Economic and social profiles

To place control of malaria and other communicable diseases in the Greater Mekong Subregion in current and future perspective it is essential to consider macro economic and social indicators pertinent to the resources required and to the overall demands of society. Disease control is a vital element in social cohesion and economic health but it is only one of many challenges that national economic planners must confront. To translate national requirements into regional planning is another giant step, one that needs regional economic databases at the macro level in addition to microeconomic mapping. A starting point is generated by collating a number of indicators that together provide an overview of the 6 countries and thus open up the opportunity to build a regional economic and social perspective. Groups of macro indicators are used for this purpose using graphic translation of tabulated data derived from the Human Development Report (UNDP, 1999).

Demographic trends

Annual population growth influences the likely capacity/incapacity of economic growth to provide increasing per capita prosperity: high population growth will tend to cancel the beneficial effects of economic expansion. Although it involves mathematical risk, projection ahead based on retrospective analysis of can provide a guide to population dynamics (Figure 38). In the period 1975-1997 all b countries had an average annual population growth above 1% but there was considerable variation over a critical range. Projection for the period 1997-2015 predicts substantial fall in average annual population growth rates except for Lao PDR and Cambodia, the two countries with the smallest base population sizes. Of course such projections are subject to many confounding variables and future reality may be quite different.

Urbanization has been evident in all 6 countries between 1975 and 1997, in all cases increasing proportional urban population shifts are predicted for the coming years (Figure 38) with variation from country to country. These shifts may have implications for future resource allocation between urban and rural sectors and hence for control of diseases with differing distribution in rural and urban areas. However, the figures for 1975 versus 1997 as well as the projections forward from 1997 to 2015 are to be taken as only rough indications of urbanization: they are based on classification of administrative units as either completely "urban" and "rural" and therefore include many people in rural villages contained in municipalities at various levels.

Equally important is the upward trend of the proportion of the populations in the elderly age group in coming years (Figure 38) and the relationship of this trend to differential disease liability and to burden of care place on the income-earning population segment. Again, this trend will affect resource allocation, which will also depend on policy development in relation to public-private mix.

Human development indices

A number of global indices have been developed to facilitate comparative macro assessment among various countries and to provide a more balanced overview of quality of life than is given by the more commonly used GNP (gross national product) or GDP (gross domestic product) for comparisons. Selected indices (global rankings among all countries of the world) are given here for the 6 countries for the year 1997 (the latest year for which data from all 6 countries is available): human development index, gross domestic product index, education index, life expectancy index (Figure 39). The most comprehensive, the human development index (HDI), which has evolved in nature over a number of recent years (UNDP, 1999), brings together measures of longevity, knowledge and standard of living. The other three indices are more narrowly focused on the specific areas designated in their titles. While there are differences among the 6 countries with respect to each of these indices, there is a commonality: for all the indices lie in the low or medium range of countries globally.

Economic indicators

Purchasing power parity is a measure of real GDP per capita. Debt/service ratio measures debt service as a percentage of exports of goods and services. These indicators represent two of a number of ways of monitoring different aspects of the macro economy. Here we are interested in country comparisons. There is great disparity among the 6 countries (Figure 40), reflecting upon their marked differences in economic status and hence ability to sustain various programs on the basis of domestic resources versus reliance on inputs from external donors. This disparity is important in considering, for example, what national/external inputs might be feasible to service enhanced regional collaboration in malaria control.

There is also great disparity in the distribution of GDP in each country among the agricultural, industrial and service sectors of the macroeconomy of each of the 6 countries (Figure 40). This disparity reflects the different histories of the b economies with respect to capital investment, land use, labor deployment, urbanization and many other factors. This sectoral distribution and the rate of change in the patterns contribute rather directly to the epidemiology of communicable diseases

such as malaria. Thus, the countries with the greatest per capita malaria incidence (Cambodia, Lao PDR, Myanmar) are those with the highest proportion of GDP generated by the agricultural sector.

Education indicators

Trained personnel are central to all aspects of the economy, including productivity, adaptability, technology application, innovation, services efficiency and to all aspects of the social structure of a country, not least to the maintenance of effective health services. Education indicators underscore present and future capacity. The most general indicator, adult literacy rate, varies among the 6 countries, as do primary school enrolment, secondary school enrolment and education expenditure, as shown for 1997 in Figure 41. While primary school enrolments are mostly high, secondary school enrolments are relatively low: this may affect the level of skilled training available to the workforces and thus longer term competitiveness and economic growth. In turn this would impact on efficiency and effectiveness of health services.

Health indicators

Health status would be expected to relate directly to a number of the above-mentioned social and economic indicators and indirectly to most of them. This can be ascertained by examination of some specific health indicators comparing 1970 and 1997 data (Figure 42). Although there is a range across the region of life expectancy at birth, all 6 countries showed improvement in this parameter in 1997 versus 1970. With respect to infant mortality rates and under five mortality rates, while there is wide variation, all 6 countries showed decreases in 1997 versus 1970. The greatest variation among the 6 countries is in maternal mortality rates (data for 1997 only).

Such health indicators provide only a superficial glimpse at the effectiveness of overall health services but they serve a useful purpose in providing insight into the circumstances in which malaria control programs work, with many limitations and challenges.
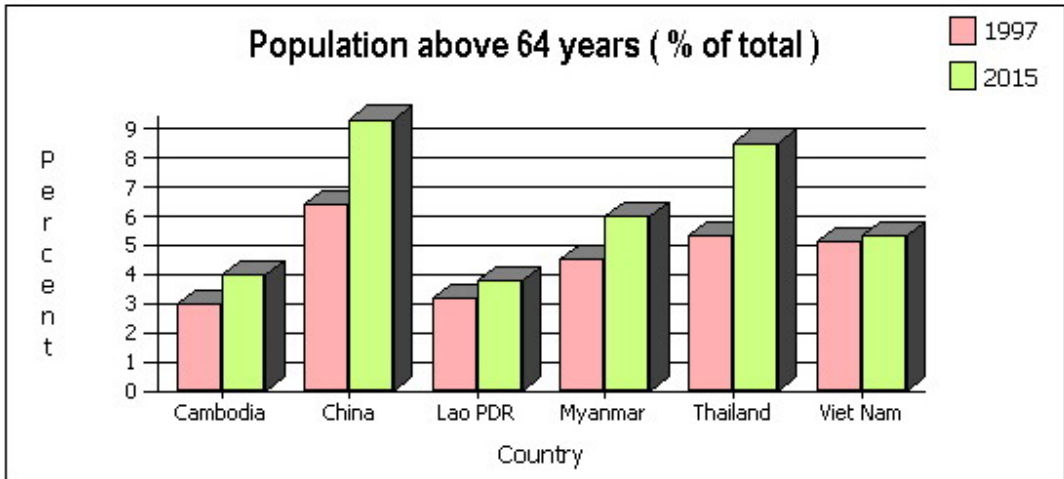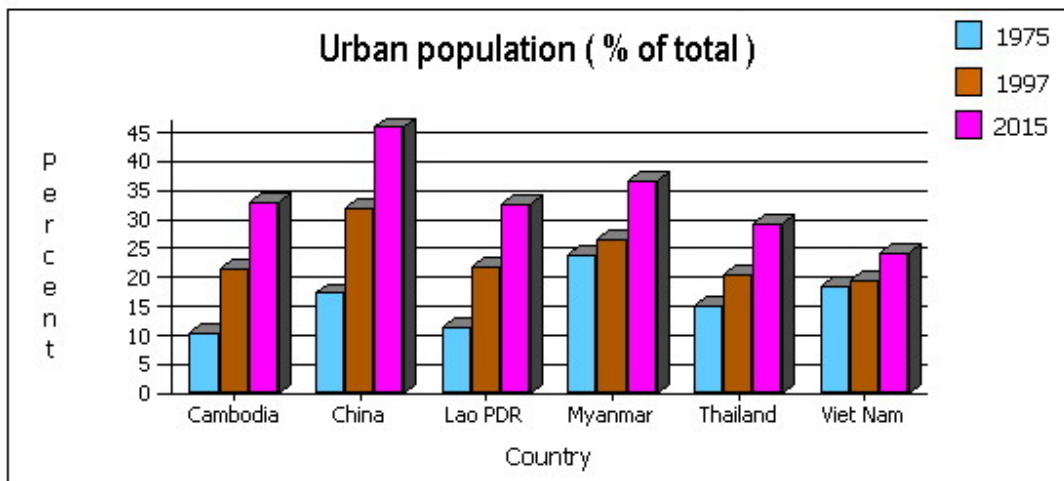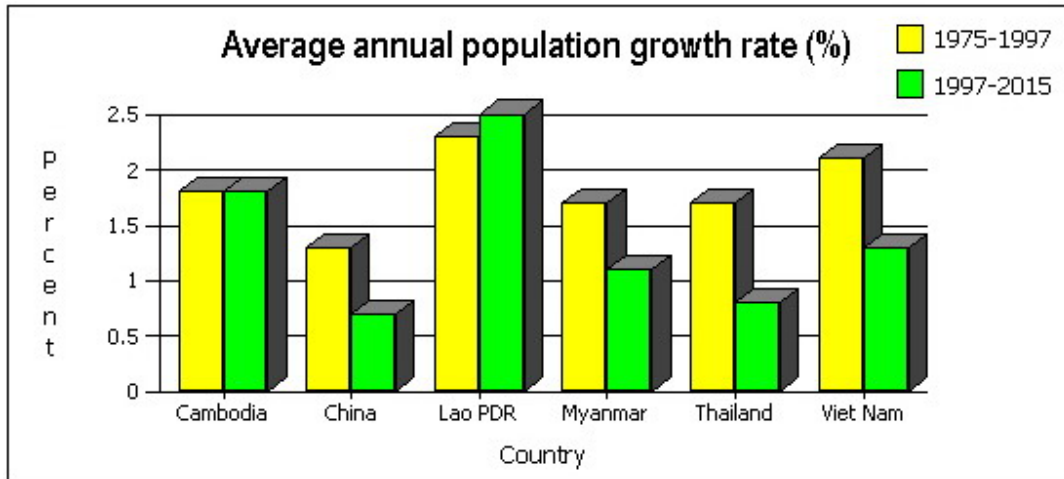
Economic and social context of regional malaria control

Overall, a wide range of indicators is required to define the economic and social conditions governing the spread of malaria, case management, transmission reduction, selection of drug resistant parasite strains and other aspects of the disease. Some of the examples given here illustrate the complexity involved; they also serve to identify the need to define microeconomic and macroeconomic parameters that can lead to improved resource allocation and strategy development. Malaria control is just one of
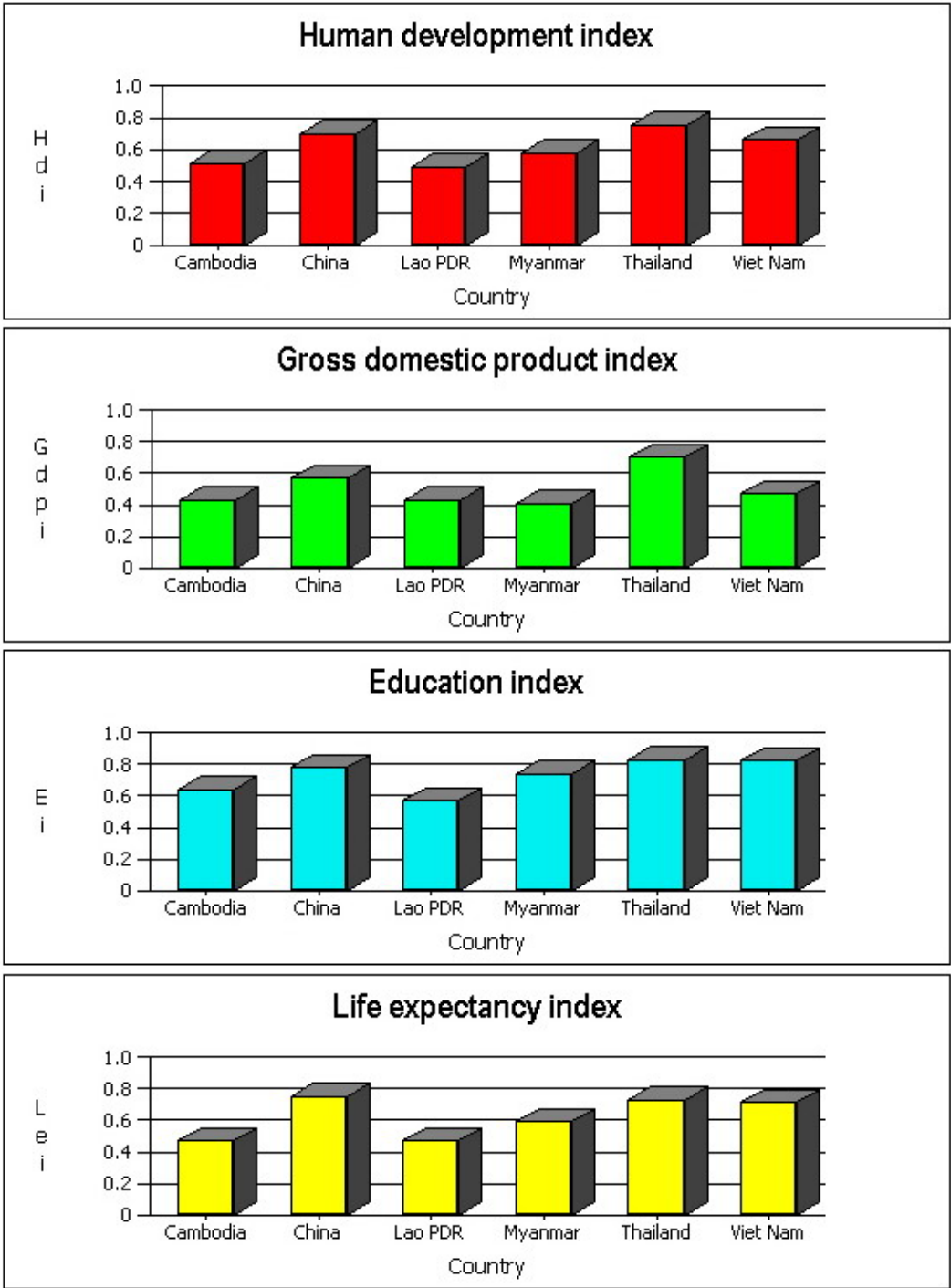
many demands on limited resources and it will gain from careful evaluation of economic factors involved.

This is difficult enough at a unit area level, more so at a national level and extremely challenging on a regional, multi-country basis. However, building regional economic, social and disease databases in consort can assist joint planning, resource evaluation and application, since the consortium of information should lead to more rational resolution of conflicting demands in malaria control.

Data sources: Human Development Report 1999 (UNDP, 1999)

Figure 38. Demographic trends
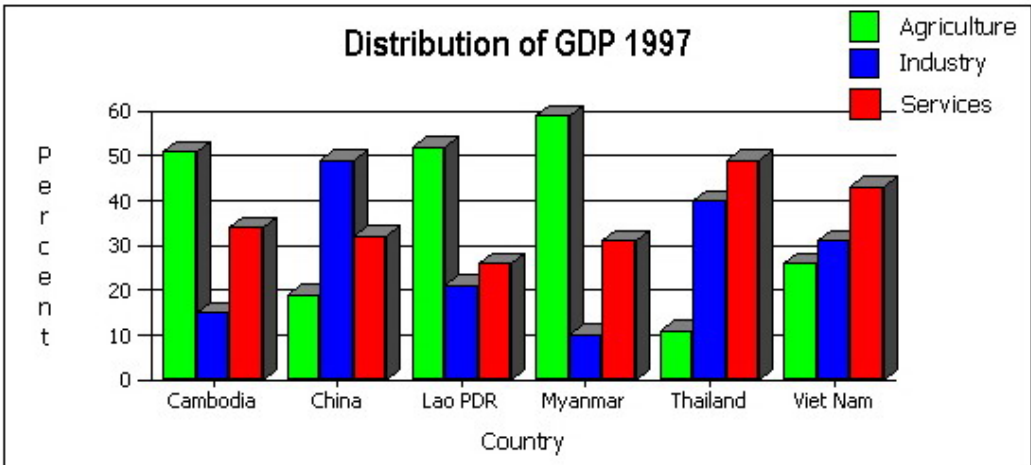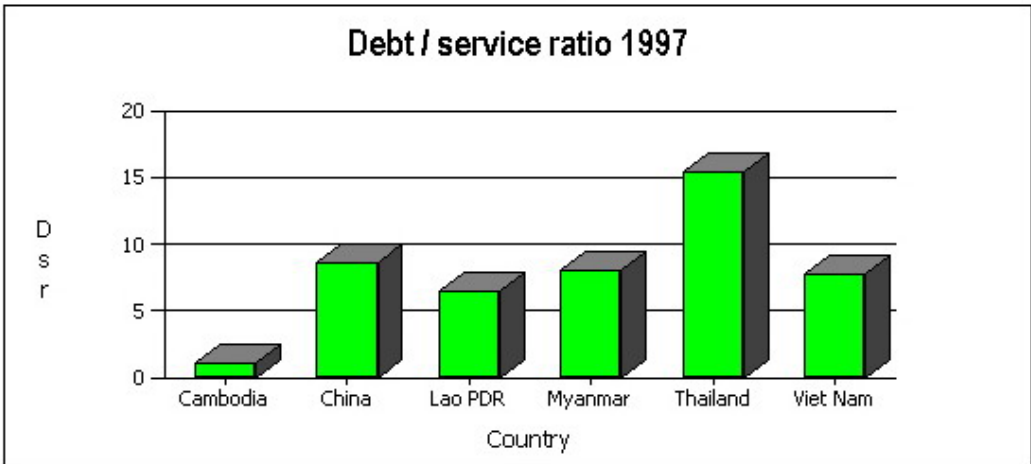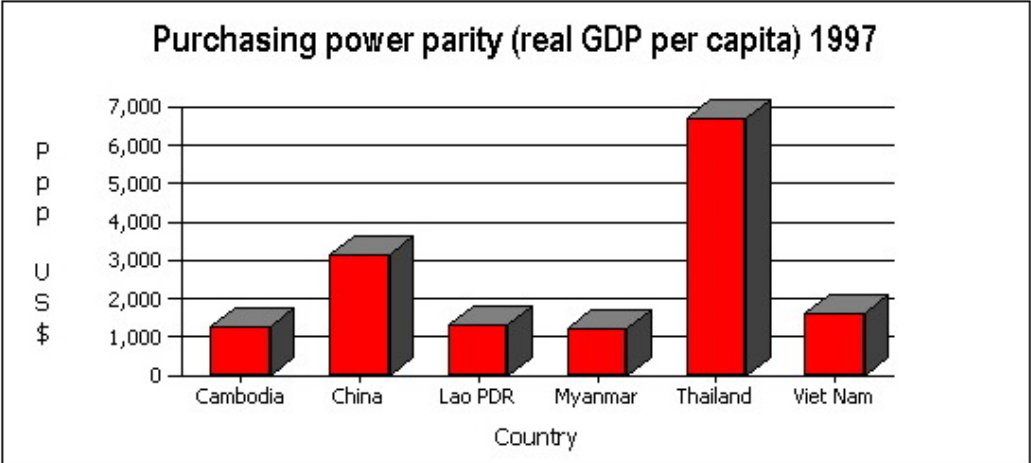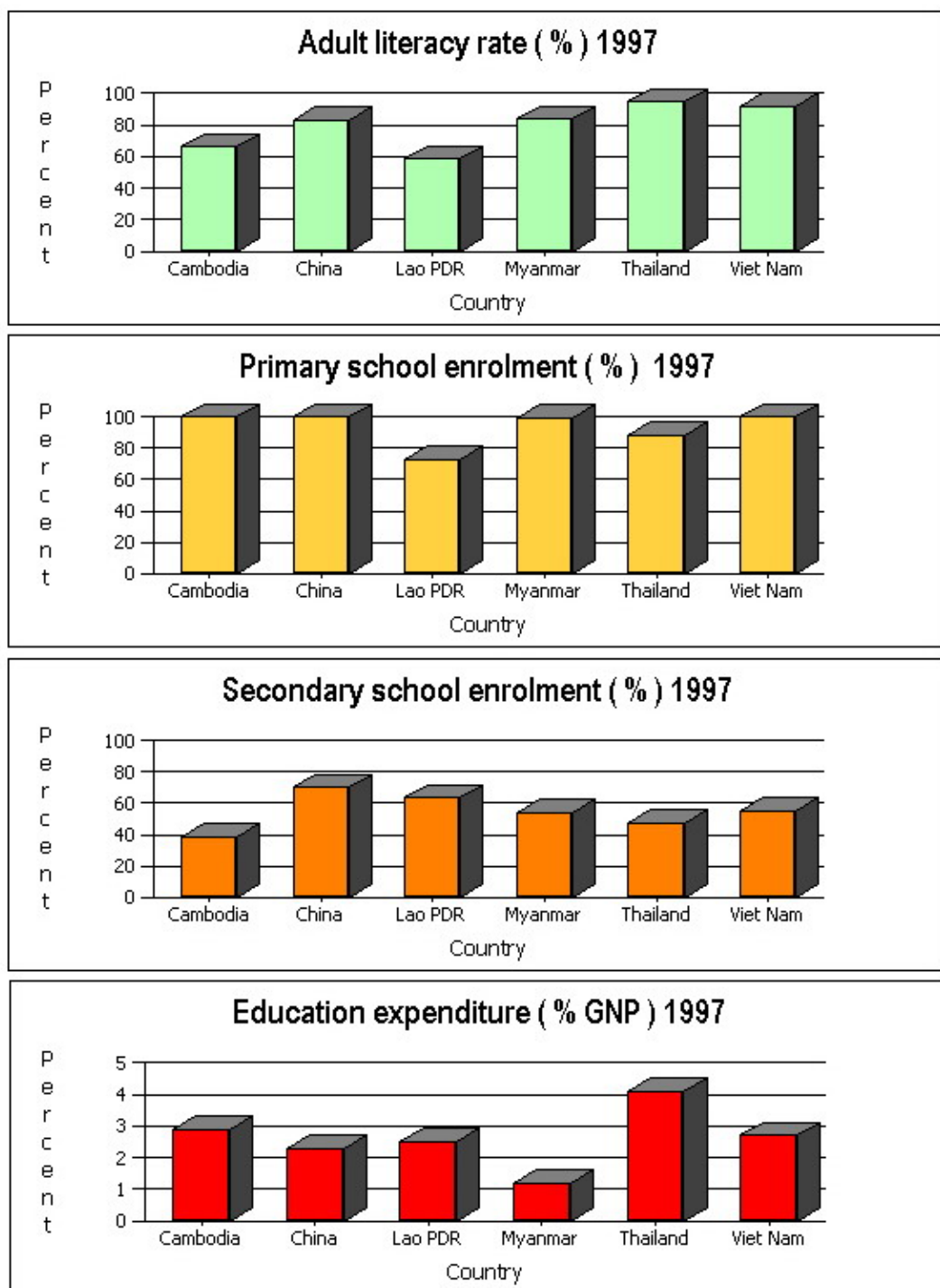
Figure 39. Human development indices

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Purchasing power parity (real GDP per capita) 1997

Debt / service ratio 1997

Distribution of GDP 1997

Figure 40. Economic indicators

Figure 41. Education indicators