

Head 48 — GOVERNMENT LABORATORY

Controlling officer: the Government Chemist will account for expenditure under this Head.

Estimate 2021–22 **\$573.0m**

Establishment ceiling 2021–22 (notional annual mid-point salary value) representing an estimated 498 non-directorate posts as at 31 March 2021 rising by six posts to 504 posts as at 31 March 2022 ... **\$328.5m**

In addition, there will be an estimated seven directorate posts as at 31 March 2021 and as at 31 March 2022.

Controlling Officer's Report

Programmes

Programme (1) Statutory Testing	This programme contributes to Policy Area 2: Agriculture, Fisheries and Food Safety (Secretary for Food and Health) and Policy Area 15: Health (Secretary for Food and Health).
Programme (2) Advisory and Investigative Services	This programme contributes to Policy Area 2: Agriculture, Fisheries and Food Safety (Secretary for Food and Health), Policy Area 9: Internal Security (Secretary for Security), Policy Area 23: Environmental Protection, Conservation, Power and Sustainable Development (Secretary for the Environment) and Policy Area 32: Environmental Hygiene (Secretary for Food and Health).
Programme (3) Forensic Science Services	This programme contributes to Policy Area 9: Internal Security (Secretary for Security).

Detail

Programme (1): Statutory Testing

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)	274.0	278.0	276.5 (–0.5%)	279.8 (+1.2%)
				(or +0.6% on 2020–21 Original)

Aim

- 2 The aim is to carry out statutory functions as referee analyst under a number of ordinances and regulations.

Brief Description

3 The Government Chemist discharges statutory functions as referee analyst under various ordinances and regulations. The work involves the analysis of food products for regulatory compliance; the examination of western and Chinese medicines for registration and quality control; the classification of dangerous goods for compliance with the Dangerous Goods Ordinance (Cap. 295); the testing of dutiable commodities for tariff classification; the assessment of toys, children's products and consumer articles for health and safety hazards; the determination of tar and nicotine yields in cigarettes; the assay of gold and platinum articles for fineness; the analysis of consumer goods in relation to the fitness with their trade descriptions; and the verification of products and equipment for compliance with the Weights and Measures Ordinance (Cap. 68). The Laboratory provides 24-hour on-call service to assist the Fire Services Department at scenes of accidents involving hazardous chemicals.

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4 In 2020–21, the Laboratory continued outsourcing some of the routine food testing work to private testing laboratories. The resources released from outsourcing were deployed to take up test method development, new testing work arising from amendments of food legislation and activities related to outsourcing such as organisation of technical seminars as well as chemical metrology development. In another area of health concern, the Laboratory continued to provide full support for (a) urgent investigatory analyses of substandard pharmaceuticals and Chinese medicines; (b) investigation into cases of adverse reaction arising from the consumption of proprietary Chinese medicines and/or health products found containing undeclared western drug ingredients; and (c) intoxication incidents related to substitution or contamination of herbs in Chinese herbal medicines. In addition, the Laboratory continued to provide analytical and advisory support to the Department of Health in the development of Hong Kong Chinese Materia Medica Standards. The Laboratory will continue to provide metrology-in-chemistry support for the development of testing and certification industry in Hong Kong, for example, arrangement of proficiency tests for local laboratories and provision of reference materials.

5 The key performance measures in respect of statutory testing are:

Targets#

	Target	2019 (Actual)	2020 (Actual)	2021 (Plan)
<i>Testing of:</i>				
food complaint cases within				
25 working days (%).....	88§	96	96	88
urgent samples relating to food incidents				
within two working days (%).....	100	100	100	100
other food samples within reporting time				
averaging 19 working days (%).....	95	99	99	95
urgent samples relating to pharmaceutical				
incidents within two working				
days (%).....	95	100	100	95
other pharmaceutical samples within				
reporting time averaging 25 working				
days (%).....	95	99	98	95
urgent samples relating to Chinese				
medicine incidents within two working				
days (%).....	95	100	100	95
other Chinese medicine samples within				
reporting time averaging 30 working				
days (%).....	95	99	99	95
dangerous goods within reporting time				
averaging 14 working days (%).....	96	98	99	96
dutiable and other commodities within				
reporting time averaging				
ten working days (%).....	95	100	99	95
toys and children's products within				
reporting time averaging				
15 working days (%).....	95	99	99	95
consumer goods within reporting time				
averaging 35 working days (%).....	95	100	98	95
non-pharmaceutical consumer goods				
(trade descriptions) within reporting				
time averaging 35 working days (%).....	92	98	97	92

For targets where reporting time is mentioned, different samples require different analytical procedures, hence different reporting time. The quoted number of working days required represents an average of reporting time for the different types of samples and test requests within the category, while the target (in percentage) is the total compliance rate of the concerned samples and test requests within a particular category against their respective targets.

§ The target is revised from 86 per cent to 88 per cent as from 2020.

Indicators

The key indicators for statutory testing are the numbers of tests performed on the various categories of services.

	2019 (Actual)	2020 (Actual)	2021 (Estimate)
<i>Tests performed</i>			
food complaint samples	6 554	4 523	10 000
urgent samples relating to food incidents	219	46	N.A.‡

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	2019 (Actual)	2020 (Actual)	2021 (Estimate)
other food samples	197 886	197 193	190 000
urgent samples relating to pharmaceutical incidents	6	156	N.A.‡
other pharmaceutical samples	51 562	51 467	51 000
urgent samples relating to Chinese medicine incidents ..	18	981	N.A.‡
other Chinese medicine samples	80 673	80 415	80 000
dangerous goods.....	3 779	6 050	5 000
dutiable and other commodities	7 759	6 688	6 000
non-pharmaceutical consumer goods (trade descriptions)	4 995	5 722	5 000
cigarette samples	12 912	13 860	13 000
toys and children's products	20 708	21 465	21 500
consumer goods.....	11 970	12 150	12 000

‡ As the testing requirements for urgent samples relating to food, pharmaceuticals and Chinese medicine incidents respectively fluctuated in previous years, it is difficult to estimate the occurrence of the type of incidents or the number of tests required.

Matters Requiring Special Attention in 2021–22

6 During 2021–22, the Laboratory will continue to provide:

- professional advisory and analytical services to support the enforcement of various food safety ordinances and regulations, including the updated standards for metallic contamination in food which have been fully implemented as from 1 November 2020. The services will cover analysis on different food samples on both routine and ad hoc bases;
- analytical and advisory support to the Department of Health for the formulation and development of Hong Kong Chinese Materia Medica Standards for Chinese herbal medicines commonly used in Hong Kong; and
- professional advisory and analytical services to support the enforcement of the various orders and regulations under the Trade Descriptions Ordinance (Cap. 362). The services will cover analysis and authenticity tests on consumer goods, in particular those related to valuable goods such as jewellery, seafood products and Chinese medicinal products where their authenticity is of public concern.

Programme (2): Advisory and Investigative Services

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)	100.4	94.2	93.7 (–0.5%)	93.3 (–0.4%)
				(or –1.0% on 2020–21 Original)

Aim

7 The aim is to provide a wide range of primarily chemical testing and advisory services to other government departments and public institutions.

Brief Description

8 The Laboratory provides comprehensive analytical and advisory services to the Government in the management and monitoring of the environment and in the enforcement of various pollution control measures. Chemical testing of air, water and waste samples for a variety of pollution indicators constitutes the main activity under this programme. Specific incidents of emission or leakage of hazardous chemical substances into the environment involve the Laboratory in on-site investigations and advisory services. Analytical support is provided to the Hong Kong Observatory's Environmental Radiation Monitoring Programme as well as the Daya Bay Contingency Plan. Other activities include the examination of seepage and swimming pool water samples for the Food and Environmental Hygiene Department, the analysis of samples related to evaluation of exposure to occupational hazards for the Labour Department, the testing of government supplies for conformity to tender specifications and the identification of products made from endangered species.

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9 In 2020–21, the Laboratory continued to render analytical support and professional advice to the Government in improving the quality of the environment of Hong Kong and engage in scientific research to further enhance its analytical capabilities in environmental analysis. In addition to its routine commitments, the Laboratory was actively involved in various environmental impact studies and ad hoc projects including the analysis of environmental samples for organic and inorganic pollutants under the Toxic Substances Monitoring Programme. To support the implementation of the Air Pollution Control (Volatile Organic Compounds) Regulation (Cap. 311W), the Laboratory continued to provide analytical services for determining the content of volatile organic compounds in regulated products including architectural paints, vessel paints and pleasure craft paints, printing inks, fountain solutions and printing machine cleaning agents, adhesives and sealants, vehicle refinishing paints and consumer products. Method development and validation work for the analysis of new persistent organic pollutants was continued. In 2020, the Laboratory also provided over 360 pieces of professional advice relating to over 1 060 items for the classification under the Dangerous Goods Ordinance and over 410 pieces of advice relating to over 430 items supporting the implementation of the Chemical Weapons (Convention) Ordinance (Cap. 578) and the control of strategic commodities.

10 The key performance measures in respect of advisory and investigative services are:

Targets#

	Target	2019 (Actual)	2020 (Actual)	2021 (Plan)
<i>Testing of:</i>				
air pollution monitoring samples within reporting time averaging 20 working days (%).....	95	97	97	95
field investigation (air pollution) samples within reporting time averaging 12 working days (%).....	96	100	100	96
air pollution samples for litigation purposes within reporting time averaging 18 working days (%).....	97	100	100	97
water quality monitoring samples within reporting time averaging 20 working days (%).....	96	99	98	96
environmental waste monitoring samples within reporting time averaging 27 working days (%).....	95	97	97	95
environmental waste samples for litigation purposes within reporting time averaging 12 working days (%).....	97	99	100	97
radioactivity monitoring samples within reporting time averaging 12 working days (%).....	95	99	99	95
pesticides formulation samples within reporting time averaging 36 working days (%).....	93	100	100	93
seepage and swimming pool water samples within ten working days (%).....	96	100	100	96
other samples within reporting time averaging 25 working days (%).....	90	99	100	90

For targets where reporting time is mentioned, different samples require different analytical procedures, hence different reporting time. The quoted number of working days required represents an average of reporting time for the different types of samples and test requests within the category, while the target (in percentage) is the total compliance rate of the concerned samples and test requests within a particular category against their respective targets.

Indicators

The key indicators for advisory and investigative services are the numbers of tests performed on the various categories of services.

	2019 (Actual)	2020 (Actual)	2021 (Estimate)
<i>Tests performed</i>			
air pollution monitoring samples	65 541	60 406	63 000
air pollution samples for litigation purposes.....	2 816	2 170	3 400
field investigation (air pollution) samples	472	429	440
water quality monitoring samples	129 685	99 055	126 000

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	2019 (Actual)	2020 (Actual)	2021 (Estimate)
environmental waste monitoring samples	12 324	11 213	11 000
environmental waste samples for litigation purposes	307	122	320
pesticides formulation samples	334	330	310
seepage and swimming pool water samples	41 844	44 665	40 000
miscellaneous			
radioactivity monitoring samples	4 997	4 930	4 700
other samples	16 880 Φ	8 667	12 900

Φ The high output in 2019 was due to unforeseen litigation samples of smuggled gold and other valuable articles.

Matters Requiring Special Attention in 2021–22

11 During 2021–22, the Laboratory will continue to provide:

- analytical services in support of the implementation of the Air Pollution Control (Fuel for Vessels) Regulation (Cap. 311AB); and
- support to government departments in relation to the implementation of the Stockholm Convention on Persistent Organic Pollutants and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Programme (3): Forensic Science Services

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)	177.8	193.8	192.6 (–0.6%)	199.9 (+3.8%)

(or +3.1% on
2020–21 Original)

Aim

12 The aim is to provide comprehensive and unbiased forensic science services to the criminal justice system.

Brief Description

13 The Laboratory provides comprehensive and impartial forensic science services to the law enforcement departments, which include mainly the Hong Kong Police Force, the Customs and Excise Department, the Immigration Department and the Fire Services Department. The services include crime scene investigation, traffic accident reconstruction, fire investigation, DNA profiling, drugs of abuse examination, toxicology analysis and questioned documents examination. A 24-hour and express service is also provided for these scientific examinations to fulfil the immediate client's need.

14 Additionally, the screening and monitoring, through urine testing (urinalysis), of the drug abuse behaviour of persons under imprisonment, rehabilitation or probation is conducted for the Department of Health (Methadone Maintenance Scheme), the Social Welfare Department, the Correctional Services Department, the Hong Kong Police Force and other organisations requiring this service.

15 The targets are defined to be the percentage of completed cases whose individual case-completion time does not exceed a specified number of working day(s). The key performance measures in respect of the forensic science services are:

Targets

	Target	2019 (Actual)	2020 (Actual)	2021 (Plan)
<i>Cases for:</i>				
biochemical grouping (DNA profiling) - non-complicated cases completed within 60 working days (%)	90	89	83	90
complicated cases completed within 130 working days (%)	90	86	76	90
DNA database (DNA profiling) completed within 22 working days (%)	90	96	58	90

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	Target	2019 (Actual)	2020 (Actual)	2021 (Plan)
parentage testing (DNA profiling)				
completed within				
22 working days (%) Δ	90	100	82	90
trace evidence completed within				
66 working days (%) Ψ	90	82	84	90
accident reconstruction completed within				
66 working days (%) Ψ	90	64	78	90
video/image analysis completed within				
88 working days (%) Ω	90	N.A.	N.A.	90
illicit drug seizures completed within				
11 working days (%).....	90	92	81	90
major illicit drug seizures and				
manufacturing completed within				
44 working days (%).....	90	90	74	90
other illegal drug activities completed				
within 120 working days (%).....	90	97	84	90
analytical toxicology completed within				
33 working days (%).....	85	89	89	85
drug urinalysis -				
methadone clinics completed within				
11 working days (%).....	90	91	92	90
judicial-confirmation (routine)				
completed within				
22 working days (%).....	85	92	83	85
judicial-confirmation (enhanced				
probation) completed within				
six working days (%).....	100	100	99	100
drug-driving completed within				
33 working days (%).....	85	100	96	85
drink-driving completed within				
11 working days (%).....	90	97	96	90
handwriting examination completed within				
66 working days (%).....	85	94	92	85
counterfeiting/forgery completed within				
30 working days (%).....	90	98	94	90
express counterfeiting/forgery service				
completed within				
one working day (%).....	99	100	100	99

Δ The figures represent the number of working days lapsed between the reception by the Laboratory of samples for genetic testing and the issuing of genetic data after completion of DNA analysis of these samples within the Laboratory.

Ψ The performance has been affected by the growing demand on video/image analysis, a category of work that the Laboratory introduced since 2019.

Ω New target as from 2021.

Indicators

Key indicators for the forensic science services are the number of cases investigated in each category, statutory certificates or technical reports and witness statements issued and crime scenes attended.

	2019 (Actual)	2020 (Actual)	2021 (Estimate)
<i>Criminalistics and Quality Management Group</i>			
cases investigated			
DNA database	2 170	2 055	2 000
biochemical sciences -			
non-complicated.....	700	816	780
complicated	1 101	1 215	1 250
parentage testing	2 583	833	1 800
chemical sciences	700	687	700
physical sciences	738	725	750

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	2019 (Actual)	2020 (Actual)	2021 (Estimate)
<i>Drugs, Toxicology and Documents Group</i>			
cases investigated			
controlled drugs.....	3 060	3 815	4 000
analytical toxicology	2 179	2 275	2 300
drug urinalysis -			
methadone clinics.....	6 109	4 934	5 600
judicial-confirmation (routine).....	14 815	10 934	13 000
judicial-confirmation (enhanced probation).....	686	749	670
drug-driving	11	25	15
drink-driving	44	51	50
questioned documents	404	274	340
<i>Forensic Science Division</i>			
statutory certificates issued	3 220	3 998	4 200
technical reports/statements	12 151	10 327	12 000
crime scenes attended.....	301	320	320

Matters Requiring Special Attention in 2021–22

16 During 2021–22, the Laboratory will continue to provide impartial forensic science support to government departments to combat crime and drug abuse.

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ANALYSIS OF FINANCIAL PROVISION

	2019–20 (Actual) (\$m)	2020–21 (Original) (\$m)	2020–21 (Revised) (\$m)	2021–22 (Estimate) (\$m)
Programme				
(1) Statutory Testing	274.0	278.0	276.5	279.8
(2) Advisory and Investigative Services	100.4	94.2	93.7	93.3
(3) Forensic Science Services	177.8	193.8	192.6	199.9
	552.2	566.0	562.8 (–0.6%)	573.0 (+1.8%)
				(or +1.2% on 2020–21 Original)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2021–22 is \$3.3 million (1.2%) higher than the revised estimate for 2020–21. This is mainly due to increased requirement for procurement of equipment and specialist supplies, and other operating expenses.

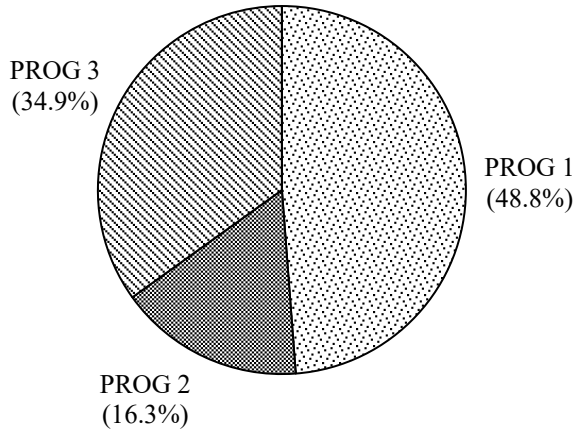
Programme (2)

Provision for 2021–22 is \$0.4 million (0.4%) lower than the revised estimate for 2020–21. This is mainly due to reduced requirement for procurement of equipment and specialist supplies, and other operating expenses.

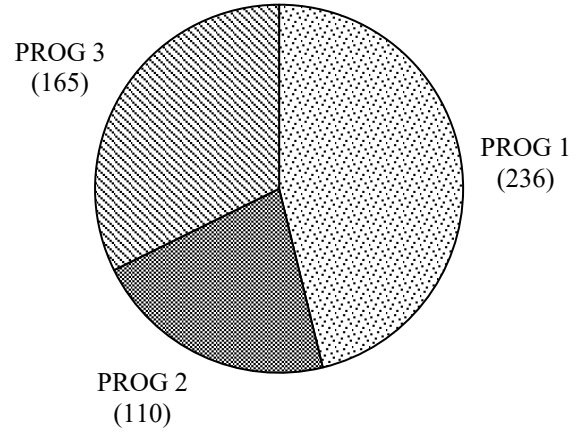
Programme (3)

Provision for 2021–22 is \$7.3 million (3.8%) higher than the revised estimate for 2020–21. This is mainly due to increased provision for personal emoluments, increased requirement for procurement of equipment and specialist supplies, and other operating expenses. There will be an increase of six posts.

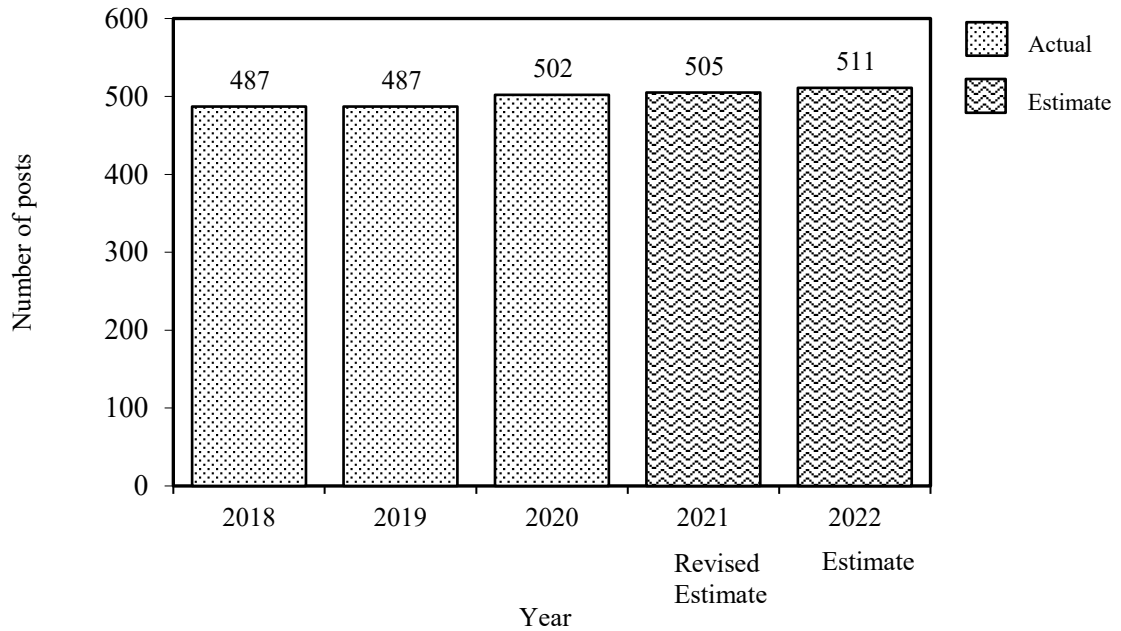
Allocation of provision to programmes (2021-22)



Staff by programme (as at 31 March 2022)



Changes in the size of the establishment (as at 31 March)



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Sub-head (Code)	Actual expenditure 2019–20	Approved estimate 2020–21	Revised estimate 2020–21	Estimate 2021–22	
	\$'000	\$'000	\$'000	\$'000	
Operating Account					
Recurrent					
000	Operational expenses	490,394	504,236	501,035	516,836
	Total, Recurrent.....	490,394	504,236	501,035	516,836
	Total, Operating Account	490,394	504,236	501,035	516,836
<hr/>					
Capital Account					
Plant, Equipment and Works					
661	Minor plant, vehicles and equipment (block vote).....	61,855	61,774	61,774	56,199
	Total, Plant, Equipment and Works.....	61,855	61,774	61,774	56,199
	Total, Capital Account.....	61,855	61,774	61,774	56,199
<hr/>					
	Total Expenditure	552,249	566,010	562,809	573,035
		<u>552,249</u>	<u>566,010</u>	<u>562,809</u>	<u>573,035</u>

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Details of Expenditure by Subhead

The estimate of the amount required in 2021–22 for the salaries and expenses of the Government Laboratory is \$573,035,000. This represents an increase of \$10,226,000 over the revised estimate for 2020–21 and \$20,786,000 over the actual expenditure in 2019–20.

Operating Account

Recurrent

2 Provision of \$516,836,000 under *Subhead 000 Operational expenses* is for the salaries, allowances and other operating expenses of the Government Laboratory.

3 The establishment as at 31 March 2021 will be 505 posts. It is expected that there will be an increase of six posts in 2021–22. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2021–22, but the notional annual mid-point salary value of all such posts must not exceed \$328,458,000.

4 An analysis of the financial provision under *Subhead 000 Operational expenses* is as follows:

	2019–20 (Actual) (\$'000)	2020–21 (Original) (\$'000)	2020–21 (Revised) (\$'000)	2021–22 (Estimate) (\$'000)
Personal Emoluments				
- Salaries.....	351,934	367,982	365,782	370,216
- Allowances.....	1,724	2,160	2,160	2,160
Personnel Related Expenses				
- Mandatory Provident Fund contribution.....	546	789	761	1,154
- Civil Service Provident Fund contribution.....	23,729	27,284	26,311	27,859
Departmental Expenses				
- General departmental expenses	112,461	106,021	106,021	115,447
	490,394	504,236	501,035	516,836