BACKGROUND

OVERVIEW OF THE RESEARCH PROCESS, STUDY AREA AND STUDY POPULATION

Reflections on the research process: The idea of generating population-based data on chronic non-communicable diseases and biomarkers was raised by some of the founding team members who were academic staffs of Jimma University (JU). Then, interest-based volunteer team comprising of public health specialists, clinicians and laboratory technologist was formed in June 2005 to enhance evidence-based practice by undergoing chronic non-communicable diseases survey at a community level; and generating hematoimmunologic and biochemical data on 'apparently' healthy population which can be used in future for setting normal reference values. The stimuli for these initiatives were:

- The general truth that there are very few studies if at all, on chronic non-communicable diseases in Africa in general and in Ethiopia in particular.
- The existence of substantial variability in physical measurement values by ethnic origin, genetics, gender, and other factors calling for development of national and regional normal reference values.
- The fact that a substantial variability of laboratory values by ethnic origin, genetics, gender, altitude, and other environmental factors exists calling for development of national and regional normal reference values.
- The need for strengthening the newly started postgraduate training in JU by generating community based data for evidence-based practice.
- The funding opportunity which was given by The World Bank (Post-Secondary Education Project (PSEP)) for Ethiopian Universities.

The team soon prepared a project proposal entitled "Evidence-based practice in residency training at community setting, in faculty of public health and medical sciences, JU" as per The World Bank PSEP requirement which was approved first at Jimma University and then at Federal Ministry of Education level by September 2005. In such project the team then developed a proposal to conduct chronic diseases survey in accordance with the WHO's STEPS guideline (STEP I - Interview, STEP II - Physical measurements and STEP III- Biochemical measurement) and to determine immunohematological values at a community level. Ethical clearance was obtained from the university ethical clearance committee.

As major component of the budget was for procurement of equipments and laboratory supplies, the team developed specifications for each required item and submitted to the university procurement office in October 2005. However, due to the existing lengthy procurement procedures, sadly, majority of the items were secured after three years, by August 2008. In the meantime, five of the nine team members left the University for various reasons and five new members were co-opted so as to proceed with the remaining activities.

After several ups and downs, field data collection work was started in September 2008. The project team members recruited data collectors and supervisors and gave rigorous training particularly on the instruments from September 22-24, 2008. Pre-test was conducted at nearby areas in Bulbul and Serbo on September 25 and retraining was given on 26th of September, 2008. The actual data collection was then carried out from October 2008 to January 2009. Close supervision, daily reporting and regular checking of the completed data helped the team to intervene on irregularities timely.

During the interview and physical measurement there were no as such big study participant related difficulties. During blood sample collection, however, some study subjects fainted when looking at blood being drawn and many were afraid as they had no such previous experiences. They were given immediate care

and reassurance. On top of this, some dwellers spread rumors on blood sample collection and as a result, many subjects refused to participate in the third STEP of the study.

The other challenges during data collection were the ragged terrain of the area and scattered settlements which made access difficult. Car was used to reach relatively accessible villages and motorbike in more difficult ones but mostly villages were reached through long distance walk. Flat tyres, vehicle trap in mud and fall accident from a motor-bike were frequent encounters.

Because of the entire above bumpy-dumpy journey, some team members felt that they will never pass through such path again. After data was entered and edited, eight team members (Ayalew, Abraham, Fasil, Yoseph, Makonnen, Fessehaye, Muluneh, Solomon) broke from the routine for a week and did the analyses and report writing in a retreat at Tommy International Hotel, Bishoftu. For the team, this was really a good learning experience and reunion with some of the earlier senior members made the members to forget the rough journey they underwent and to look forward with optimism.

Location of the study area: The survey was conducted in Gilgel Gibe Field Research Center (GGFRC) which serves as health and demographic surveillance site for Jimma University (JU). The center comprises of 8 rural and two urban kebeles (the lowest administrative unit in Ethiopia). A population of 50,000 resided in the area at the time of the survey. The center is located in Southwestern Ethiopia, Jimma zone, around Gilgel Gibe Hydroelectric dam, 260 km southwest of Addis Ababa and 55 km Northeast of Jimma town (Figure 1).

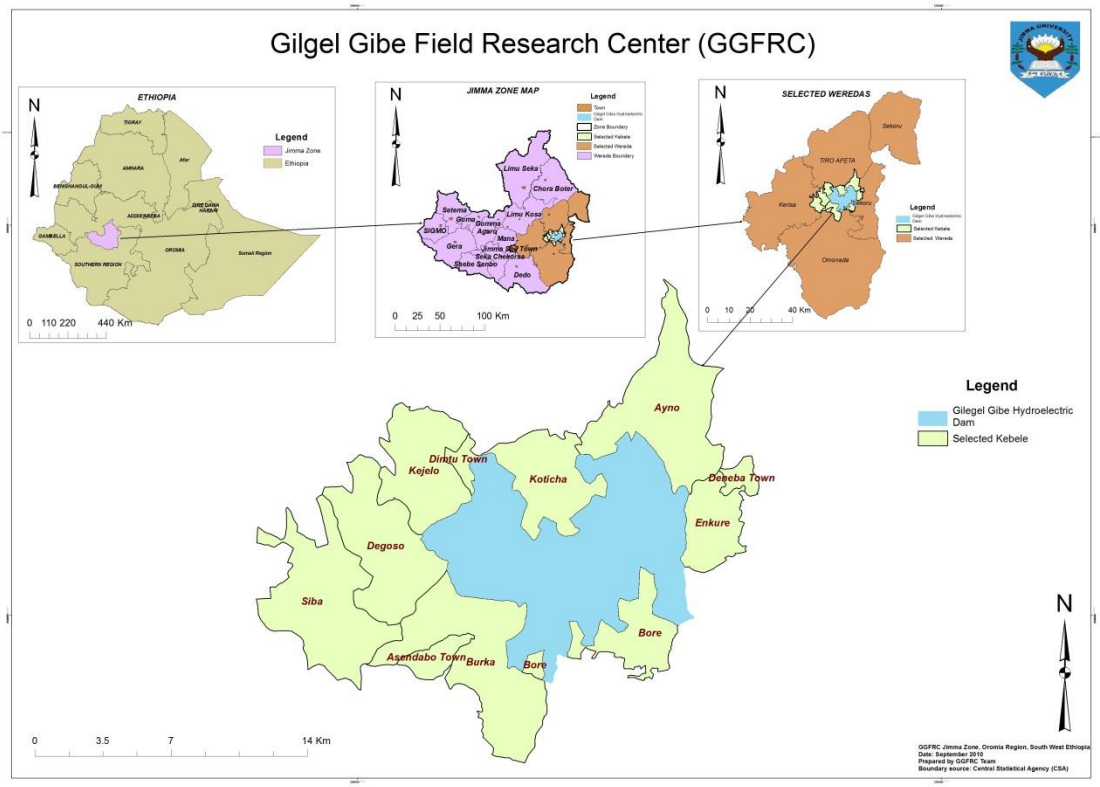

Figure 1: Location map of the study area: Gilgel Gibe Field Research Center.

Overview of selection process of the study population

The targets of the study were residents of the area aged 15 to 64 years. Sample size was determined, using recommendations in the WHO STEPS surveillance manual, to estimate prevalence of CNCDs and their risk factors in each stratum of age, sex and residential area (Figure 2). The sample size for STEP I and II of the survey was 5,500 and 60% (3,300) of these were sampled for STEP III. For sample selection, a list of all eligible study participants was obtained from vital registration of the area in Jimma University. The sample size was allotted to urban and rural strata proportional to their size in a ratio of 25% to 75%, respectively. Furthermore, equal sample were allotted into each sex and age strata (Figure 2). Age was grouped to five strata, in intervals of ten years. Individual study subjects were then selected using simple random sampling technique.

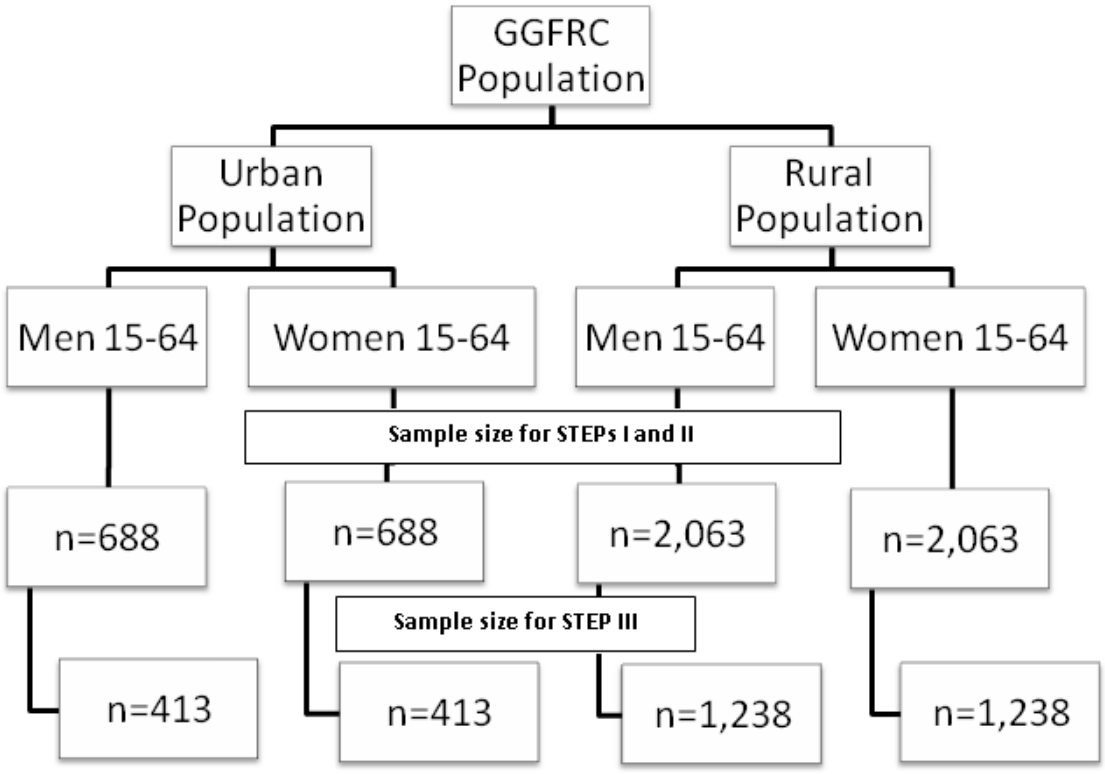

Figure 2: Schematic presentation of sampling procedure for chronic illness survey in GGFRC, Southwest Ethiopia, 2008.