

7. Regional Analysis of Data

7.1 The data on the six regions of the Commonwealth is given in Annex 5 and includes population, GNP per head, Central (Government) health expenditure (CHE) as a percentage of the total Central Government expenditure (CE), CHE per head as a percentage of GNP, Total Drug Consumption as a percentage of GNP, and the production status in accordance with Annex 4.

7.2 The table below summarises on a regional basis the estimated data on consumption and production and their relationships.

| <u>Region</u> | <u>Consumption US\$ million</u> | <u>Consumption GDP Per Head US\$</u> | | <u>Production US\$ million</u> | <u>Production/ Consumption</u> |
|----------------|-------------------------------------|--|-------|------------------------------------|------------------------------------|
| | | | | | |
| Asia | 2,134 (7) | 1.01% | 2.84 | 1,705 (6) | 80% |
| Africa | 504 (13) | 0.37% | 2.06 | 130 (9) | 26% |
| Pacific | 11 (7) | 0.26% | 2.35 | 1 (3) | 4% |
| Caribbean | 80 (11) | 0.65% | 15.58 | 11 (5) | 14% |
| Europe* | 27 (2) | 0.83% | 25.71 | 2 (2) | 7% |
| Industrialised | 5,895 (4) | 0.61% | 58.90 | 6,673 (4) | 113% |
| <hr/> | | | | | |
| TOTAL | 8,651 (44) | | 7.65 | 8,521 (29) | |

Figures in parentheses denote number of countries which supplied the data indicated.

* Cyprus and Malta only.

8. Findings

8.1 In the light of the above data and its analysis, in addition to the role of local production the following factors are to be considered in detail while planning a policy and producing a viable programme of drug supply:

- estimation of requirements of essential drugs,
- rational utilisation of drugs,
- pricing of drug supplies,
- ensuring the quality and safety of imported and locally - produced drugs,
- organising an efficient system of drug delivery and distribution at all levels and investment in its infrastructure.

8.2 The figures on health expenditure in relation to GNP clearly show that the low income group countries, where the need is most, spend a very small proportion in comparison with the

industrialised countries. The middle income group have better allocation of resources out of their GNP for this purpose. Some Caribbean countries spend more than 5 per cent of their GNP, the target set by WHO to achieve health for all by the year 2000⁽¹²⁾.

- 8.3 It is difficult to make a uniform evaluation of monetary values for consumption and production for all the developing countries. Each country has different exchange rates which change frequently in relation to the US dollar. This, in turn, has to be related to other economic factors, most important being the price structure of commodities and necessities. The consumption per head of drugs, therefore, has to be seen on a regional basis where some agreement is possible as shown by its percentage of GDP for each region described in 7.2.
- 8.4 Due to incomplete professional data on the number and types of pharmacies in the Asian (excluding India) and African regions, it is not possible to make suggestions for standardising the number of pharmacies in each region. The need of pharmacies having a professional base has been stressed by the Commonwealth Pharmaceutical Association. It is therefore important to look at the number of pharmacists in each developing country. India appears to have a satisfactorily high number of registered pharmacists but the figure includes a sizeable number of diploma pharmacists. Maldives is the only country in the Asian region which does not have a School of Pharmacy.
- 8.5 The Commonwealth Health Ministers have wisely stressed the important role of local production and packaging in the drug supply system on a country and/or regional basis. In the light of the data collected, it is advisable to look at each of the five regions. The industrialised region does not merit any consideration except for comparison purposes.

8.5.1 African Region

The 15 countries of the region have some types of production facilities, except Botswana and Swaziland. The vast expanse of this region with countries of almost similar economic pattern would, in theory, suggest a regional co-operation in drug supply. However, in practice, this does not appear to be so, though numerous efforts have been made by international and pan-African organisations. The reason for this is that pharmaceutical supply systems have developed individually in each country after the break-up of the Federation of Rhodesia and Nyasaland and the East African Community. The most populous country, Nigeria (91 million) has 35 manufacturers, producing about US\$100 million worth of drugs. They meet only 30 per cent of consumption. There is no primary production.

8.5.2 Asian Region

The countries of the Asian region are better placed than the other regions since 80 per cent of the consumption of the region is met by production. Except for Maldives, all countries have production units. India is conspicuous with a well developed pharmaceutical industry. The region has three countries which have primary manufacture in addition to a formulation industry, two of them, India and Singapore, with significant export performance.

8.5.3 Caribbean Region

Out of 12 countries in the region, 7 have 17 pharmaceutical manufacturing plants (Annex 4), of which Jamaica has seven production units. Bahamas has one primary production plant. Several missions have been undertaken by the Commonwealth Secretariat, UNCTAD, UNIDO, WHO and the Non-Aligned Movement to study the existing Caribbean Community Secretariat (CARICOM) pooled purchasing arrangement on drug supply. In accordance with the data in para 7.2 of this report, the present contribution of local production is 14 per cent of consumption. The average of developing countries of the Commonwealth for production input is 67 per cent (Para 6.3).

8.5.4 European Region

The two island countries of Cyprus and Malta, which comprise this region, have a total population of over a million. Their economic status assures them a good GDP and the consumption of drugs is US\$9.80 millions and US\$16.80 millions respectively, of which the production contributes 6 per cent. As part of Europe, these countries may not feel the necessity of further local production as drug imports must be relatively easier. However, they have the nucleus of a pharmaceutical industry, apparently, on a secure basis. They can easily expand the local manufacture if a real need is identified.

8.5.5 Pacific Region

The Pacific region has 5 countries producing a few items at small Government-run production units. The rest have no production facilities. On a regional basis, only 4 per cent of the requirements are met by production. Only one country, Papua New Guinea has a population of over 3 million. Nauru and Tuvalu with populations of less than 10,000 each cannot support local production.

8.6 Safety and Quality Surveillance

The most important aspect of a drug supply system is the safety and quality of both imported and locally-produced drugs. More than half of the Commonwealth developing countries do not have drug control laboratories (Annex 2). It is doubtful if some of them have other (drug control facilities, such as drug legislation), registration and inspection. The recent Seminar

organised by the CPA on Drug Supplies and Pharmaceutical Services, held in Delhi in March 1985, made exhaustive recommendations on the quality surveillance of pharmaceutical preparations⁽¹³⁾. Particular reference has been made to WHO Reports on the Specifications for Pharmaceutical Preparations⁽¹⁴⁾, which contain proposals for the setting up of model drug-testing laboratories. Most countries maintain liaison with WHO on the procurement of standard substances and reagents required for drug testing. The WHO Reports also give details of the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce⁽¹⁵⁾. Monographs on the specifications of pharmaceutical preparations can be found in the International Pharmacopeia published by WHO⁽¹⁶⁾. Regional arrangements for drug control or drug-testing have not materialised so far.

9. Recommendations

9.1 National

- 9.1.1 In regard to recommendations for individual countries, it must be emphasised at the outset that the names of countries below are purely examples for action on a national level. Other developing countries with similar conditions and problems could be substituted.
- 9.1.2 Most developing countries in the Commonwealth should take action in providing pharmaceutical education and training, organise an efficient drug supply system with a positive role for local production and adequate quality surveillance including drug registration, inspection and testing laboratories.
- 9.1.3 Papua New Guinea and Uganda should establish a School of Pharmacy each of a graduate level.
- 9.1.4 A detailed study on the expansion of the existing production facilities should be undertaken in Papua New Guinea.
- 9.1.5 Fiji should develop their small-scale production plant to maximise the manufacture of simple pharmaceutical preparations.
- 9.1.6 Nigeria should consider the feasibility of expansion of the formulation industry to increase the production from the present 30 per cent of consumption to a target of 90 per cent. It should also consider the possibilities of setting up primary production of pharmaceutical substances and intermediates.
- 9.1.7 Ghana and Kenya should consider assessment of the present installed and utilised capacity of their respective pharmaceutical industry in order to make full use of the capacity.
- 9.1.8 Lesotho and Mauritius should consider expansion in output of pharmaceuticals through enhanced production programmes and modernisation of equipment and amenities, in their respective plants.