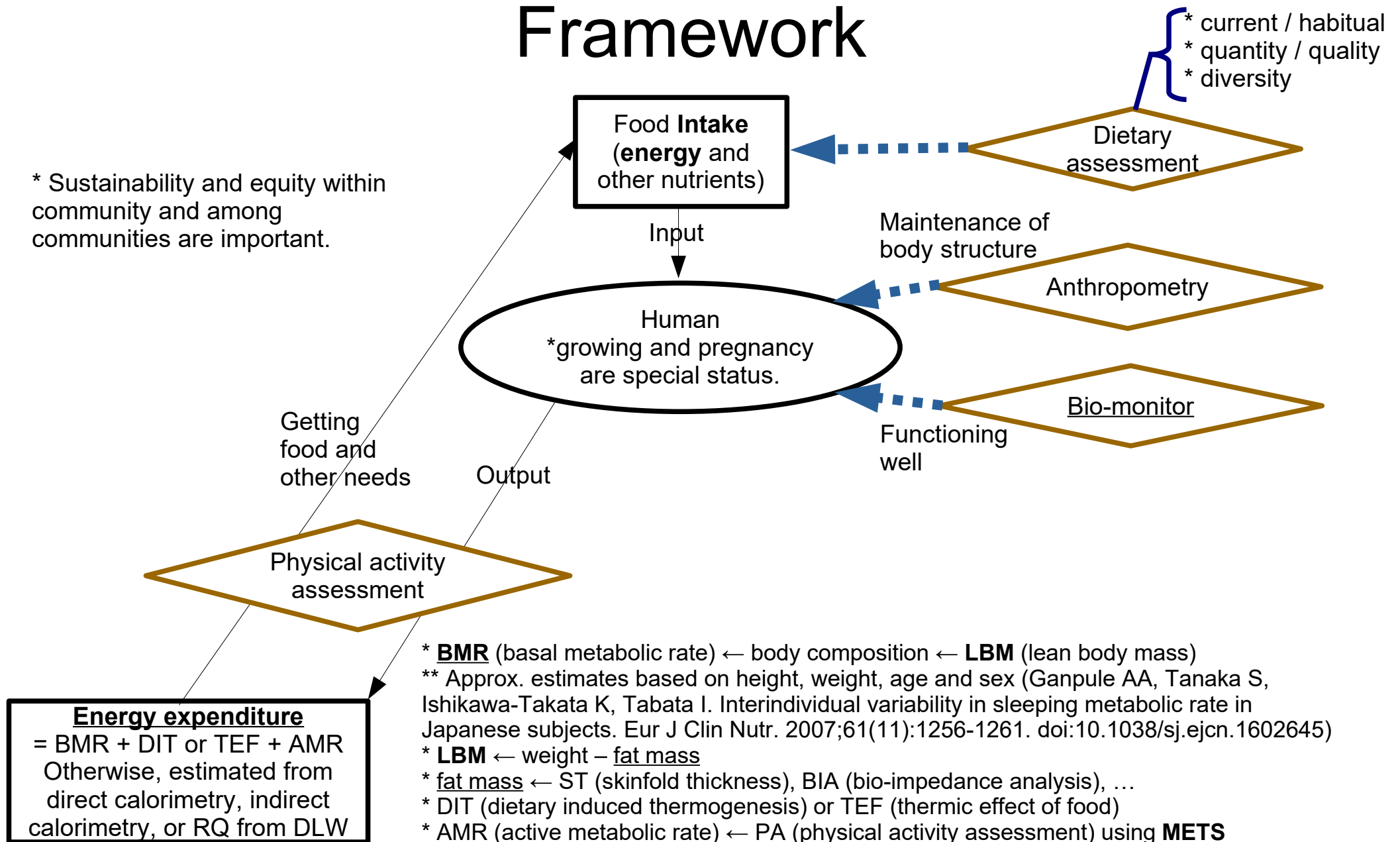


# Community Nutritional Assessment

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# Framework



- \* **BMR** (basal metabolic rate) ← body composition ← **LBM** (lean body mass)
- \*\* Approx. estimates based on height, weight, age and sex (Ganpule AA, Tanaka S, Ishikawa-Takata K, Tabata I. Interindividual variability in sleeping metabolic rate in Japanese subjects. Eur J Clin Nutr. 2007;61(11):1256-1261. doi:10.1038/sj.ejcn.1602645)
- \* **LBM** ← weight – fat mass
- \* fat mass ← ST (skinfold thickness), BIA (bio-impedance analysis), ...
- \* DIT (dietary induced thermogenesis) or TEF (thermic effect of food)
- \* AMR (active metabolic rate) ← PA (physical activity assessment) using **METS**
- \*\* Ainsworth BE, Haskell WL, Whitt MC, et al. Compendium of physical activities: an update of activity codes and MET intensities. Med Sci Sports Exerc. 2000;32(9 Suppl):S498-S504. doi:10.1097/00005768-200009001-00009

# Various methodologies of assessment

- Anthropometry
  - Height, Weight, MUAC, skinfold thickness, ...
- Bio-monitoring
  - Measure nutrients in biological specimen such as blood, urine, ...(incl. Stable isotope in hair and nail) <http://www.ph.ucla.edu/epi/faculty/zhang/courses/epi242/reading%20week%204-2d.pdf>
- Dietary Intake Research
  - Dietary Diversity: FAO's DD, FDSK-11, ...
  - FFQ: NHANES version, BDHQ, ...
  - 24 hours dietary recall: ASA24, ...
  - Food diary
  - Direct weighing of duplicated spare meals
- Physical Activity
  - Sedentary behavior
  - Questionnaire: RAPA, IPAQ, ...
  - Diary / Log
  - Pedometry
  - Accelerometry
  - Heart rate monitor
  - Other: DLW, Indirect calorimetry, GPS, ...