This was a survey in Rachuonyo (Kenya), Bukoba (Tanzania) and Rakai (Uganda) Districts to assess the contribution of bananas to the households for food security and nutrition of PLWHA as well as the potential nutritional benefit of providing nutrient enhanced banana to PLWHA. Data were collected through interviews with 373 PLWHA and key informants (local agricultural support staff and personnel from PLWHA support agencies) and using focus group discussions. A banana-based nutrient enhanced food supplement made by blending banana flour (61%) with soybean flour (39%) and multi-nutrient fortificant premix (0.2% of mixture) was distributed to 15 respondents and their nutrient intake estimated. Majority (71.5%) of survey respondents were females aged 20-50 years; most had no higher than primary level education and were small scale farmers (with gardens <1 acre). Most of the respondents produced and consumed bananas as the study population was generally food insecure. Banana contributed substantially to household food intake for PLWHA in the 3 Districts. Based on the energy and nutrient intake data, PLWHA required supplementary food. The product obtained from banana nutrient enhancement contained 459.7 kcal, 15% protein and substantial levels of vital vitamins and minerals. The product was well accepted and increased energy and nutrient intake by the recipients. At the recorded intake level (average of 66 g per person per day), intake of energy and a few nutrients was still below recommended daily allowances (RDA) as about 204 g of the nutrient enhanced banana flour was required to achieve RDA.