## Tourist Consumption

### Rationale

Creating sound Food Balance Sheets is a particularly challenging task for countries where the food available is not consumed in large measure by the resident population. In the case of migrants and refugees, available food is assumed to be available to all population groups, and all population groups including refugees and migrants are assumed to be captured by UNPD estimates. This approach cannot be used for countries where non-resident populations are not included in the UNPD estimates. This mainly applies to tourists and consumption by tourists, and is a particularly important challenge where tourists account for a large share of the population and of food consumption. Moreover, consumption patterns of tourists are not necessarily congruent with those of the resident population. FBS compilers at country level are likely to have detailed information about the main parameters necessary to gauge the exact extent of tourist consumption, i.e. the number of tourists visiting a country, their average stay, their consumption patterns, etc. Based on this information, it is straightforward for national FBS compilers to make an allowance for tourist consumption in their country. In the absence of this information, tourist consumption could be estimated based on the approach outlined below.

## The previous methodology

In the previous system, tourist consumption was accounted in the variable termed "Other uses"; but as it was not identified explicitly, both the amount and the composition of food consumed by tourists are difficult to gauge. As there is no methodology available, the amounts and the composition are difficult to reproduce.

### Data availability

The basic data to estimate consumption by tourists is available from the United Nations World Tourism Organization (UNWTO), providing tourist flows between all pairs of countries. Unfortunately, no data is available regarding the consumption patterns of these individuals while they travel.

### The new methodology

The methodology at FAO is rather straightforward, but could and should be refined with more and better information available at country level. The FAO methodology is based on the number of day visitors,, and overnight visitors, , to and from each country, and information on the average number of nights stayed within each country, . The first step, then, is to compute the total number of "tourist days",, from and to each country by adding the day visitor counts with the product of the overnight visitor counts and the average nights per visitor:

(Equation 23)

In the absence of better information, we make the assumption that tourists follow the same consumption patterns abroad as they do at home, both in terms of quantity and preference. Thus, we multiply the total number of tourist days by the average daily consumption within the country of origin and allocate this amount to tourist consumption in the destination country. Moreover, we deduct this total from the food consumption in the country of origin, as the tourist will not be at home to consume these calories. Thus, we have the change in amount of food availability for commodity i in country j as

(Equation 24)

where represents the number of tourists travelling from country to country and represents the historic amount of daily nutrients consumed within commodity and in country . This equation can be simplified a bit:

(Equation 25)

Average daily consumption is computed based on historic consumption patterns, and thus we can provide tourist consumption data at the full FBS level. The measurement error can likewise be derived based on the measurement error of food consumption of the resident population. Note also that the tourist consumption element for a particular country can be negative in the case of many residents of the country leaving as tourists and few tourists from other countries visiting.