Population numbers and population density

Total population estimates for the region given in Figure 1 are based on country estimates for 1997, derived in various ways by national or international agencies. These numbers are distributed over greatly differing areas of land, as reflected in Table l, and thus give rise to differing average overall population densities. The range is very large from one country to another.

Table 1
Total population, land area and overall population density

Country	Population (million)	Area (km2)	Density (no./km2)
Cambodia	10.5	181,232	58
China/Yunnan	39.8	382,797	194
/Guangxi	46.2	235,949	196
/Hainan	7.5	33,799	222
Lao PDR	5.0	229,962	22
Myanmar	43.0	668,062	64
Thailand	59.7	515,015	116
Viet Nam	76.4	330,941	234

However, such a data set gives orily a macro impression. The decentralized distribution pattern gives a much better sense of the population profile. Here the total population per unit area (Figure 3) and the population density per unit area (Figure 4) provide complementary information. Note that international borders are given in red and internal boundaries in grey, a pattern that has been followed in many subsequent figures but in some cases international borders are depicted in white, depending on the background.

Mapping total population per unit area gives a quick overview of the numbers and their distribution within each country and in the region as a whole that have to be taken into consideration in malaria and other disease control programs.

The distribution of the total population on the basis of unit area (Figure 3) shows substantial clustering, e.g. in central Myanmar, in the two delta regions (Red River, Mekong River) of Viet Nam, in parts of northeast Thailand, in major urban areas. Most of the rural counties in the Chinese provinces do not appear to have particularly large total population numbers,

but there are higher population clusters in northern Yunnan and eastern Guangxi. Lao PDR has fairly uniform, lower population numbers per unit area, reflecting in part the lesser urban aggregations than are evident in countries with larger overall population size.

When the same data are mapped on the basis of population density (Figure 4) the picture changes considerably. Of the six countries, Lao PDR has the lowest population density, while some districts of Myanmar and some provinces of eastern Cambodia also have relatively low densities. The counties in each Chinese province now show a fairly uniform population density that is among the highest in the region: this reflects their relatively small land area per county. Of course, as anticipated, large urban centers have relatively high population densities; where these coincide with river delta regions these high density areas are quite extensive. It must be emphasized that in some parts of the region high rural population densities exist where intensive irrigable agriculture is predominant, while in others less intensive agricultural practices limit rural population density. In the presence of high economic growth, population dynamics change the distribution profiles in relatively short time frames, so that at any one time the figures for a given area are approximate only.

Both total population and population density are important in terms of disease patterns and health sector operations: to the magnitude of the task, to disease transmission, to funding and to resource allocation strategies. The total population figures identify the numbers of people to be serviced in each area, while the density in each unit area relates to the infrastructural requirements involved.

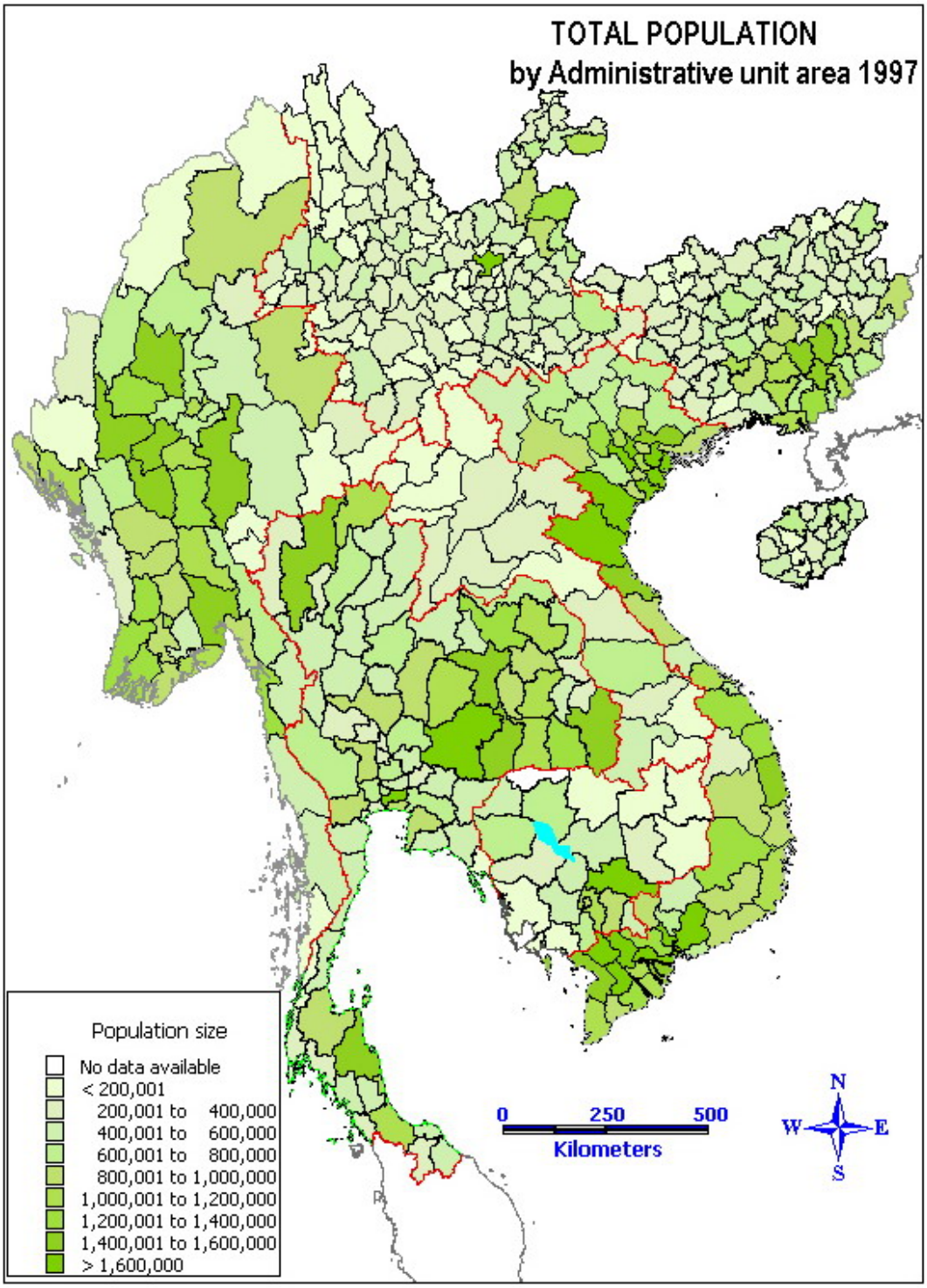
TOTAL POPULATION
by Administrative unit area 1997
Population size
No data available
< 200,001
200,001 to 400,000
400,001 to 600,000
600,001 to 800,000
800,001 to 1,000,000
1,000,001 to 1,200,000
1,200,001 to 1,400,000
1,400,001 to 1,600,000
> 1,600,000
0
250
500
Kilometers
N
W
E
S

Figure 3.

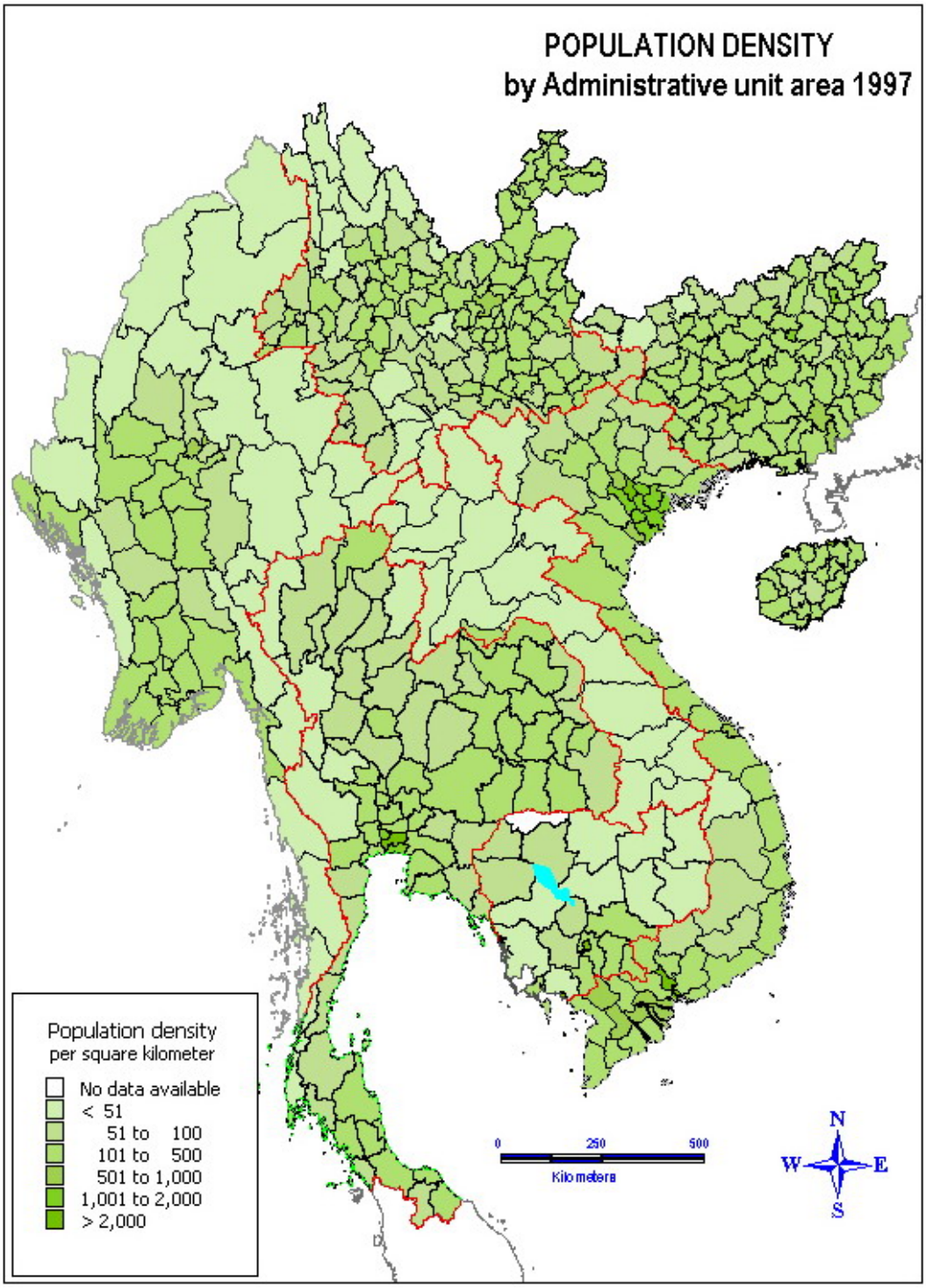
POPULATION DENSITY
by Administrative unit area 1997
Population density
per square kilometer
No data available
< 51
51 to 100
101 to 500
501 to 1,000
1,001 to 2,000
> 2,000
0
250
500
Kilometers
N
W
E
S

Figure 4.