The major challenge in Kenya is that UPUagr lacks supportive local policy and legal framework recognizing the socio-economic value of UPUagr. Its integration in broad urban development plans with minimal conflict is also a problem. The study was conducted in 2011, at Bondo Sub County, Bondo Town Council through field studies at Nyawita, Barkowino and Ajigo sub locations. The overall objective of this study was to assess the extent to which Urban and Peri-urban Agriculture is integrated into Bondo Urban Planning achievement of sustainable food security to enhance food security. The objectives were to examine planning strategies suitable for integrating UPUagr into urban planning and to identify major constraints to UPUagr in Bondo town. The study employed descriptive survey design. Proportionate method was used to determine the sample size of 368 households and 248 traders. Key informants from relevant Government Ministries and Non-Governmental Organizations were incorporated. Respondents were identified through purposive and random sampling. Primary data was collected using questionnaires, interview schedules, participants’ observation, photographs. Qualitative data was analyzed through sub-themes and themes as they emerged. Quantitative data was analyzed using descriptive statistics. The results showed that Urban and Peri-urban Agriculture complemented rural agriculture and increased the efficiency of the food system.