between terraces, on the wide buffer areas along linking roads and on the adjoining unbuildable lands. The residential forest will be different in size and make up when compared with the type of urban forest associated with the downtown area or industrial areas. All forests, however, will have a similar objective; low maintenance, self sustaining, informal groupings of tree and plant species.

The key to the successful management of trees and urban forest areas in Kuala Lumpur is a special section or division in the Parks and Recreation Department that will devote its energies to the establishment and management of all aspects of the urban forest. This section would prepare and administer standards of tree care and management under urban conditions, undertake programs of tree selection, tree planting and urban forest management.

One important aspect of the section's work would be preparing and conducting programs of public awareness, interpretive and educational programs related to the trees in Kuala Lumpur's urban environment. A bird, animal mascot, official city tree or trees; heritage, historic and landmark trees can all be components of these urban tree and environmental awareness programs. The urban forest and tree section of parks and recrea-

tion would consist of a team of qualified Landscape Architects, Arboriculturists, Foresters, and Urban Forest Ecologists who together would develop and administer urban forest and tree programs throughout the city.

There should also be an advisory body to guide and advise this Urban Forest and Tree Section of the Department in their work and programs. The composition of this tree advisory group would include representatives from city departments like: Roads and Streets, Planning, Urban Services, Federal Forestry Institute (FRI), and also representatives from public interest groups like the Heritage Building Society (Persatuan Pencinta Alam) and the Malaysian Nature Society (Persan-

tuan Sahabat-Sahabat Warisan Malaysia).

The urban forest concept for Kuala Lumpur is one which can provide all the elements of a quality outdoor environment; cool, colourful, fragrant, fresh, clean and green, visually attractive and enhancing the urban environment that makes urban living a pleasant and enjoyable way of life. Planting one tree shows faith in the future, planting a forest of trees insures there will be a future.

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Abstract

BILLIKOPF, G. E. 1985. **Many factors influence employee compensation.** Am. Nurseryman 162(6):73-79.

Dealing with the how, when, and how-much of pay increases is a thorny problem for most businessmen. In this survey of pay raises, three major kinds of increases—cost-of-living, step, and promotion, are discussed. Cost-of-living increases have two purposes—they protect workers' buying power against inflation, and they maintain wages that allow nurserymen to obtain qualified labor and yet be competitive. To the worker, of course, maintaining buying power is very important. Inflation can have especially devastating effects on a worker's ability to make ends meet. A pay raise, or step increase, involves upgrading a worker's pay while he maintains the same job. Several hourly wage-workers pruning side-by-side might receive different levels of pay. Unlike cost-of-living increases, these increases are intended to upgrade employees' buying power, rather than just maintain it. Three issues of interest to the nurseryman regarding promotion are the increase in pay when giving a promotion, overlap problems and promotion, and how much supervisors should make compared to the workers who report to them. Promotions that involve a "make it or you're out" policy usually involve larger pay increases than those where the worker can return to a previous job. Any time there is an overlap between jobs it means that some workers in a lower grade might be making more than some workers in the adjacent higher grade. If promoted workers were given raises regardless of where they stood in the range of their previous pay grade, internal equity would be eliminated. If a supervisor can perform the same job as his workers, he should probably get paid more than the best-paid worker. Otherwise, nurserymen may have problems recruiting workers to supervisory ranks.