Malaria in international border areas

In a number of the foregoing data presentations passing reference has been made to border-related distribution of malaria in the region. This has been identified in terms of location of total reported malaria cases, incidence of reported cases, confirmed cases and parasite species. In general, malaria control programs, being nationally based, naturally focus on disease distribution within each country, up to neighboring country borders. However, in this region in recent times there has been considerable dialogue between neighbors: mapping detailed data serves to facilitate this dialogue and expand its effectiveness in identifying specific issues for collaboration.

In practical terms there is immediate gain in taking data already presented on a regional basis and expanding the respective shared border areas in turn. The results are presented in Figure 20 (Myanmar - Thai border), Figure21 (Cambodia Lao PDR -Thai borders), Figure 22 (Cambodia - Lao PDR - Viet Nam borders), Figure 23 (Lao PDR - Myanmar - Viet Nam - Yunnan borders). These malaria data cover the 3-year period 1996-98 with case numbers for each year quantified by bar height. As noted earlier, the variation in reporting total malaria cases (confirmed + clinically defined) or confirmed cases only also pertains to mapping of border area distribution: China (1996-98), Thailand (1996-98) and Lao PDR (1996) reported only confirmed cases during the stated periods; in the case of Lao PDR the shift from 1996 to 19997-98 reflects the different reporting modes for the two periods.

On this expanded scale the relative case numbers in unit areas facing each other at points along each border can be more precisely appreciated. Along the Myanmar - Thai border, for example, substantial numbers of cases appear on each side, whereas along the 4,000 km border of Yunnan with Myanmar, Lao PDR and Viet Nam there are relatively few cases reported on the Chinese side in each of the 3 years. At the Thai - Lao PDR border there are many cases reported on the Lao PDR side but very few on the Thai side, whereas along the Thai - Cambodian border the Thai side case numbers in some provinces are somewhat greater. Conceivably these differing patterns reflect, in part at least, different population dynamics at different points along each border.

Just as it is easier to appreciate the details across borders by expanding the scale and looking directly at the border without the distraction of whole country data, so too it will be even easier to interpret the underlying dynamics by mapping disease data at the level of smaller

unit areas: this is possible if the data are recorded and shared at those levels e.g. township or even village/commune. This can be efficiently done if first hot spots are identified at the regional level, shifting to selected border area expansion, then focusing down at the micro level. At the latter level much of the value depends on the accuracy of the data collection, on the frequency of ascertainment and rapidity of report transmission to the center where data coding is done and whence data is shared across national boundaries. In turn the feasibility of such analyses in relation to disease control programs will hinge on perceived benefit/cost ratio.

The present regional data sharing is a starting point, the trans-border region expansion is a further step forward using the same databases. The sharing of yearly data in retrospect is also a starting point towards more frequent (e.g. monthly) data sharing, with the goal of building up towards a more optimal and dynamic regional information system.

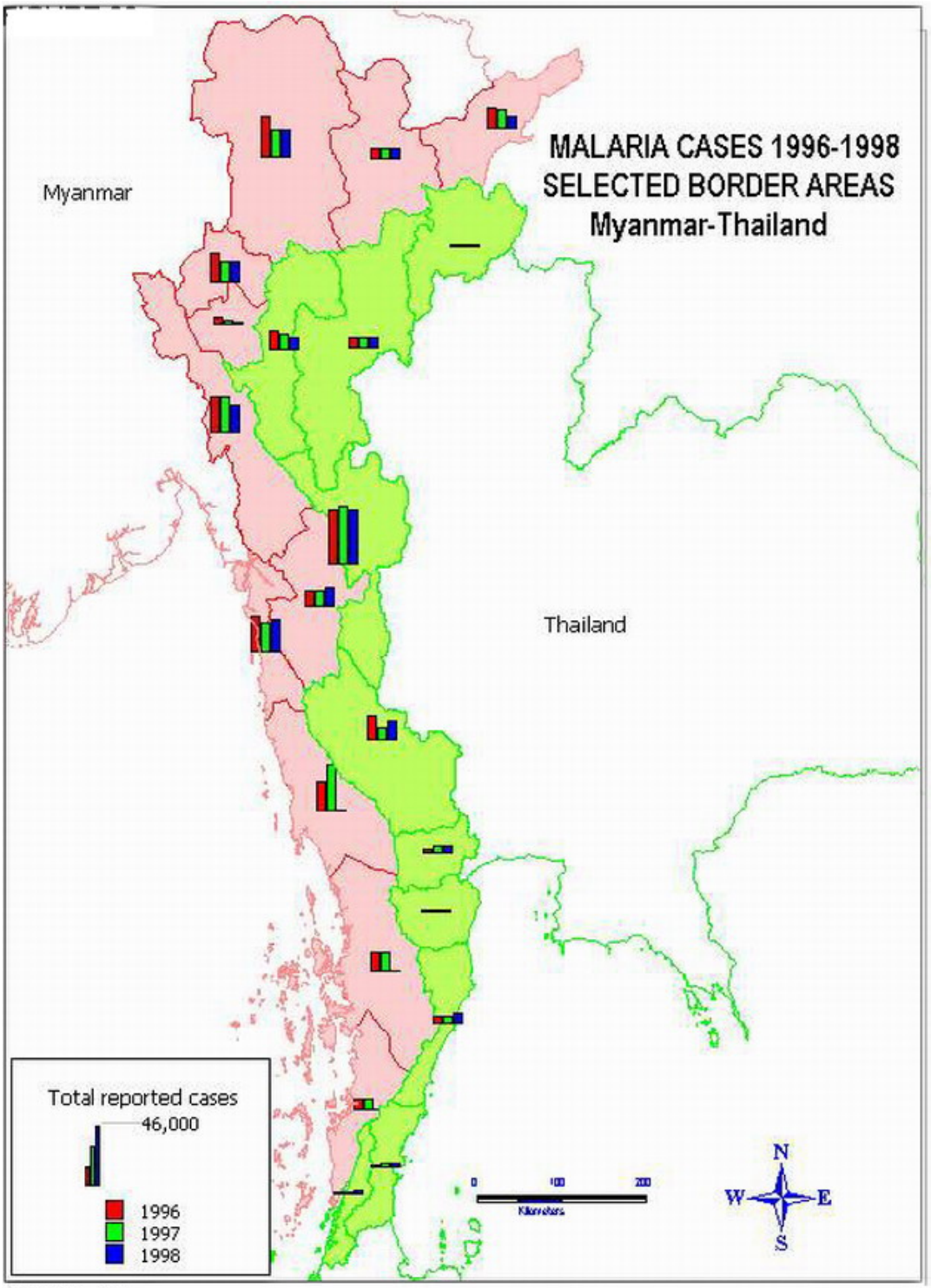
MALARIA CASES 1996-1998
SELECTED BORDER AREAS
Myanmar-Thailand
Myanmar
Thailand
Total reported cases
46,000
1996
1997
1998
N
W
E
S

FIGURE 20.

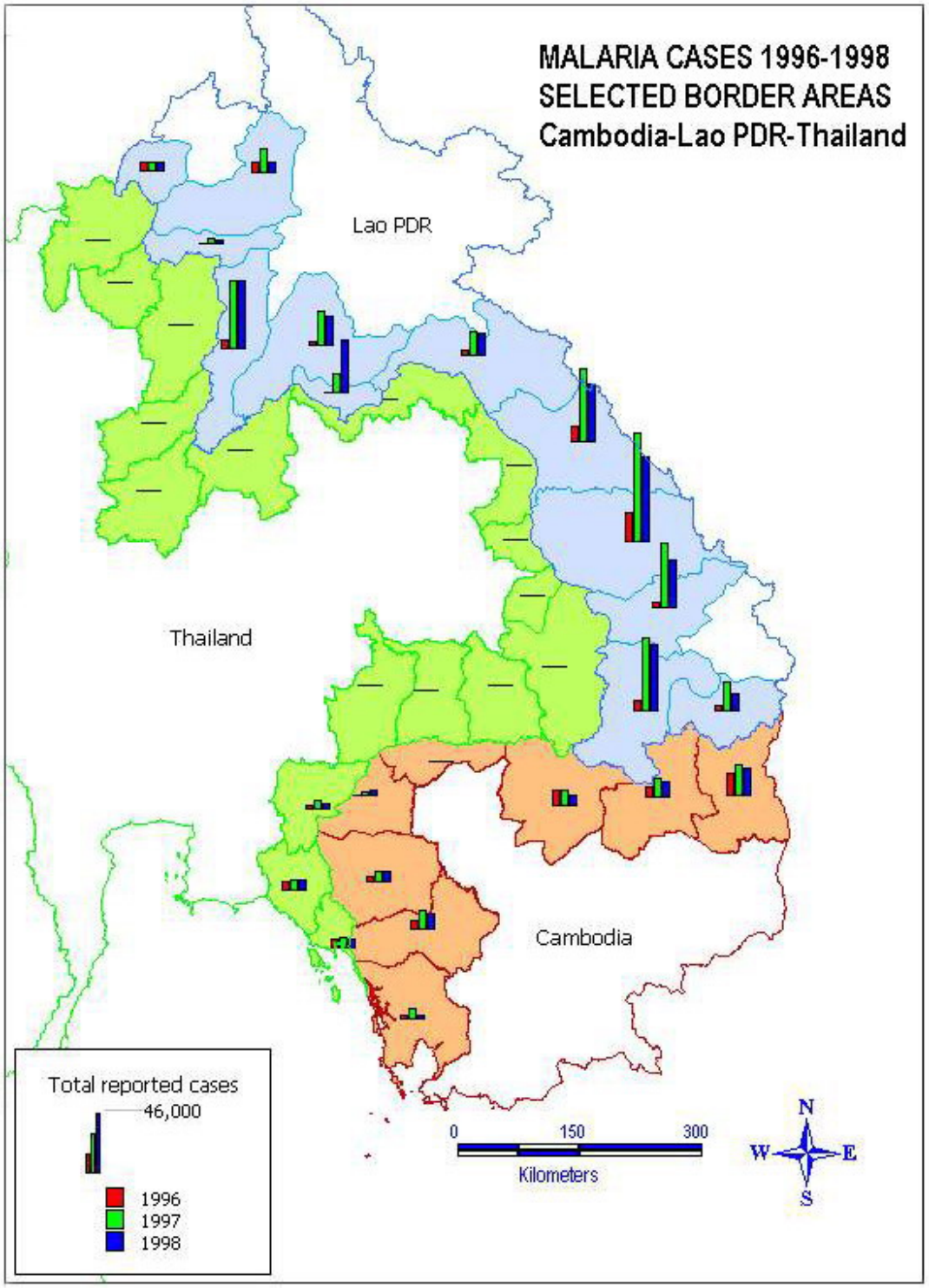
MALARIA CASES 1996-1998
SELECTED BORDER AREAS
Cambodia-Lao PDR-Thailand
Lao PDR
Thailand
Cambodia
Total reported cases
46,000
1996
1997
1998
0
150
300
Kilometers
N
W
E
S

FIGURE 21.

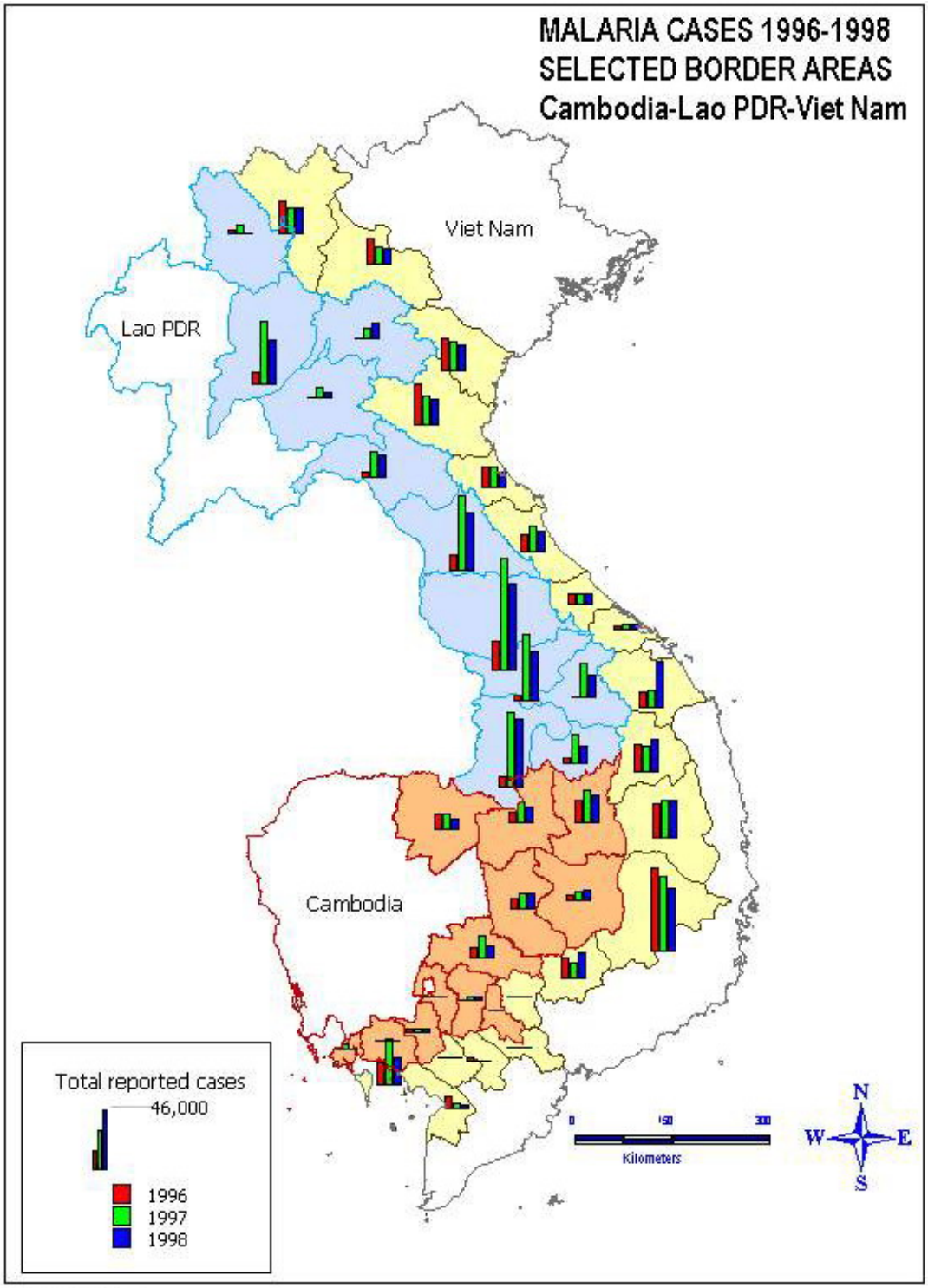
MALARIA CASES 1996-1998
SELECTED BORDER AREAS
Cambodia-Lao PDR-Viet Nam
Viet Nam
Lao PDR
Cambodia
Total reported cases
46,000
1996
1997
1998
0
150
300
Kilometers
N
W
E
S

FIGURE 22.

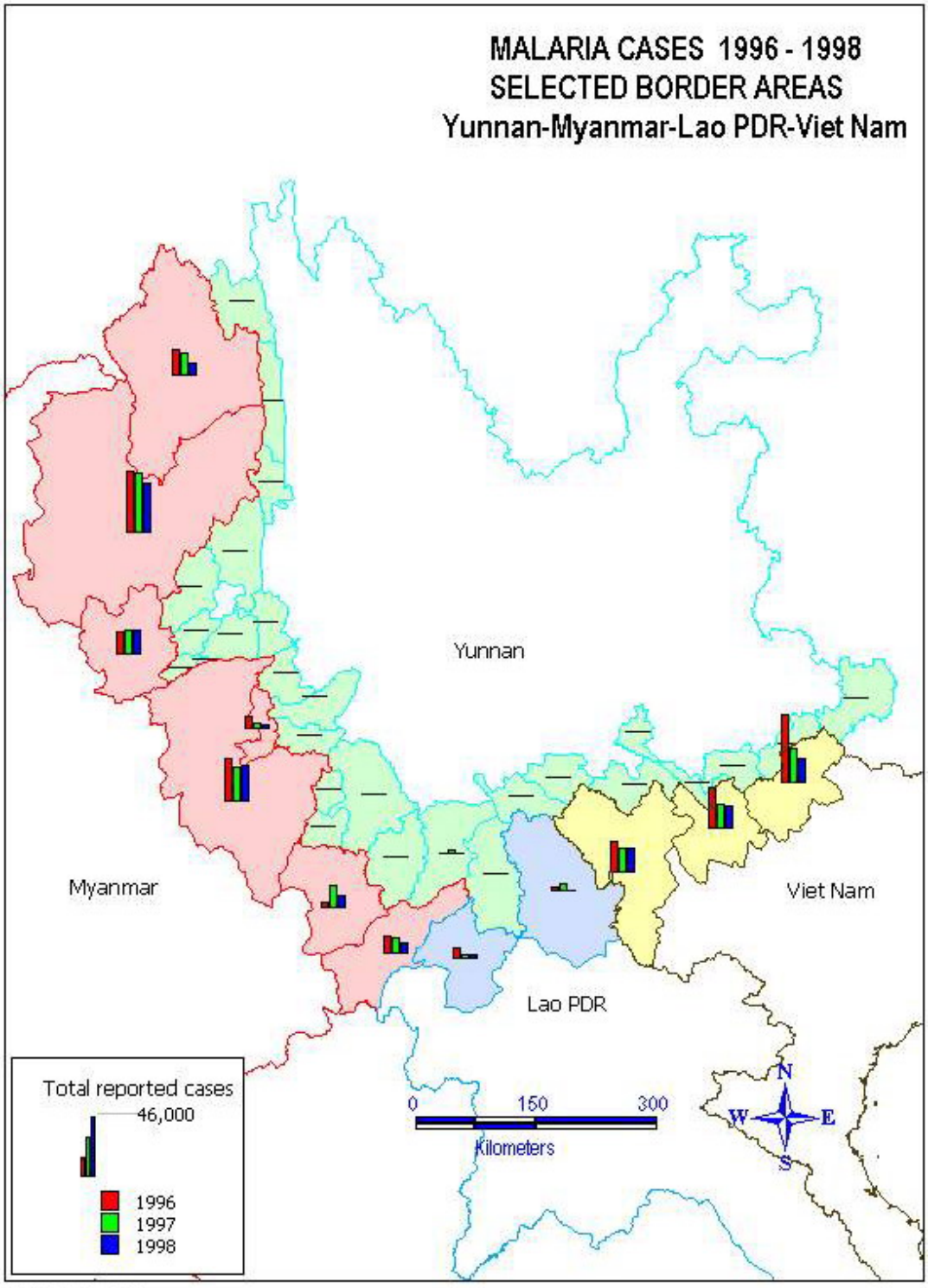
MALARIA CASES 1996 - 1998
SELECTED BORDER AREAS
Yunnan-Myanmar-Lao PDR-Viet Nam
Yunnan
Myanmar
Viet Nam
Lao PDR
Total reported cases
46,000
1996
1997
1998
0
150
300
Kilometers
N
W
E
S

FIGURE 23.