Scenario study as to the demand for capacity within the Prison Services

(Summary)

An exploratory study for the period of 2005-2020

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1 Summary

1 The objectives and methodology of the study

Objectives of the study
At the request of the Ministry of Justice, and acting in accordance with instructions received from the Centre for Scientific Research and Documentation (Wetenschappelijk Onderzoek- en Documentatiecentrum, WODC), EIM carried out a exploratory scenario study focussing on the problem defined below:

What will be the medium term (5 to 15 years) consequences of demographic, economic and social developments in the Netherlands for crime, the judicial facilities (Prison Services) and the personnel required to man such facilities?

The following research questions have been compiled to be able to find an answer to this question:
1. What will be the effect of demographic factors such as ‘de-juvenisation’, increasing ethnicity and ageing on the composition of the population in 2005, 2010, 2015 and 2020?
2. What demographic factors are likely to have the greatest influence on crime in 2005, 2010, 2015 and 2020 and provide more details of the most significant policy dilemmas that could have an effect on these?
3. What other social developments are likely to influence crime?
4. What are the (possible) consequences of such social developments, including the demographic changes, for the nature and extent of crime?
5. What are the (possible) consequences of changes in the nature and extent of crime for the nature and extent of judicial facilities, as offered by the Prison Services, and the demand for personnel for these facilities?
6. What prognosis for the future can be constructed for the demand and supply of Prison Services (DJI)?
7. What policy dilemmas (questions to be asked) can be formulated?

It was decided to limit the scope of the study to the facilities of the Prison Services (DJI); on the one hand because the Prison Services are at the top of the Ministry of Justice’s budget and, on the other hand, because this study is of an exploratory nature. The custody of foreigners has not been included. The study is based on crimes registered by the police (the number of incidents reported).

The purpose and execution of the study
The study was carried out in three stages. It started by developing and filling in four scenarios. Each scenario contains assumptions (differing for each scenario) as to the future development in demographic, economic and social areas. Information was obtained from existing studies including those issued by the Central Planning Bureau (CPB), the Central Bureau of Statistics (CBS), the Town and Country Planning Department (Ruimtelijk Planbureau), the Ministry of Justice and the Ministry of Foreign Affairs and Overseas territories. In addition four specialists were interviewed. Policy changes and any (or no) revisions to the social security system and any (or no) further internationalisation were, of course, included in the scenarios. Specific policy changes in the
judicial field – such as changes in punitive measures, changes in the distribution of the available investigation capacity etc were, as is usual for scenario studies, not included.

In the second stage the developments derived from the four scenarios were translated into the development of registered crime up to 2020. To be able to do this a model was developed that classified seven types of crime and the adult chain and the juvenile chain. Indicators were determined, based on theoretical insights and empirical research (quantifiable), for each category of criminal offence. The estimate of the influence of the indicators per type of crime was based on data obtained during the period from 1978 to 2005. This second stage was also based on a study of literature, desk research and interviews with five specialists. Specialists from the WOOC were consulted specifically for these calculations.

In the third stage the projected development of registered crime per scenario was converted to the Prison Service required (expressed both in terms of placement and of personnel requirements). Finally, some recalculations were necessary, mainly because of some recent revisions by the Dutch statistical bureau in crime statistics that have been used in this study.

2 Projected trends and developments

The scenarios are based on the projected trends and developments in demographic, economic and social fields.

Demographic developments
The key words used in the most recent CBS population prognosis and ethnic minority prognosis (December 2004) are: ‘de-juvenisation’, aging and increasing ethnicity. Population growth in the entire period from 2005 to 2020 is estimated to be 2.7 percent. The indigenous population will be reduced by 0.6 percent in this period, the consequence of aging and increasing emigration, while the number of non-western ethnics will increase by 20 percent. This will result in the non-western ethnic part of the total population increasing from 10 per cent in 2005 to 12 per cent in 2020.

Economic developments
In the near future the economy is expected to develop more and more towards becoming a knowledge-intensive service economy. Employment in sectors such as agriculture and industry will continue to decrease, at the same time employment in business and other service sectors will increase. Such changes in the sector structure will be accompanied by a rising share of relatively highly qualified jobs. This development fits the development on the supply side: the educational level of the working population will be higher.

The expected increase of the pensionable age and the growing participation of women and ethnics will result in an increase in labour participation. The differences between the indigenous population and the ethnic population as to education and unemployment will not, however, have disappeared by 2020.

Social developments
Important social trends and developments are foreseen in fields such as internationalisation (both in the economic and in political-governmental sense), liberalisation and informalisation (with changes in the relationship between the government, business, citi-
zens the social midfield and science) digitalisation, individualisation, segregation and hardening.

3 Translating the trends and developments into scenarios

Four future scenarios have been sketched based on the developments described above. The scenarios are arranged according to two central dimensions: the extent to which internationalisation will persist and the extent to which social tasks and responsibilities will lie by the government or by the private sector. Confronted with this choice this study follows the scenarios from studies carried out by the CBS, CPB, RPB, RIVM-MNP, SCP and the Ministry of Justice.

The four scenarios for the Netherlands up to 2020

The global market scenario
This scenario is characterised by maximal internationalisation at both economic and political levels. At the same time there is the likelihood of extensive liberalisation and informalisation in the process of which the government allows the market to take over as much as possible and limits itself to its core business. The character of society changes to become a performance oriented society in which great confidence is placed on technological development to provide the solutions for social and economic problems. This scenario is characterised by: a high level of migration, high economic growth and increasing differences in income level.

The worldwide solidarity scenario
This scenario also pays considerable attention to internationalisation, both economically and politically. Responsibility and authority will be borne not (only) by the individual citizen and business but by the national and co-operating governments. World wide solidarity with attention paid to the quality of life and common responsibility is important. Other characteristics included in this scenario are increasing immigration and the growth of the collective sector (that will become much more efficient).

The safe region scenario
In this scenario the internationalisation trend at political level (in particular) is brought to a halt. Countries are attached to their own sovereignty, their own identity and culture and solve their problems preferably at national level. The migration policy is restrictive, the welfare state is now out of date and (as in the first scenario) has been slimmed down considerably.

The ‘caring’ society scenario
The focus in this scenario is on: no far reaching internationalisation in combination with a caring government that continues to play a leading role in social life. As in the previous scenario, countries attach great importance to their own sovereignty and their own identity. Care, solidarity small-scale are high on the list of priorities as is social-cultural diversity. Economic growth is relatively low in this scenario.
The development of crime and the capacity of the Prison Services according to four scenarios

The methodology applied
The developments foreseen in the four scenarios are translated into the development of criminality, the Prison Service capacity required and the prison staff required between 2005 and 2020. This is quantified in a number of stages.

- First possible demographic, economic and social determinants of crime (at the level of seven types of offences) were determined from literature. Then a regression analysis covering the period 1978-2004 was carried out to ascertain which of these determinants predicted the types of crime specified. Other supplementary factors (specific for the scenario), that had not been apparent from this empirical study, but were expected to be of increasing influence on the development of registered crime, were added.

- This was followed by an investigation, for each of the four scenarios, as to how the determinants identified would develop in the period up to 2020. How the determinants would develop for each scenario was ascertained mainly by other bureaus (CBS, CPB, RIVM and SCP) Based on these projected developments, the development of registered crime per scenario up to 2020 was calculated (making a distinction between the seven types of offences).

- In the third stage the development of crime up to 2020 was translated, per scenario, into the Prison Services capacity required (in terms of places and personnel) The WODC Prognosis Model Justititual Chains (PMJ) was used when making this translation.

Outline of the results
The following table shows the development of crime as a whole (in terms of the number of crimes registered) in the four scenarios up to 2020. The development of the Prison Services' capacity and the personnel required are also shown.
The development of crime registered annually, the Prison Services capacity required and the personnel required by the Prison Services per scenario in the period 2005 to 2020.

<table>
<thead>
<tr>
<th></th>
<th>Global market</th>
<th>Safe region</th>
<th>Global solidarity</th>
<th>Caring society</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of crimes registered annually</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- level 2005 (x 1.000)</td>
<td>1.228</td>
<td>1.228</td>
<td>1.228</td>
<td>1.228</td>
</tr>
<tr>
<td>- level 2020 (x 1.000)</td>
<td>1.798</td>
<td>1.409</td>
<td>1.567</td>
<td>1.196</td>
</tr>
<tr>
<td>- development 2005-2020 (%)</td>
<td>46</td>
<td>15</td>
<td>28</td>
<td>-3</td>
</tr>
<tr>
<td><strong>Annual capacity requirements (custodial years)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- level 2020</td>
<td>20.000</td>
<td>18.200</td>
<td>19.300</td>
<td>17.000</td>
</tr>
<tr>
<td>- development 2005-2020 (%)</td>
<td>36</td>
<td>23</td>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>TBS (detained at the govt.’s pleasure)</td>
<td></td>
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</tr>
<tr>
<td>- level 2005</td>
<td>1.800</td>
<td>1.800</td>
<td>1.800</td>
<td>1.800</td>
</tr>
<tr>
<td>- level 2020</td>
<td>2.600</td>
<td>2.300</td>
<td>2.500</td>
<td>2.100</td>
</tr>
<tr>
<td>- development</td>
<td>45</td>
<td>29</td>
<td>39</td>
<td>18</td>
</tr>
<tr>
<td>Juvenile (custodial treatment and detention centres)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- level 2005</td>
<td>1.440</td>
<td>1.440</td>
<td>1.440</td>
<td>1.440</td>
</tr>
<tr>
<td>- level 2020</td>
<td>2.340</td>
<td>2.010</td>
<td>2.220</td>
<td>1.770</td>
</tr>
<tr>
<td>- development 2005-2020 (%)</td>
<td>62</td>
<td>39</td>
<td>54</td>
<td>22</td>
</tr>
<tr>
<td>Employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- level 2020</td>
<td>22.000</td>
<td>21.100</td>
<td>22.500</td>
<td>20.600</td>
</tr>
<tr>
<td>- development 2005-2020 (%)</td>
<td>10</td>
<td>6</td>
<td>13</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: EIM.

The development of crime in the scenarios

As the table shows, the predicted increase in crime varies from -3 (the caring society) to 46 per cent (global market). The development of criminality in the four scenarios is also summarised in the figure below.
The growth in crime is strongest in the scenario in which the government allows the market to take over as much as possible and limits itself to its core business, in combination with increasing internationalisation: the global market scenario. Then the worldwide solidarity scenario follows. Violence, certain types of theft, drugs crimes and crime belonging to the remaining categories\(^1\) show the greatest signs of increase. The most important idea behind this is that in both scenarios there is a more liberal immigration policy. This will offer economic opportunities but also make the Netherlands more attractive to entrepreneurs in crime. Those who will benefit the soonest and/or the most from the new opportunities are the criminals and in particular those criminals that take part in serious or organised crime.

Looking at the effect of the predicted demographic developments on crime up to 2020, the expectations are as follows:
- ‘de-juvenisation’ will probably lead to a reduction in crime: to a great extent crime is the domain of young males;
- increasing ethnicity will probably result in the increase of crime: non-western ethnics can lead – as a consequence of their, on average, poorer social-economic position – to them being over-represented in criminality;
- ageing could result in either an increase (more victims) or a reduction in crime (fewer perpetrators);
- extreme individualisation results in more divorces: children whose parents are divorced are more often involved in crime (in particular violence and theft).

\(^1\) This category consists of all registered crime with the exception of violent crimes, simple offences, drunken driving, drug related crime. Destructive behaviour and economic crime also belong to this category.
It is also expected that criminality via, or with the assistance of, ICT (cyber crime) – should the use of ICT in society increase even further – will increase. If this is so then in many cases new types of existing criminality will be involved. Some examples are: threats via internet and theft by hacking electronic networks and PIN pass fraud. On the other hand, however, developments in the ICT field also offer new opportunities for detection, combating and prevention. Therefore it is predicted that, in the field of cyber crime, there will be a race between security services and detection agencies on one side and hackers and criminals on the other.

The development of Prison Services capacity

The estimates also lead to the assumption that the predicted increase in the capacity of the Prison Services in the period up to 2020 for adults will range from 36 per cent in the global market scenario to 16 per cent in the caring society scenario. The highest capacity increase for juveniles also occurs in the global-market scenario.

The estimate of the Prison Services’ personnel requirements up to 2020 are based on the calculated capacity required per type of institution and assumptions about the development of labour productivity in the four scenarios. The predicted growth in the period 2005 to 2020 ranges from 4 per cent (caring society) to 13 per cent (global market). The highest prison Services’ personnel requirements can be seen in the global-market scenario, but this scenario has also the largest growth of labour productivity.

The results when some alternative assumptions are used to explain percentages

And finally some supplementary calculations were made, based on the assumption that developments in the field of DNA, ICT and the increasing use of closed circuit cameras in security systems will, in the coming years, lead to the more speedy or improved detection of suspects and better evidence of the guilt or even innocence of the suspects. These results are expected to be achieved mainly when violent crime, robbery and cyber crime are involved.

Based on these alternative assumptions the additional capacity required by the Prison Services in 2020 will be a maximum of 5 percent higher than the figures obtained from the calculations based on the situation remaining.
Conclusion

The research methodology applied and its benefits and limitations

The way in which this study was carried out is comparable to the approach used in the WODC model. However, when drawing up the comparisons, because this scenario study covered a longer assessment period, EIM looked further than those variables that were relevant in the historical period. Other than in the WODC model some variable are included that are expected to become of (greater) importance in the period up to 2020. In addition the WODC model was used when translating of criminality into the required custodial capacity.

In the Global market and safe region scenarios,

The influence of demographic developments

The following supplementary conclusions can be drawn concerning the specific consequences of demographic developments on the development of criminality:

− If only demographic developments are taken into account, the results in the four scenarios differ less form each other than if economic and social developments are also taken into account.

− In the Safe Region scenario, economic and social developments have opposite influences on the development of criminality. Less globalisation does have a restraining effect on crime, while far reaching privatisation will result in an increase in crime.

− The influence of demographic factors on the development of criminality also varies per type of crime.

Because demographic, economic and social developments are so closely interwoven an integrated approach, such as one adopted in this study, is preferable to an approach in which the consequences of the developments and relationships are considered individually.

Further interpretation of the results from the four scenarios

Based on the results of the analyses made and on the scenario calculations the following conclusions can be drawn concerning the scenarios themselves.

− Both far reaching internationalisation/globalisation and far reaching privatisation will result in the growth of registered crime up to 2020. The capacity required by the Prison Services will also increase.

− Because of this the differences in the results of the calculations will be the greatest between the global- and the caring society scenario. This conclusion applies for all types of criminality and the accompanying Prison Service capacity.

− When comparing the results for the two scenarios – the global solidarity scenario and the safe-region scenario – it is found that the far-reaching globalisation and internationalisation will result in a stronger growth in registered crime than will extensive privatisation. The Prison Services’ capacity required in both scenarios in 2020 is almost equal. The way in which these results were achieved, in both scenarios, (at the level of the various types of crime) however, differs.

The role of policy in the scenarios

Policy plays a part on two counts. The input side includes future policy changes in a number of areas (e.g. the development of social security, the extent of internationalisation). Possible specific policy changes in the judicial system are, on the contrary, not included. Research has shown that it is evident that policy decisions in this field (e.g. im-
posing heavier sentences) could have a significant effect on registered criminality and the Prison Services.

It is very well possible that future policy changes concerning crime and justice will result from developments in the area of crime and the capacity of the Prison Services that is needed. Such policy changes are most expected in scenarios where the growth in crime is strongest.