

Chapter 1 : Home - Department of Planning and Environment

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Single-use zoning This refers to a situation where commercial, residential, institutional and industrial areas are separated from one another. Consequently, large tracts of land are devoted to a single use and are segregated from one another by open space, infrastructure, or other barriers. As a result, the places where people live, work, shop, and recreate are far from one another, usually to the extent that walking, transit use and bicycling are impractical, so all these activities generally require an automobile. Spatial mismatch is related to job sprawl and economic environmental justice. Spatial mismatch is defined as the situation where poor urban, predominantly minority citizens are left without easy access to entry-level jobs, as a result of increasing job sprawl and limited transportation options to facilitate a reverse commute to the suburbs. Job sprawl has been documented and measured in various ways. In , author Michael Stoll defined job sprawl simply as jobs located more than 5-mile 8. This compares to the year - The study shows CBD employment share shrinking, and job growth focused in the suburban and exurban outer metropolitan rings. Low-density[edit] Sprawl is often characterized as consisting of low- density development. Buildings usually have fewer stories and are spaced farther apart, separated by lawns, landscaping, roads or parking lots. Specific measurements of what constitutes low-density is culturally relative; for example, in the United States houses per acre might be considered low-density while in the UK would still be considered low-density. The impact of low density development in many communities is that developed or "urbanized" land is increasing at a faster rate than the population is growing. This term refers to the relationship, or lack thereof, between subdivisions. Such developments are typically separated by large green belts, i. This is a 20th and 21st century phenomenon generated by the current custom of requiring a developer to provide subdivision infrastructure as a condition of development. In the past, when a local government built all the streets in a given location, the town could expand without interruption and with a coherent circulation system, because it had condemnation power. Private developers generally do not have such power although they can sometimes find local governments willing to help, and often choose to develop on the tracts that happen to be for sale at the time they want to build, rather than pay extra or wait for a more appropriate location. Conversion of agricultural land to urban use[edit] Land for sprawl is often taken from fertile agricultural lands, which are often located immediately surrounding cities; the extent of modern sprawl has consumed a large amount of the most productive agricultural land, [20] as well as forest, desert and other wilderness areas. Thus urban sprawl is subsidized by the tax code. This photograph is an example of Canadian suburban development. Housing subdivisions are large tracts of land consisting entirely of newly built residences. Subdivisions often incorporate curved roads and cul-de-sacs. These subdivisions may offer only a few places to enter and exit the development, causing traffic to use high volume collector streets. All trips, no matter how short, must enter the collector road in a suburban system. Similar developments in the UK are called Retail Parks. Strip malls consisting mostly of big box stores or category killers are sometimes called "power centers" U. These developments tend to be low-density; the buildings are single-story and there is ample space for parking and access for delivery vehicles. This character is reflected in the spacious landscaping of the parking lots and walkways and clear signage of the retail establishments. Some strip malls are undergoing a transformation into Lifestyle centers; entailing investments in common areas and facilities plazas, cafes and shifting tenancy from daily goods to recreational shopping. Walmart Supercenter in Luray, Virginia. Another prominent form of retail development in areas characterized by sprawl is the shopping mall. Unlike the strip mall, this is usually composed of a single building surrounded by a parking lot that contains multiple shops, usually "anchored" by one or more department stores Gruen and Smith The function and size is also distinct from the strip mall. The focus is almost exclusively on recreational shopping rather than daily goods. Shopping malls also tend to serve

a wider regional public and require higher-order infrastructure such as highway access and can have floorspaces in excess of a million square feet ca. Shopping malls are often detrimental to downtown shopping centres of nearby cities since the shopping malls act as a surrogate for the city centre Crawford Some downtowns have responded to this challenge by building shopping centres of their own Frieden and Sagelyn Fast food chains are often built early in areas with low property values where the population is expected to boom and where large traffic is predicted, and set a precedent for future development. Eric Schlosser , in his book Fast Food Nation , argues that fast food chains accelerate suburban sprawl and help set its tone with their expansive parking lots, flashy signs, and plastic architecture Then, with continued economic growth and the expanding networks of public transport , people particularly the middle class would then slowly migrate towards the suburbs, gradually softening the population density gradient. This point was generally reached when the city reached a certain stage of economic development. In London, this point was reached in the first half of the 19th century, in Paris toward the end of the century and in New York City at the turn of the 20th. However, London had been sprawling out of its medieval confines within the City since the 18th century, when the city experienced its first great urban surge. Areas to the west of Westminster were increasingly built up for the wealthy, to live in the suburbs of the city. The cover of the Metro-Land guide published in , promoting a suburban lifestyle. Large developments of small terraced houses began to appear and the new public transportation systems - the metro , buses and trams - allowed workers to commute into the city daily. By the mid 19th century, the first major suburban areas were springing up around London as the city then the largest in the world became more overcrowded and unsanitary. A major catalyst in the growth in urban sprawl came from the opening of the Metropolitan Railway in the 1860s. Unlike other railway companies, which were required to dispose of surplus land, the Met was allowed to retain such land that it believed was necessary for future railway use. G Wells even predicted in that within a hundred years most of southern England would have been subsumed into one gigantic conurbation centred in London. Starting in the early 20th century, environmentalist opposition to urban sprawl began to coalesce, with roots in the garden city movement , as well as pressure from campaign groups such as the Campaign to Protect Rural England CPRE. New provisions for compensation in the Town and Country Planning Act allowed local authorities around the country to incorporate green belt proposals in their first development plans. The first urban growth boundary in the U. Presently, the NRI classifies approximately , more square kilometres 40, square miles an area approximately the size of Kentucky as developed than the Census Bureau classifies as urban. The difference in the NRI classification is that it includes rural development, which by definition cannot be considered to be "urban" sprawl. Currently, according to the Census , approximately 2. But it was not just urbanized areas in the U. According to data in "Cities and Automobile Dependence" by Kenworthy and Laube , urbanized area population losses occurred while there was an expansion of sprawl between and in Amsterdam, the Netherlands ; Brussels, Belgium ; Copenhagen, Denmark ; Frankfurt , Hamburg and Munich , Germany ; and Zurich , Switzerland , albeit without the dismantling of infrastructure that occurred in the United States. Environmental[edit] Urban sprawl is associated with a number of negative environmental outcomes. One of the major environmental problems associated with sprawl is land loss , habitat loss and subsequent reduction in biodiversity. A review by Czech and colleagues [38] finds that urbanization endangers more species and is more geographically ubiquitous in the mainland United States than any other human activity. At the same time, the urban cores of these and nearly all other major cities in the United States , Western Europe , and Japan that did not annex new territory experienced the related phenomena of falling household size and, particularly in the U. Due to the larger area consumed by sprawling suburbs compared to urban neighborhoods, more farmland and wildlife habitats are displaced per resident. As forest cover is cleared and covered with impervious surfaces concrete and asphalt in the suburbs, rainfall is less effectively absorbed into the groundwater aquifers. Sprawl increases water pollution as rain water picks up gasoline , motor oil , heavy metals , and other pollutants in runoff from parking lots and roads. The Chicago metro area, nicknamed " Chicagoland ". In addition, the reduced physical activity implied by increased automobile use has negative

health consequences. Sprawl significantly predicts chronic medical conditions and health-related quality of life, but not mental health disorders. However, air in modern suburbs is not necessarily cleaner than air in urban neighborhoods. On average, suburban residents generate more per capita pollution and carbon emissions than their urban counterparts because of their increased driving. Since car usage becomes endemic and public transport often becomes significantly more expensive, city planners are forced to build highway and parking infrastructure, which in turn decreases taxable land and revenue, and decreases the desirability of the area adjacent to such structures. Compact neighborhoods can foster casual social interactions among neighbors, while sprawl creates barriers. Sprawl tends to replace public spaces with private spaces such as fenced-in backyards. Duany and Plater-Zyberk believe that in traditional neighborhoods the nearness of the workplace to retail and restaurant space that provides cafes and convenience stores with daytime customers is an essential component to the successful balance of urban life. Furthermore, they state that the closeness of the workplace to homes also gives people the option of walking or riding a bicycle to work or school and that without this kind of interaction between the different components of life the urban pattern quickly falls apart. Numerous studies link increased population density with increased aggression. It is argued that human beings, while social animals, need significant amounts of social space or they become agitated and aggressive. The two images above are on opposite sides of the same street. According to Nancy Chin, a large number of effects of sprawl have been discussed in the academic literature in some detail; however, the most contentious issues can be reduced "to an older set of arguments, between those advocating a planning approach and those advocating the efficiency of the market. He notes that efforts to combat sprawl often result in subsidizing development in wealthier and whiter neighborhoods while condemning and demolishing poorer minority neighborhoods. It is a giant step backward to interfere with this effective process unless the benefits of intervention substantially exceed its cost. Jackson [70] have argued that since low-density housing is often notably in the U. Whether urban sprawl does increase problems of automobile dependency and whether conversely, policies of smart growth can reduce them have been fiercely contested issues over several decades. Within cities, studies from across many countries mainly in the developed world have shown that denser urban areas with greater mixture of land use and better public transport tend to have lower car use than less dense suburban and ex-urban residential areas. This usually holds true even after controlling for socio-economic factors such as differences in household composition and income. One confounding factor, which has been the subject of many studies, is residential self-selection: Some studies have found that, when self-selection is controlled for, the built environment has no significant effect on travel behaviour. Kansas City, Missouri is often cited as an example of ideal low-density development, with congestion below the mean and home prices below comparable Midwestern cities. Longitudinal time-lapse studies of commute times in major metropolitan areas in the United States have shown that commute times decreased for the period to even though the geographic size of the city increased. Planning policies that increase population densities in urban areas do tend to reduce car use, but the effect is a weak one, so doubling the population density of a particular area will not halve the frequency or distance of car use. These findings led them to propose the paradox of intensification, which states: *Ceteris paribus*, urban intensification which increases population density will reduce per capita car use, with benefits to the global environment, but will also increase concentrations of motor traffic, worsening the local environment in those locations where it occurs. Risk of increased housing prices[edit] There is also some concern that anti-sprawl policies will increase housing prices. The state of Oregon enacted a law in limiting the area urban areas could occupy, through urban growth boundaries. While the growth boundary has not been tight enough to vastly increase density, the consensus is that the growth boundaries have protected great amounts of wild areas and farmland around the metro area. Many parts of the San Francisco Bay Area have also adopted urban growth boundaries; 25 of its cities and 5 of its counties have urban growth boundaries. Many of these were adopted with the support and advocacy of Greenbelt Alliance, a non-profit land conservation and urban planning organization. In other areas, the design principles of District Regionalism and New Urbanism have been employed to combat urban sprawl.

Chapter 2 : Draft Environment SEPP - Department of Planning and Environment

and metropolitan planning, States and MPOs "shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the.

He gave Jakarta, Monas "his most symbolic new structure the m high national monument, spacious new government buildings, department stores, shopping plazas, hotels, the sport facilities of Senayan that were used for the Asian Games, the biggest and most glorious mosque of Istiqlal, new parliament buildings and the waterfront recreation area at Ancol. Such constructions continued under the New Order regime that began in 1998. Under this regime, Indonesia enjoyed steady economic growth, along with a reduction in the percentage of the population living under the poverty line. Jakarta grew rapidly during this period of the New Order regime. The investment in the property sector, including offices, commercial buildings, new town development, and highrise apartments and hotels grew substantially. Firman ; argued that Jakarta, by the mids, was heading towards global city status. In the early administration of the New Order regime, some projects were completed, including the Ismail Marzuki Arts Center, industrial zones at Tanjung Priok and Pulo Gadung, that aimed to attract foreign investment, plus the unique theme park of Taman Mini Indonesia Indah. During the thirty-two years of the New Order regime, Jakarta changed considerably. A generally rapid economic growth during this period allowed Jakarta to expand its modern constructions and develop into a modern city. Hundreds of new office towers, hotels and high-rise condominiums were built in many parts of the city. January Murakami and her colleagues compared the urbanization stage and patterns of land use in Jakarta, Bangkok dan Manila. Using the Clark linear exponential model and the Newling quadratic exponential model, they compared the spatial distribution of population densities in those cities. They also analyzed land-use patterns by examining the mixture of urban and agricultural land use. They found that Jakarta had entered the suburbanization stage, while Manila was at early stage of suburbanization and Bangkok was at intermediate stage of suburbanization. The Golden Triangle " a new style commercial zone - was built in Thamrin-Sudirman corridor to push the urban skyline upward in response to high land costs in key areas and the convenience of the automobile. A parade of tall buildings, one after the other fill the major streets on both sides. They house the offices of Indonesian and multi-national corporations. Firman reported that total area of commercial space in Jakarta in 1990 was only 0. In every part of the city, modern shopping malls along with family enterprises were also built. The economy crisis which hit Indonesia in 1997 resulted in major disruptions of the urban development in Jakarta. The crisis " commonly known in Indonesia as krismon - largely squeezed the economy of Jakarta. Domestic and foreign investment dramatically fell off. Many manufacturing and services corporations in the megacity of Jakarta closed and laid off their employees, resulting in the rapid increase of uncontrolled unemployment. In order to survive the krismon, a large number of workers shifted to become food traders or then engaged in other informal sector jobs. Street vendors "commonly known in Indonesia as pedagang kaki lima- increased rapidly from about 95, in 1990, to 150, in 1995, in Firman, The increasing informal labor force is a distinctive characteristic of cities in developing countries since the formal sector fails to accommodate a large labor force. This shrinkage of economic activities resulted in the decrease of office space demand which dropped from 100, square meters in 1990, to 85, square meters in 1995. Similarly, the demand for high-class apartments dropped from 49, in December 1990, to 16, in February 1995. The housing market in the megacity nearly collapsed due to increasing costs of building materials and higher housing loan interest rates. Most construction projects in the periphery of Jakarta slowed down or even completely stopped. Firman, These programs included food security, employment creation, student scholarships and block grants to schools, targeted health care subsidies, and community block grant. Sumarto, et. Political and economic reforms were also implemented during the recovery process. Civil unrest and political uncertainty heightened during the krismon gradually lowered during the recovery process. The rate of

economic growth of Jakarta was 5. Suburbanization in the Megacity of Jakarta To understand the suburbanization in the megacity of Jakarta, it is essential to recognize the socio-economic dualism pervading Indonesian urban society. The manifestations of this dualism are the presence of the modern city and the kampung city in urban areas. Firman argues the existence of kampungs and modern cities reflect spatial segregation and socio-economic disparities. Kampung and the modern city of Jakarta, January The growing numbers of migrants to Jakarta and poor Jakarta natives have produced new squatter kampungs on the periphery of Jakarta Cybriwsky and Ford, Many constructions in the central city also caused some residents of kampungs to be evicted and relocated to the periphery Silver, The periphery also attracted migrants because of its improved infrastructures and facilities in Goldblum and Wong, Since , Jakarta has attracted people from all parts of Java and other Indonesian islands. The flood of migrants came to Jakarta for economic reasons as Jakarta offered the hope of employment. And many times, Jakarta officials tried to control migration by declaring the city closed; new migrants were not allowed entry. However, these attempts proved useless; a large number of migrants ignored the law. Leaf has identified the rapid growth of suburban enclave housing in Jakarta during early s. Located on the periphery of the city, these settlements were built in automobile-accessible areas with various high-quality amenities such as modern golf courses. High-income families in the central city also moved from the city in search of better living quality Goldblum and Wong, The high cost of houses and the need for automobiles restricted low-income families from the suburban housing market. Leaf has argued that suburbanization in Jakarta was a direct outcome of at least two policies: These policies have most benefited developers strongly linked with the New Order Regime. Half of the land development permits were given to 16 development firms. The other half was distributed amongst the other development firms Leaf, In addition to residential zones, the periphery of Jakarta is also made up of specialized zones of commercial and industrial enterprises. These areas complement the other districts of Jakarta: Since the end of the s, no new industrial parks have been developed in Jakarta Hudalah et al Initiated by a collaborative project of Bumi Serpong Damai in the early s, the periphery of Jakarta was also the location of several new towns. The first new town of Bumi Serpong Damai was planned for an eventual population of , in a total area of 6, hectares; a project developed by several private developers and led by the largest private developer " the Ciputra Group. In a number of these new towns, the State Housing Provider Agency Perumnas joined with private developers to assure some housing was targeted for low and moderate-income families Cybriwsky and Ford, Most of the new towns offered relatively few employment opportunities. Their initial concept was to create self-contained communities but this was barely implemented. The new towns were still heavily dependent on the central city Firman, ; Silver and the development of large-scale housing projects intensified the daily interaction between the fringe areas and the central city of Jakarta. This worsened the traffic problems in metropolitan Jakarta. The development of industrial zones in the peripheries of Jakarta also indicated a spatial restructuring that shifted manufacturing from the central city to the periphery. Firman reported that the central city attracted disproportionate investment in service industries, trade and hotel, and restaurant construction. The peripheries attracted most of the industrial construction; these include textiles, apparel, footwear, plastics, chemicals, electronics, metal products and foods Cybriwsky and Ford, In the peripheries of the megacity of Jakarta, agricultural areas and forests were massively converted into industrial estates, large-scale subdivisions and new towns Firman ; Silver Within 10 years, 20 new towns emerged in the megacity of Jakarta and converted The massive development on the outskirts of the megacity of Jakarta resulted from a series of deregulation and de-bureaucratization measures enacted by the Suharto government in the s Winarso and Firman , p. The subsidized housing finance program and municipal permit system for land development also contributed to policies that have most benefited some developers strongly linked to the New Order regime Leaf, The connection to the Suharto family and inner circle became significant; closeness to the first family helped the large developers expand their business. Interlinking also occurred among the large developers through cross-shareholding, shared directorships and joint ventures; proceeds which turned potential competitors into collaborators and created oligopolistic types of land and housing markets.

Continuing with the suburbanization; this was also caused by the development of three highways stretching from Jakarta to the peripheries - the Jagorawi toll road, the Jakarta-Cikampek toll road, and the Jakarta-Merak toll road Henderson and Kuncoro The development of private industrial parks in the peripheries naturally followed the development of these highways Hudalah et al Private industrial parks in the peripheries range from 50 to 1, hectares and on average the size is about hectares Hudalah et al ; major industrial centers are located in Cikupa-Balaraja of Tangerang Regency and Cikarang of Bekasi Regency. The industrial center of Cikarang with a total industrial land area of nearly 6, hectares is the largest planned industrial center in Southeast Asia Hudalah and Firman Problems and Challenges in Jakarta and Its Peripheries Jakarta megacity has experienced a tremendous population growth and faced a wide range of urban problems in the last few decades. Two major problems are traffic congestions and floods. Despite several programs to alleviate traffic congestion and flooding, the severity of traffic and flooding in Jakarta and its peripheries has not decreased. Floods in Jakarta Floods have become a threat and bring increasing woes for Jakarta residents every year. In , floods inundated most parts of Jakarta including the Sedyatmo toll road and nearly 1, flights in the Soekarno-Hatta International Airport were delayed or diverted with were cancelled. In , floods inundated hundreds of homes along major Jakarta waterways including the Ciliwung, Pesanggrahan, Angke and Krukut rivers and displaced 2, people The Jakarta Globe, April 5, In the aftermath of these annual floods, the government usually focuses on releasing floodwater as quickly as possible into the sea, particularly around the development of the East Flood Canal and dredging of rivers. The East Flood Canal was launched in the aftermath of major floods in and reached the sea on December 31, after very slowly progress due to complicated land acquisitions. This canal was considered the most feasible means to prevent future flooding in Jakarta, but clearly cannot prevent flooding entirely. The canal, coupled with the dredging of rivers, is only able to mitigate impacts of flooding. Land subsidence in Jakarta was first identified by researchers when the Sarinah bridge at Jalan M. Thamrin was found cracked in Djaja, et. Since then, the measurement of land subsidence in Jakarta has been conducted and the rate of land subsidence has been increasing over years, particularly in the northern part of the city. In addition, the Jakarta Mining Agency reported variances over a year period, from to ; the largest rate of land subsidence occurred in Central Jakarta. The above sea-level height of Central Jakarta was 3. This dropped by cm in The height of North Jakarta was only 1. The Jakarta Mining Agency data shows: Clearly such intensive groundwater withdrawal accelerates land subsidence. The study identified coastal areas in North Jakarta including Muara Kapuk and Ancol experiencing the highest rate of subsidence due to extensive development on the relatively young and porous soil beneath. It also indicated about 5, hectares of land in North Jakarta would be submerged in and another 6, hectares in , if no action was taken to mitigate land subsidence The Jakarta Post, February 7, The total flooded areas and the severity of flooding in the peripheries of Jakarta is still less than those in Jakarta. The severity of flooding in Jakarta is due to the location of Jakarta; located in a lowland area with 43 lakes and 13 rivers. Meanwhile, the peripheries of Jakarta are located in higher areas.

Chapter 3 : American Planning Association

The Council's Environment Committee addresses issues of sewer policy and planning, environmental reviews, wastewater facilities and treatment, water supply, nonpoint source pollution, and federal and state regulations.

The climate is changing. The earth is warming up, and there is now overwhelming scientific consensus that it is happening, and human-induced. With global warming on the increase and species and their habitats on the decrease, chances for ecosystems to adapt naturally are diminishing. Many are agreed that climate change may be one of the greatest threats facing the planet. This section explores some of the effects of climate change. It also attempts to provide insights into what governments, companies, international institutions, and other organizations are attempting to do about this issue, as well as the challenges they face. Some of the major conferences in recent years are also discussed. This section looks at what causes climate change, what the impacts are and where scientific consensus currently is. The world mostly agrees that something needs to be done about global warming and climate change. The first stumbling block, however, has been trying to get an agreement on a framework. The IPCC concluded in that there was broad international consensus that climate change was human-induced. This section looks at this Convention and some of the main principles in it. The United States plus a few other countries, and many large corporations, have opposed climate change treaties seemingly afraid of profit impacts if they have to make substantial changes to how they do business. However, as more climate change science has emerged over the years, many businesses are accepting this and even asking their governments for more action so that there is quick clarification on the new rules of the game so they can get on with their businesses. This section explores some of those fears to see if they are justified or not. Action on climate change is cheaper than inaction Posted Monday, February 02, Many are afraid that tackling climate change is going to be too costly. But increasingly, studies are showing action will not just be cheaper than inaction, but could actually result in economic, environmental and even health benefits, while improving sustainability. For many years, large, influential businesses and governments have been against the idea of global warming. Many have poured a lot of resources into discrediting what has generally been accepted for a long time as real. Now, the mainstream is generally worried about climate change impacts and the discourse seems to have shifted accordingly. Some businesses that once engaged in disinformation campaigns have even changed their opinions, some even requesting governments for regulation and direction on this issue. However, a few influential companies and organizations are still attempting to undermine climate change action and concerns. Will all this mean a different type of spin and propaganda with attempts at green washing and misleading information becoming the norm, or will there now be major shift in attitudes to see concrete solutions being proposed and implemented? For a number of years, there have been concerns that climate change negotiations will essentially ignore a key principle of climate change negotiation frameworks: Realizing that greenhouse emissions remain in the atmosphere for a very long time, this principle recognizes that historically: Industrialized nations have emitted far more greenhouse gas emissions even if some developing nations are only now increasing theirs ; Rich countries therefore face the biggest responsibility and burden for action to address climate change; and Rich countries therefore must support developing nations adapt through financing and technology transfer, for example. This notion of climate justice is typically ignored by many rich nations and their mainstream media, making it easy to blame China, India and other developing countries for failures in climate change mitigation negotiations. Development expert, Martin Khor, calculated that taking historical emissions into account, the rich countries owe a carbon debt because they have already used more than their fair quota of emissions. Yet, by when certain emission reductions are needed by, their reduced emissions will still add up to be go over their fair share: However, rather than continue down the path of unequal development, industrialized nations can help pay off their carbon debt by truly helping emerging countries develop along a cleaner path, such as through the promised-but-barely-delivered technology transfer, finance, and capacity building. So far however, rich

nations have done very little within the Kyoto protocol to reduce emissions by any meaningful amount, while they are all for negotiating a follow on treaty that brings more pressure to developing countries to agree to emissions targets. In effect, the more there will be delay the more the poor nations will have to save the Earth with their sacrifices and if it works, as history shows, the rich and powerful will find a way to rewrite history to claim they were the ones that saved the planet. These issues are explored in more depth here. Flexibility mechanisms were defined in the Kyoto Protocol as different ways to achieve emissions reduction as part of the effort to address climate change issues. These fall into the following categories: However, these have been highly controversial as they were mainly included on strong US insistence and to keep the US in the treaty even though the US eventually pulled out. Some of the mechanisms face criticism for not actually leading to a reduction in emissions, for example. Centre for Science and Environment.

Chapter 4 : List of environmental issues - Wikipedia

Planning and policy aspects of managing residuals and environmental contaminants and their effects on human health and environmental quality. Technical and economic factors involved in management of water quality, air quality, solid and hazardous wastes, toxic substances, and noise.

However, the development has been highly damaging to the environment surrounding high-density metropolitan areas such as Seoul. With cutting-edge technology and modern science, green methods of urban development are underway. The ubiquitous city concept, landscape character assessment, and ecofriendly waste management are all facets of an eco-friendly city model that are discussed in this research. In the process of rapid urbanization spurred on by an increasingly globalizing world, the inhabitants of mega-cities make an important tradeoff between improved quality of life and the systematic destruction of the natural organization of land and the environment. In the developing nations of East Asia, rapid urbanization and economic growth are visibly apparent, but so are urban environmental problems in overcrowded cities. The complexity of the issue is ever-growing because slowing economic growth is not a favorable solution, but sustainable urban development is still a viable possibility. In the case of South Korea, several municipalities are partaking in an effort to move toward sustainability in different sectors through modern technology. For instance, Kwangmyung City is "at the cutting edge of environmental administration of local government" with its environmental infrastructure that is more advanced than other local governments Kim, Scale model of Seoul from the Seoul Museum of History. It will discuss the details of the forms of technology used in the two South Korean case studies, as well as the impact they are making in urban sustainability. This paper will discuss modern urban planning and environmental technology and their roles in eco-friendly urbanization. The goal of this paper is to persuade members of the general public, especially those who live in metropolitan areas, to make their lifestyles more eco-friendly and to prompt more intensive research into green technology that would help curb the effects of urban pollution and environmental damage. An Overview The Republic of Korea experienced an unprecedented increase in the rate of urbanization over the past 40 years since the end of the Korean War. The level of urbanization rose drastically from The national government played an important role in decisively modernizing South Korea through urban growth over the decades; for example, the city of Ulsan was constructed in through a series of ambitious government initiatives and grew into an important industrial town Kwon, Population centralization in urban areas is strongly incited by the prospect and availability of take up jobs as laborers within the city has proven to be problematic, even with the number of blue-collar workers decreasing. Also, the trend of globalization demands a more modern and urban infrastructure, and high-class and educated professionals are sensitive to the living and working environment Kwon, These factors have contributed to the rise of densely packed blocks of consequences that entail heavy development. A combination of socialist and capitalist economic policies has proven to be very effective in boosting the industrial productivity of South Korea, but this industrialization has taken a severe toll on the environment. Since the s, the government has been ambitiously pushing for an export-oriented development strategy, and heavy industrial centers were formed in urban areas, leaving the rural parts of the country largely underdeveloped. The economic drive that produced such rapid growth also proved harmful to the lands surrounding major urban centers, with overcrowding, causing most of the damage. It is particularly important to take into consideration the geography of South Korea and how cities were built in order to thrive in the surrounding ecosystem and adapt to the natural formation of the land, oftentimes causing damage to the environment Kwon, The average annual growth rate of carbon emissions in Seoul is 1. Highly urbanized areas are generally viewed as places of modernity, high class, and sophistication to most South Koreans, leading to high consumerism. As high demand for land as population drastically increased, green areas around cities decreased by km² in the past 10 years as natural land was paved to provide space for business buildings and apartment complexes Yoon and Lee, Green areas include land used for agriculture and mountainous areas. In

Seoul, along with several other rapidly urbanized mega-cities in East Asia, there is a serious situation of environmental degradation that can impact the health and well-being of urban dwellers. In fact, the South Korean government already has in place some measures to control urban sprawl; the greenbelt, built around the city of Seoul in the s, is one such measure. Figure 1 illustrates the size of the greenbelt surrounding Seoul. As is evident in Figure 1, the greenbelt is essentially a "belt" of greenery surrounding the city limits. The greenbelt was designed to corral urban sprawl and create a more compact infrastructure, thereby increasing Youn, Most importantly, however, it strived to provide a "wide range of ecosystem services such as air control, and water supply and quality" and therefore has many important environmental implications Bengston and Youn, These benefits however, become less significant as the increasingly heavy congestion within the city outweighs the amenity values and the environmental value of the greenbelt. Also, the residents that live in or near the greenbelt have experienced a large decrease in property values over the past few decades since the inception of the policy, which creates an unequal balance in the quality of life of those who live in the city and those who live in the urban fringe Bengston and Youn, Urban planning is a complex issue that spans a wide range of concerns, intertwining with social, economic, and environmental sectors of the city. Although the greenbelt may have been an ideal solution to pollution before heavy development began, it is after its inception. A more expansive policy, adapted to the modern socio-economic and environmental issues, is required for large cities such as Seoul. This paper will discuss methods of urban planning from the external view of the city and the thorough changes in internal infrastructure. Landscape Character Assessment The United Kingdom has developed a technique called landscape character assessment that takes into account the diversity of the land in a detailed survey to preserve biodiversity and sustainable land use. Landscape character is defined as "a distinct and recognizable pattern of elements that occur consistently in a particular type of landscape" and is the main component of planning land for development Kim and Pauleit, This method can be applied to the landscape of South Korean cities because preserving biodiversity and sustainably developing land are two major concerns when facing rapid urbanization. Landscape character assessment consists of two main stages: Human developments, such as the creation of small commercial agricultural plots and the covering of high biodiversity-value lands with business complexes, contribute to a systematic destruction of ecosystems; therefore, the stakeholder community and policymakers should take into consideration the best ways to plan a city in accordance with the surrounding environment and its characteristics. Efficient urban planning is possible the most effective and cost-saving method of curbing the negative environmental effects of rapid urbanization. An upon agricultural land, thereby preserving the ancient and traditional agrarian aspect of the Korean society. Also, from landscape character assessment, as the latter does not seek to forcefully contain urban sprawl. Heavy urban development is inevitable in actively industrious countries such as South Korea; therefore, planners should seek ways to use the natural land that minimizes the loss of its initial welcoming. Landscape character assessment, takes into account the way land changes and the pattern it follows Kim and Pauleit, Preserving biodiversity is the highest priority, and this method has been successful in many parts of the United Kingdom and across the world Kim and Pauleit, The process also calls for a close working connection between the stakeholders, the community, and environmental scientists, which environment they inhabit in a more positive way. Landscape character assessment has proven to be a useful tool in curbing the human forces on the natural landscape in the U. Kim and Pauleit, It is important to note, however, that the data gathered in this method are independent of the social impacts that also shape the land. Although this method addresses the problems immediately associated with urban sprawl, such as the deterioration of the surrounding land and the damage to biodiversity, it fails to take into account how people are affected by the changes; in this way, landscape character assessment can be viewed to be more ecocentric than anthropocentric. Therefore, landscape character assessment should not be the sole method of developing green infrastructure. South Korea is highly developed in technology and city planners of major metropolitan areas are seeking ways to apply technology to simultaneously improve the lives of the residents and the environment.

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Chapter 7 : Metropolitan Planning Organization (MPO) | Federal Transit Administration

The Department of Planning and Environment sought your feedback on the proposed SEPP until 31 January to update and improve the planning framework in regards to these environmental issues. This is discussed in the Explanation of Intended Effect (EIE) for the proposed Environment SEPP.

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iii. complete interdependence between economic, social and environmental planning, and on the other hand, legislative, financial, administrative and political action planning, which, together, indeed amount to comprehensive planning.

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SEWRPC has addressed environmental issues since its inception in the early s. One of the earliest SEWRPC reports provided an overview of the natural resource base of the Region and suggested future programs designed to prepare recommendations for the conservation, management, and wise use of the regional resource base.