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# **EXAMINING THE “DUTCH MODEL” FROM THE VIEWPOINT OF LAND USE AND TRANSPORT POLICY FOR SUSTAINABLE URBAN DEVELOPMENT**

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Similar to many other countries, the Netherlands have also encountered urban problems which are common to all and also which are Netherlands specific problems such as its longstanding water and land scarcity problems, especially together with the economic growth since 70s. During the course of development and also today, the overall aim of the government has been to encourage the economic progress together with considering and taking necessary measures to ease the undesired affects of development.

The country not only the government but also its citizens, NPO and NGOs have always been aware of sustainable development and also been able to implement policies with favorable outcomes as many experts of the field believe so. As an example, multi central and rather clustered and compact urban developments strengthened by necessary transport policies to save the open spaces and moderate the increase of motorized private transportation can be given.

The Dutch Model urban planning lies on three main pillars; economic, physical and social pillars and takes its power particularly from the concept of integration: Integration of government at all levels and with relevant divisions, public intervention and private sector; Integration of land use and transport policies for publicly acceptable, efficient and viable solutions. Despite the fact that country has been successful compared to some other similar countries, yet still encountering and tackling matters against the sustainable development such as urban sprawl and increasing private car trips, hence congestion and pollution problems.

Within the scope of the above facts, this paper will review development and implementations of urban policy and instruments in Netherlands such as ABC Policy, ROM (Area Specific Policy Approach). The latest policy documents of the Ministry of Housing Spatial Planning and Environment and The Ministry of Transport Public Works and Water Management will also be briefly assessed. Furthermore, The Dutch Model with its today's findings and further developments of urban policy will be concluded through its applicability as guidance for future challenges in developing countries that have been encountering severe problems of sustainability.

***Keywords: Land use and transportation, The Dutch Model***

# 1. Introduction

The Netherlands, like many other countries, have faced some problems of both common to all and specific to the country itself after the Second World War and especially together with the economic growth since 70s. However, Netherlands has always been aware of the spatial development issues and proved to be rather well organized and planned society. Its schemes of spatial planning; policies and instruments all together known as “Dutch Model” has always attracted the experts, as many agree that the spatial planning produced successful outcomes. Since then, the country has passed through a period of acquisition which we call the “The Dutch Learning Process” to set policies, balance the trade of between goals. In many aspects they have yielded very successful outcomes but there are also limited results. Why we examined the “Dutch Model” is to find answers to the below questions in terms of How they did? ; How successful was?

- Experienced in spatial planning to develop well planned society
- Proved concepts changed with changing needs and desires
- Compact and clustered urban development & saved open spaces
- Financial system functions in government
- “Polder Model” & “Three Tier Structure” works in policy making
- Transport planning matches land use planning
- Developed future transport & land use policies for 2020

# 2. Some Facts and Figures in the Netherlands

## Population and Land

The Netherlands, with rather small of the size of 41,526.28 km<sup>2</sup> with its increasing today’s population of 16 million. It is one of the most urbanized countries and the average population density increased from 157 in 1900 to 466 inhabitants/km<sup>2</sup> in 2000. The most urbanized area Randstad conurbation has the population density of 2000 inhabitants/km<sup>2</sup>, still smaller when compared to that of Paris. The population has grown by 1.72 whereas the residential area enlarged by 2.42 between 1950-1996. The land is a scarce commodity, of which 60 % of the total area is used by agriculture, whereas 12 % is designated as build up area and 15% is open landscapes. Besides, %40 of the total country is under sea level and water with its long standing problems is everywhere, necessitating specific areas and measures for water management.

## Transport

The share of public transport 14% is low compared to many developed European cities. The private car use percentage, 74 % is rather high; however the level of cycling and walking achieved was satisfactory with the percent of 8%. Besides the annual distance traveled by car increased from 7990 to 9077 Billion Passenger-km by the percent of 14% and for the public transport, the figure is 36% from 1287 to 1756 Billion Passenger-km between 1986-1998. The government proposes a 30 % growth of total mobility within next 20 years.

CO<sub>2</sub> from road transport has increased by 35% within the last ten years and 1 ton of extra CO<sub>2</sub> is accepted to cost 22 Euro to the government. However the NO<sub>X</sub>, CO, VOC decreased by the average of 30 % since 1990 due to the catalytic converters, use of less polluting diesel engines

## Economy and Financing

Netherlands is a wealthy country with its growing economy of the amount of 20,905 GDP per capita similar to that of Germany and France. The total environmental expenditures is 1.9 % of total GDP more than the similar expenditures in the UK and Germany. The national expenditures on all categories QOL

expenditures increased from 3 Billion Euro to 5 Billion Euro since the middle of 80s. However not only the absolute amount but also the nature has changed to somehow during the last decade such that the share of transport decreased from 70 % to 60%. This brings about other types of QOL expenditures such as urban renewal, preservation of nature and environment has increased from 30% to 40 % by percent and from 0.9 to 2.0 Billion Euro in monetary term. Although discussions are still going on the Dutch government disclosed its investment plan by the end of 2010 as follows: New Roads: 2.0 Billion Euro (0.7 for road pricing); Public Transport: 2.0 Billion Euro; Vital Cities: 2.0 Billion Euro; Nature Conservation: 1.3 Billion Euro

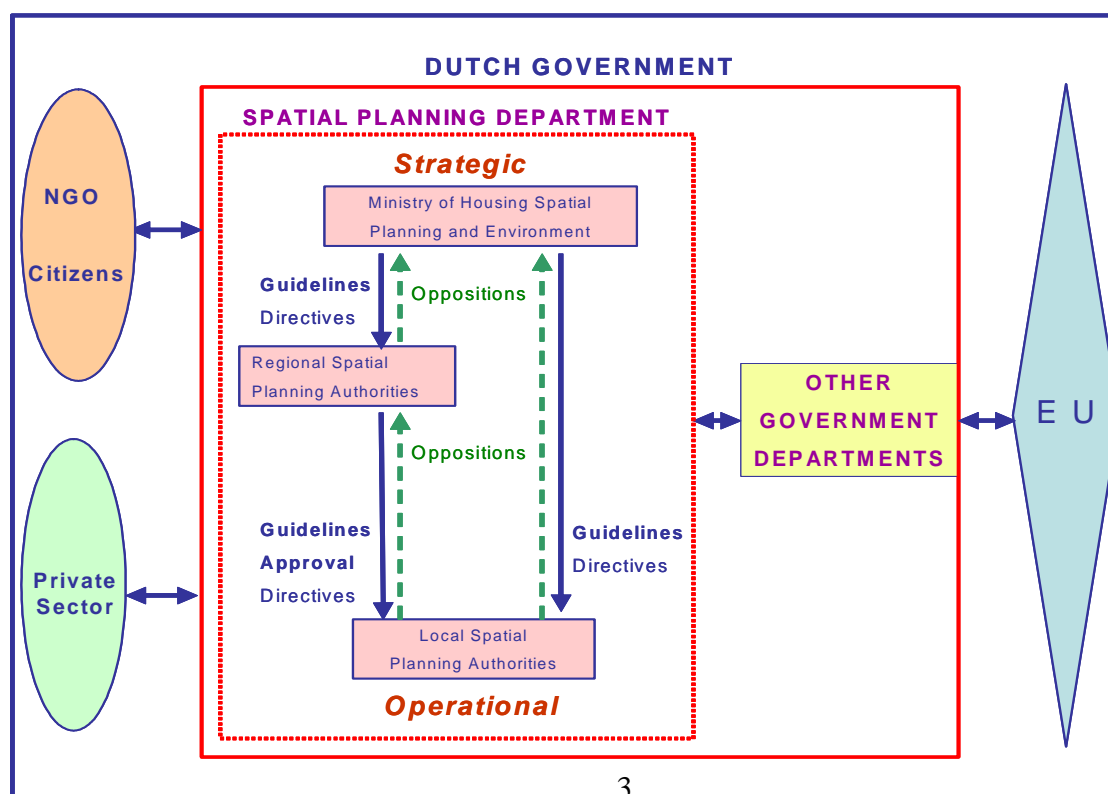
All kinds of spatial development investments constitute the 11 % of total GDP where the national government has the share of 5.3 Billion Euro and the provincial and local authorities spends 2.7 Billion Euro. Private Sector has the highest part with the investment of 30 Billion Euro.

The taxation system in the country is highly centralized such that the only the 7 % of all taxes are collected by provincial and local governments and the 93 % is source to the central government.

### 3. Dutch Spatial Planning System

Today's general policy framework for spatial development is based on transparency, integrity of all necessary disciplines, and coordination of stakeholders leading to the idea of *"centralized where necessary and rather decentralized where possible"*. The core of planning relies on reaching to consensus by exchange of knowledge, team works, negotiations, persuasions among all linked actors within government, all non governmental bodies, private sector and public intervention in the national scale and with the EU in the international platform.. This general idea and process, so far called as "polder model" is illustrated in the above figure from the Spatial Planning point of view. The tree level planning system; a national regional and local level is the core of the spatial planning system. The top national level by the Ministry of Housing Spatial Planning and Environment functions strategically; and the low, local level is operational.

Figure 3.1: Dutch Spatial Planning System (Polder Model)



### 3.1 Three-Tier Structure

The history of modern spatial planning in The Netherlands goes back to beginning of the nineteenth century when first, the spatial planning at local level was made obligatory to the municipals with the enforcement of “Housing Act” in 1901. In 1931 after the revision of Housing Act, the regional level spatial planning was introduced and adapted. This was followed by the introduction of the national level planning with issuing the first “National Spatial Planning Act”. Thus, the spatial planning at tree levels was established in 60s, forming the general framework of spatial planning in the country.. The major roles of each authority at each level is summarized in the below Table 3.1 in order to show the functioning of the system.

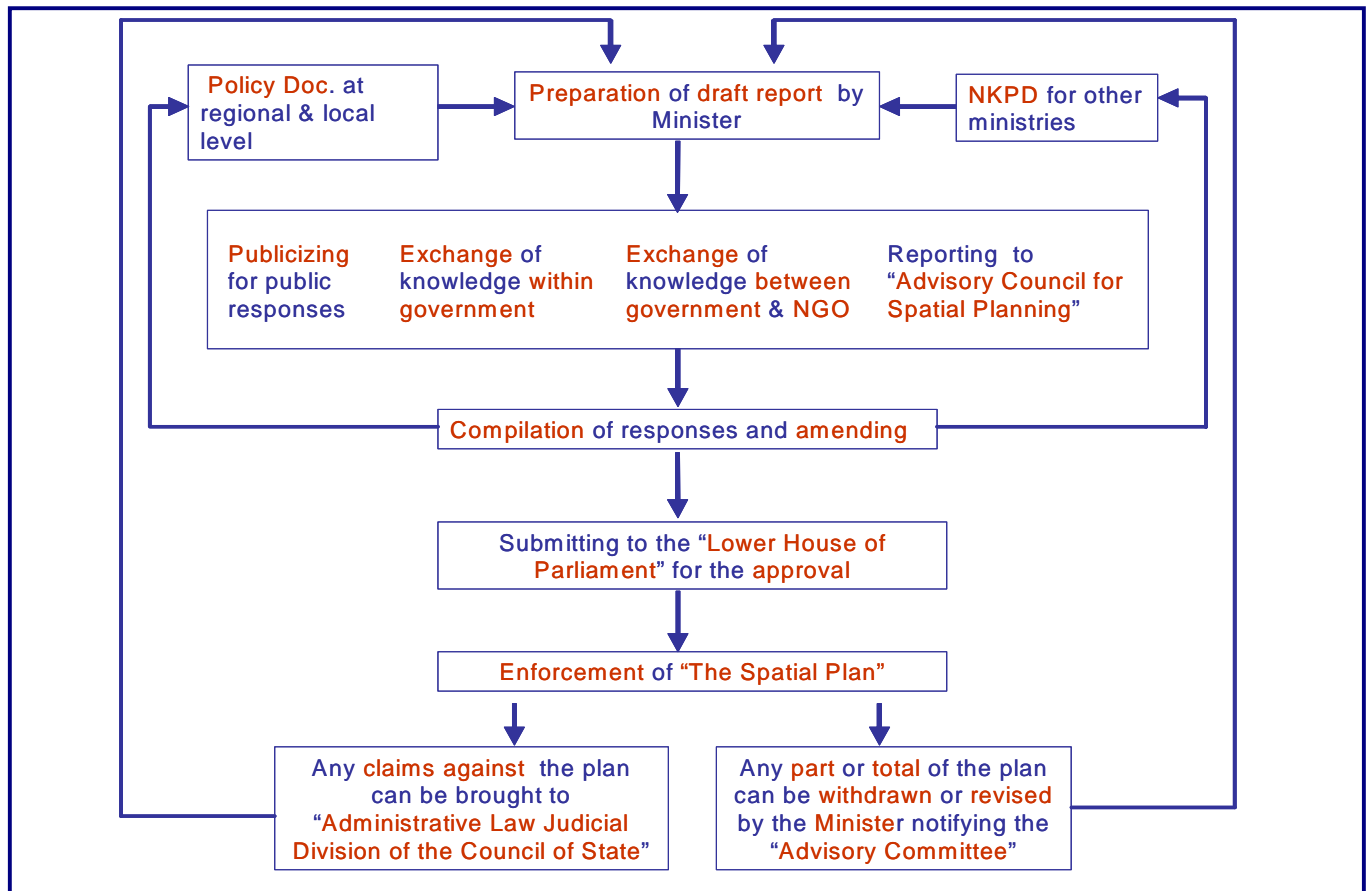
Table 3.1: The Three-Tiers Spatial Planning System

LEVEL	MAIN BODIES IN CHARGE	MAJOR ROLES
National (1960)	Central Government (Ministry of Housing Spatial Planning and Environment )  Parliament	<ul style="list-style-type: none"> <li>▪ Countrywide policy objectives and policy instruments (Key planning decisions)</li> <li>▪ General spatial planning principles and guidelines to be followed by the regional and local authorities</li> <li>▪ Directives to provincial and local authorities where necessary</li> <li>▪ Budgeting for financing and supporting regional and local developments and projects,</li> <li>▪ Implementation of large scale national and international significance projects and infrastructures</li> </ul>
Regional (1931)	Provincial Council Provincial Executive	<ul style="list-style-type: none"> <li>▪ Regional level zoning plans as guidelines for the local level authorities</li> <li>▪ Supervision of municipal and water management board decisions</li> </ul>
Local (1931)	Municipal Council Municipal Executive	<ul style="list-style-type: none"> <li>▪ Detailed local land use plans developments and implementations</li> <li>▪ Building permits covering all construction activities</li> </ul>

### 3.2 Process of developing National Spatial Policy Documents

The Procedure for each level of spatial plan is given by the Planning Act and the figure 3.2 illustrates only how to develop the national plans whereas similar figures can be derived for regional and local levels.. The procedure of developing Key Planning Decision (KPD) for national spatial planning consists of many steps. Initially, the Minister of Housing Spatial Planning and Environment prepares the draft policy document on spatial planning in coordination with necessary governmental agencies. Then the ministry publicizes document to collect the comments of public and non governmental organizations. For the time being, the draft is also submitted to the “Advisory Council for Spatial Planning”, administrative authorities of local and provincial municipalities for the exchange of knowledge. This part is rather important and may take time, since compilation of all responses and amendments on the draft, if and where decided is mutatis mutandis. The final form of the draft is then sent to the “Lower House of Parliament” for the approval and if so then the enforced plan is also publicized. In case that a part or the whole of the report is not approved then the minister will be to improve the draft and fallow all the steps just explained, once more. Any claims against the spatial plan can be brought to the “Administrative Law Judicial Division of the Council of State” by anyone or any body at any time of its valid term, on condition that he should apply by asserting his or its reasons. This process is also a proof of the transparency, collaboration and consensus aimed by the Dutch government.

Figure 3.2: National Level Key Planning Decision (KPD) Procedure for Spatial Plans in Netherlands



## 4. National Spatial Planning in the Netherlands within the Scope of Fifth Policy Document

### 4.1. A Brief Look Ahead of the Fifth Document

“Fifth National Policy Document on Spatial Planning”, for the term of 2000-2020, was preceded by four distinct but corresponding documents of four periods sequentially. Though, the first three were known to differ to some extent in characteristics from the last two documents, the issue that the former is the key to prepare the latter was common to all five as represented in figure 9. Such a successive process proved better results for the relatively new; as for, what was realized as lacking or unsuccessful within the present was the concern of the following. The first three reports are now described as the efforts for preparing the fourth and the supplementary to the fourth, “The Fourth Report Extra (VINEX)”, the first complete and successful national spatial planning framework for Netherlands. The given table 4.1, further summarizes the four documents by comparing each with the next to some depth.

**Table 4.1: Comparison of first four National Policy Documents on Spatial Planning**

	<b>Term</b>	<b>Scope</b>	<b>Highlights</b>	<b>Non-Fulfillment</b>
First National Policy Document on Spatial Planning	end of 50's, beginning of 60's	<ul style="list-style-type: none"> <li>•The problems of spatial development were set and determined.</li> <li>•Effort was forwarded to mainly the development of the Western part of the country known as Randstad, especially taking into account the European markets and industrial development.</li> </ul>	<ul style="list-style-type: none"> <li>•It was 1<sup>st</sup> national level and long term spatial planning report.</li> <li>•It was the first joined study of different governmental agencies together with experts and researches from the universities.</li> <li>•It awoke the awareness of both government and citizens on the issues of spatial planning.</li> </ul>	<ul style="list-style-type: none"> <li>•It was not a problem solving approach as no policy and policy instruments were offered to tackle the problems.</li> </ul>
Second National Policy Document on Spatial Planning	60's	<ul style="list-style-type: none"> <li>•The policies and policy instruments about spatial development were specified in order to solve the problems.</li> <li>•To meet the growth, the concept of development of old and new urban regions were introduced and implemented together with the improved transport systems.</li> </ul>	<ul style="list-style-type: none"> <li>•It contained the detailed evaluation of existing concepts and development of policy instruments that can be adapted Netherlands with its political and social nature. (Randstad, Green Heart)</li> <li>•Through the aim of transparency the document was publicized to inform the public on spatial planning and development issues</li> </ul>	<ul style="list-style-type: none"> <li>•Since the ways of applying the policies were not fully described, the results were rather slow below the expectations.</li> </ul>
Third National Policy Document on Spatial Planning	70's , beginning of 80's	<ul style="list-style-type: none"> <li>•Programs and projects to apply the policies were entirely described with a set of relevant reports.</li> <li>•A more emphasize has been placed on the adaptation of urban region policies supported by further implementations for controlling the suburbanization.</li> </ul>	<ul style="list-style-type: none"> <li>•Through the implementation of policies and policy instruments further coordination was developed within the government and with other sector for all levels (Key Planning Decisions (KPD) Procedures)</li> <li>•The attention was drawn to increasing urban quality more than ever before.</li> </ul>	<ul style="list-style-type: none"> <li>•The problem of scarcity of resources, which should have been assigned for new developments, was encountered.</li> <li>•By the end of its term the plan was already in adequate to satisfy the rapidly changing needs of society.</li> </ul>
Fourth and Fourth Extra National Policy Document on Spatial Planning	end of 80's, 90's	<ul style="list-style-type: none"> <li>•A special emphasize was placed on environmental matters within the idea of stimulating the economy by taking into consideration the impacts on environment simultaneously and ROM as area specific policy approach was introduced to deal with environmental problems.</li> <li>•Rather a strict policy was followed to restrict the suburbanization and control the renewal and development of cities strengthening the idea of compact cities.</li> <li>•The concepts of "contrast of areas", "diversity instead of monotony", "compact cities" were adapted with special interest in increasing the spatial quality, hence emphasizing the quality of life more than ever before.</li> </ul>	<ul style="list-style-type: none"> <li>•On the way to prepare the final document, Physical Planning Key Decisions were fully practiced through the involvement of citizens, NGO, NPO, different level of governmental authorities, experts, researches by distributing thousands of draft reports and analyzing the responses.</li> <li>•Policies for more compact cities like the large scale residential areas within the city regions (VINEX locations) strengthened the idea of network society and economy</li> <li>•ABC policy was adapted to stimulate the controlled development of business and industry areas.</li> </ul>	<ul style="list-style-type: none"> <li>•The restrictions for developments in rural areas and city center developments were not as successful as expected.</li> <li>•Proposed ABC Policy outcomes were found to be overestimated</li> <li>•It was lacking of a kind of in case approach such that if the results were not satisfactory, there should have been provided with some flexibility for required adjustment.</li> <li>•The level of quality of life reached by the end of the term of the fourth document was not satisfactory as expected .</li> <li>•Results of presumed control of VDT through land use and transport policies were below expectations.</li> </ul>

*“Randstad conurbation” is the name given to the area comprising the ring of the big cities (Amsterdam, The Hague, Rotterdam, Utrecht and Almere) with the rural area in the middle named as Green Heart*

*“VINEX locations” are the areas which have been allocated to large scale building constructions within the build up area near by the city centers*

## 4.2. Overview of the Fifth National Policy Document on Spatial Planning

With the fifth national policy document, the Netherlands is expected to be initiating a new and more successful spatial planning term. The reason lying under is that the government has developed seven important policy objectives shaped by six key concepts through national mission as illustrated in figure 10. The Fifth National Policy Document on Spatial Planning titled “Making Space, Sharing Space” was published as a draft report by the end of December 2000 and since then more than thousands of responses have been received. The fifth document, not only focused on what could not be achieved and also what was realized as lacking within the fourth report but also developed many policy improvements to meet the needs of society in today’s and future’s changing world. The overall mission was described as the enhancement and the balanced distribution of the total Quality of Life.

### 4.2.1. The Objectives of the Fifth Policy Document

Among the major policies of the fifth planning period all major objectives that shaped the fifth policy document were summarized below as fallows.

- **Achievement of international aspects**

Transnational approach from a European perspective has been included due to two main reasons. First is to help to develop a European spatial planning framework which will be quite necessary in return especially for the urban and environmental sustainable development of the regions through the borders. As an example, the joint challenge of Germany and Netherlands to preserve the large scale open areas of the North area on the Dutch side and the Niedersachsen on the German side of the country borders, can be given. Second is the formation of transnational logistical network for a better international interactions and relations that will help to strengthen the Netherlands’s position within the European Union.

- **Balanced economic growth and environmental quality**

The fifth plan promotes the economic growth but also aims to take measures to ease the bad impacts on the environment in order to maintain and even increase the sustainability. The government continues to create new jobs and build new commercial, business and industry centers, besides also renewing postwar developments. A better economy yields in increase in GDP, tax revenues of the government but also causes congestion, environmental pollution. The decision within the fifth plan is to attempt to establish the balance between and also using the some outcomes of the economic growth as a source to maintain and even improve the quality of environment.

- **Compact cities and open landscapes**

Even though a restrictive policy has been followed in Netherlands, still urban sprawl can be observed though less than many other European countries. That is why a special emphasize has been given to manage the urban growth to achieve spot urban development, simultaneously more open rural green areas. The Dutch government is planning to construct %50 of the total new houses within the current build up area of the cities. One of the key aspects of the fifth policy is the concentration of housing, work and other facilities in the cities, decreasing mobility but increasing accessibility not only within the urban areas but also to the nearby green areas especially by public transport and cycling.

- **Network Cities**

Since the Dutch society is developing to be a network society, this policy objective is of high importance to meet the changing life styles of the citizens. The idea of urban network has two parts. First is the development of the city centers and second is connecting the city centers through efficient transport

network aiming to use the facilities of cities more efficiently. The largest network of the fifth policy is the network within the Randstad conurbation connecting the five very important cities for the Netherlands.

- **Multiple and intensified land use**

Multiple land use is one of the promising concepts of the Netherlands spatial planning to manage and concentrate use of both urban and rural areas in order to efficiently use the land, which is a lacking commodity in the country. Multiple land use has four dimensions: first is to make use of even very small piece of land; second refers to the mixture of function in the same place; third is to make more use of one parcel of land quantitatively like high rise or underground construction. Fourth concept is the time management of multiple functioning of one space. Within the idea of the multiple and intensified land use in the fifth policy, the government endeavors to apply and get operational and productive outcomes of the program called as “Stimulation of Intensified Use of Space Program” (StiR). Twenty two projects have been selected to act as key projects which will be supported by expertise and certain level of funding as proof of how some of the multiple land use aspects do not necessarily lower the quality of life, like the third dimension as high rise buildings, which indeed is an issue that should be examined. Also the availability of more effective use of space along the motorways or around the sea and air ports by taking necessary measures is of high concern of the document.

- **Nature Preservation**

Nature has been a historical concept of the history of the spatial planning in the country, and it was included in the fifth document. National landscapes account for 15% for the Netherlands and seven areas have been designated as National Landscapes. Besides provinces can designate areas in accordance with the large scale National Contour Plan then the national government will invest to improve the provincial and national landscapes

- **Vital Cities**

“More Vital Cities”, this is what the Dutch government wants to achieve by the end of the planning term. Vitality has three dimensions: Individual Life Aspiration Satisfaction like better working and living environments; Overall Social Satisfaction like more green areas; Economic Satisfaction like higher income. The Dutch Government has chosen 30 cities for urban renewal to ensure the aim of vital cities.

#### **4.2.2. Policy Instruments of the Fifth Policy Document**

- **Contours**

Contours approach is regarded as a very useful tool for spatial planning in Netherlands. It covers two different contours of which the first is red contours to define the concentrated urban development like centers to be intensified for housing and employment. Second is the green contours which is a term given to areas that should be kept as green areas and restrict any urban development. The fifth policy draws a countrywide map of contours without further details and also sets out the process that should be followed to develop the contours. According to the defined process, after the government’s map of contours, the local level municipalities exactly determine the areas of green and red in details to produce a national comprehensive contour map. After the presentation of the contour approach so many responses have been received increasing the question marks on the issue especially about how to decide on the places of reds and greens. The final step will be the agreement among national, regional and local authorities on overall plans with their implementation programs and the necessary allocation of investment funding of the central government.



- **Delta Metropolis**

Randstad conurbation of the five big cities; Amsterdam, Rotterdam, Hague, Utrecht, Almere with the Green Heart in the middle, a part of the European Delta Metropolis, is also sometimes called as Delta Metropolis in the country. The Fifth document has laid significant stress on Delta Metropolis. The central government has a special interest in Randstad conurbation in order to promote the economic growth together with improved urban network especially for its position on the international platform. The government has been allocating resources for investing in the region to develop new job opportunities and improving the transportation system. A substantial part of the urbanization will occur in the existing built up areas. Randstad rail contract was signed (Dutch Government : 770 million Regions 136 million

- **ROM**

ROM, defined as area specific policy approach, was first introduced by the Dutch government in 1988. This policy instrument mainly focuses on the environmental problems of special areas where the problems occur. It is a kind of temporary organization established by relevant bodies and citizens to reach to a consensus and solve the specified problem. Without any legal power as a whole, any interest groups, non governmental or governmental agencies also private sector may come together. When it was first initiated, 10 areas with their unique problems were specified and the problems have been resolved since then. Twenty five cases were chosen where there are some specific environmental problems and since effort has been put forward to find solution under the responsibility of municipalities. As an example, it can be mentioned of the city of Hague which is highly facing the problem of scarcity of space for new housing. One of the ideas is to construct high rise buildings close to the Scheveningen Harbor where there are available space for VINEX location type housing. But, with no doubt there will some noise problems occur and one of the ROM organizations of city & environment was established to tackle this problem

- **Schiphol Airport and Rotterdam Seaport**

For the achievement of international aspects, the two main portals; Schiphol Airport and Rotterdam Seaport are of high concern within the fifth document. The policy proposes a managed development of all the airports and sea ports to achieve an economic growth but at the same time satisfying a desired level of quality of life in terms of environment safety and so on. For analyzing and evaluating the viability of such developments, a new type of cost benefit analysis, which will be the main criteria for the government's decisions, has been improved. This method was developed in order to assess the economic effects of the investments on infrastructures by emphasizing more on the social aspects, as its distinguishing feature.

- **New Location Policy**

ABC policy has a limited success as only one third of the assumed developments in accordance with the ABC policy were realized. Besides it was defined as quite restrictive and limited to only mobility issues without taking into consideration some other important aspects. Therefore the fifth document introduced a new location policy which was more flexible, decentralized and wider. The main idea of the New Location Policy was "offering an appropriate place for every business. However the document does not describe the word appropriate, intact it was left to be decided by provinces and municipalities in coordination and along with the national plan. For this, they will be considering three aspects other than one aspect of mobility of the ABC policy. These are: spatial quality; economic development and accessibility. For providing spaces for the new houses, the main criteria was allowing the development within the red contours of the regional and national plans, meaning a residential development either in existing areas or designated areas as decided by the government for a controlled growth.

## 5. National Transport Planning in the Netherlands

The process of developing Transport plans by the Ministry of Transport, Public Works and Water Management is a five step process. As the first step the minister sets its general policy frameworks for every 10 years in coordination with Water Management, Economy, Environment and Spatial Planning Departments in both national regional and local levels. Also, it prepares its budget for financing and subsidizing the transport infrastructures. Second step is the listing of options of major transport infrastructures which is revised every year along with the budget of the Ministry. Next is step is the process for assessment. A multi disciplinary Traffic, Economic, Financial and Environmental Assessment is carried out to give the final decision. Fourth is for the final decision which is given through the collaboration of Ministry of Transport, Public Works and Water Management and Ministry of Housing Spatial Planning and Environment. Then the last step is the inclusion of the transport decision in the provincial and local governments. As given by the Planning Act the ministry has the force the regional and local authorities if they refuse, though this is rare.

### 5.1 Comparison of last two national transport plans

The previous national transport plan entitled as “Second Transport Structure Plan (STSP)” was for the term of 1990 -2000. The new plan, “National Traffic and Transport Policy (NTTP)”, was developed for the period of 2000-2010 timely in accordance with the fifth policy document on spatial planning. The main outcome of the previous was to see that the land use and transport policy attempts to reduce car use was less influential than the fiscal instruments. For the next planning term, the main challenges were given within NTTP are increasing Public Private Partnership, managing transport to create a habit of public transport and decentralization, giving municipalities more authority.

When compared, the two plans have somehow distinct characteristics in terms of mobility, modal shift and Vehicle Distance Traveled (VDT). With the previous, the government mostly aimed a modal shift from car to public transport, take measures to reduce the VDT. Since these policies were not fulfilled as expected, the NTTP changed its view such that the main emphasize was placed on to shift from car to slow modes for short distances and to reduce the bad impacts of VDT rather than VDT itself. It should be mentioned here to omit any misunderstandings that, still reducing VDT and increasing the public transport share are among the important policies of the new period. When comparing the outcomes of the two while providing mobility STTP valued environment as the main criteria but NTTP considers both economic growth and environment.

## 6. Conclusions

For concluding and assessing the performance of the Dutch Model the answers that we were looking for questions will be replied from our understanding as the scholars of land use and transport but from outside of the country.

### 1. How they experienced in spatial planning to develop well planned society?

They developed better spatial policies and hence got more successful results compared to that of transportation. But, in both frameworks the integration and collaboration of all stake holders helped them to experience and learn faster and to reach to better for the next challenge. Of course, one of the most important factors is that being a small country with population of 16 million that helped the government to manage the spatial development. Also the high economic growth and a high GDP formed a big source to the government however the Dutch government was successful of spending it for better spatial development

## **2. How they proved concepts changed with changing needs and desires?**

High public involvement in policy making led the government to understand and response the changing needs of the Dutch society. Nevertheless, as claimed by the Dutch government, they still lack to meet the changing desires and included this among the policy bottlenecks of the next 20 years This indicates how the Dutch government considers the issue.

## **3. How they realized compact and clustered urban development and saved open spaces?**

The environment and nature has been a historical concept and the country was always aware of protecting the nature. The government expenditures also supported their understanding such that the share of environmental expenditures as of GDP is higher compared to that other two developed European countries UK and Germany. Although dispersed development was less compared to many other countries still urban sprawl and uncontrolled growth had occurred especially after the second world war. Since they expect a population growth and some important changes in the demographics the danger of the dispersion is high. Therefore the government, in order to manage the growth has produced many policy measures such as contour policy, new location policy. Besides, since land is very scarce commodity the involvement of the government in the land and housing market also helped to control the growth to some extent.

## **4. Financial system functions in government?**

Although the decentralization towards local authorities is aimed, the financial system and policies especially the taxation policies do not match with this. The highly centralized nature of taxation system lessens the freedom of provincial and local governments. Nevertheless, the central government has been successful in shaping its expenditures and improving taxation policies such as green taxes. However on of the weak points that need to improved especially from the transport infrastructures point of view is inadequacy of the private sector in terms of real estate development and infrastructure investments.

## **5. How the “Polder Model” & “Three Tier Structure” works in policy making**

The polder model, model for reaching consensus through transparency and collaboration, is one of the well achieved characteristic of the Netherlands compared to many other countries. This was succeeded by a long learning period and is still being improved. For example ROM approach has been recently developed to fill the gaps between authorities and relevant bodies on environmental issues. Besides the system also takes its power from the unofficial rules which are not written but well respected by many while cooperating in execution. The three tier spatial planning was also well established but there are two points that need to be improved first is the financial weakness of regional and local authorities. Second is the weakness of the reverse functioning of the system that is to say that from top, national to down, local interrelations work however from down to top still many problems exist.

## **6. How transport planning matches land use planning?**

As being aware of land use and transport interaction, both ministers work together in high coordination such as the ministry of transport gives its final decision after consultation with the ministry in charge of spatial planning. For example for the development of the Randstad Conurbation regional transport improvement has the highest priority. Their after world war developments reconstruction are also supported by new transport improvements. However the government knows that the public transport network quantitatively and qualitatively should be improved when compared to many other developed countries and declared it among its six main policy challenges

## **7. How developed future transport & land use policies for 2020?**

They have challenged to do their best to develop two plans “National Traffic and Transport Policy” and Fifth Policy document on spatial planning” for 2010. As the interests of the Dutch model we will be keeping our eyes on the country to evaluate the process and results.

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