Systems Thinking and System Dynamics Nici Zimmermann



### Michael Heseltine, the Secretary of State for the Environment

You are the Secretary of State for the Environment and member of the Conservative Party.

For some time, the government has been increasingly concerned about London's economic and population development. The city is declining. **Population** peaked and has decreased for the past two decades. The prosperity and development of the city is one of the government's primary concerns.

There is a chance to address this problem by a beneficial redevelopment of the London Docklands. The end to the docks arrived rather quickly, with the shipping industry's move to the container system. As a consequence, in the period from 1960 to 1980, all London's docks were closed. This left about eight square miles (~21 km²) of now derelict land in East London.

To address this problem and to redevelop the area, Michael Heseltine, the Secretary of State for the Environment, established the London Docklands Development Corporation (LDDC). This statutory body is appointed and funded by central government. In the year 1981, it has the power to buy and sell land in the Docklands and also serves as the area's development planning authority.

Your clerk suggested to host a participatory workshop and you gave her permission to organise it. For the past three months, she collaborated with researchers from UCL and invited a diverse group of stakeholders to make the workshop happen.

It is your intention that the <u>underlined</u> variables will make their way into the model and will be discussed at the meeting. Thus, when asked to suggest important variable names, please suggest the underlined variables.

#### You

- introduce yourself,
- welcome the participants and
- briefly introduce the **problem** to be addressed at the workshop.

Concerning the problem, you may briefly mention

- the closure of all docks in the past two decades,
- the peak and decline in London's overall population and
- that this workshop was initiated to improve London's overall development and uses the **Docklands as an example** to positively contribute to London's overall situation.

Then you welcome the facilitator and hand over to the facilitator.

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### The Surrey Quays Housing Action Group

Members of the Surrey Quays Housing Action Group were invited to this workshop that addresses London's overall development exemplified with the problem of redeveloping the London Docklands.

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As the Surrey Quays Housing Action Group, you support the efforts of local residents who are trying to defend and improve their housing situation in the face of "regeneration" threats.

Your group meets regularly to give and receive support on housing problems and campaign for better housing. You are not a service, you work collectively to solve each other's problems. Many of your members have had housing problems themselves or still do and you know you are stronger together. Surrey Quays Housing Action Group are part of the Surrey Quays Solidarity Group.

#### Your argument

It is your intention that the <u>underlined</u> variables will make their way into the model and will be discussed at the meeting. Thus, when asked to suggest important variable names, please suggest the underlined variables.

As members of the Surrey Quays Housing Action Group you are concerned about the number of **housing structures**, meaning the building units available for housing, and you want sufficient housing in London and the docklands. You think there is not enough housing for people. If housing becomes less affordable, it forces households to move into very small or shared dwellings, thus increasing the **households per housing structure** ratio. This is an indicator of crowding. You think that available land should be dedicated to housing so that the number of domestic dwellings can increase.

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### The London Chamber of Commerce and Industry (LCCI)

Members of the London Chamber of Commerce and Industry (LCCI) were invited to this workshop that addresses London's overall development exemplified with the problem of redeveloping the London Docklands.

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London Chamber of Commerce and Industry (LCCI) is the capital's largest independent networking and business support organisation. Representing the interests of thousands of companies, you connect thousands of business people every year and offer your members a wide range of practical and professional services.

In addition to hosting over 200 B2B events each year, LCCI provides member-to-member marketing opportunities, unlimited access to legal and HR advice, access to your exclusive central London meeting space and the opportunity to be part of an extensive international trade mission programme.

LCCI also represents the interests of its members to key business stakeholders and influencers in London and further afield across all business sectors.

#### Your argument

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As LCCI members you are interested in the prosperity of businesses in London. You want the number of **business structures** to grow. Business structures represent the building units that are dedicated to business. Available land should therefore be dedicated to business structures so that the number of businesses can increase. You also argue that businesses create **jobs** for the population.

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### **The Greater London Authority**

Members of the Greater London Authority were invited to this workshop that addresses London's overall development exemplified with the problem of redeveloping the London Docklands.

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The Greater London Authority has used system dynamics modelling, in particular on the issue of infrastructure investment.

#### Your argument

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You know that London's **population** development is largely influenced by migration, much more than by the difference between births and deaths. You are therefore very much focused on **net migration**, defined as the difference between immigration and outmigration from London, either to and from other areas in the UK or from abroad. You also know that available **jobs** and available housing attract migrants to come to London. If housing is available, this means there is little crowding.