The main objective of this study was to assess the effects of community engagement at different project phases on projects sustainability. To achieve this, the study specifically investigated the effect of engaging the community during the planning, implementation and monitoring and evaluation phases of project management towards achieving sustainability. Data was collected from 200 different people who have been involved with Maasai Mara university sponsored community projects. This represented 10% of the entire population. Case study research design was applied. Simple random sampling procedure was used to pick the samples from each strata. The researcher sampled 10% of the target population, giving a sample of 200. Primary data was collected using self-administered questionnaire while secondary data was collected from Maasai Mara University's annual reports, journals, books, researches, thesis, dissertations, articles, working papers, and the internet. Data was collected by drop and pick method. The questionnaire were evaluated for content validity and reliability. Data analysis involved cleaning data and identifying common themes from the respondents' description of their experiences. Data collected was then coded, tested for completeness and analyzed. Frequency counts of the responses were obtained to generate information about the respondents and to illustrate the general trend of findings on the various variables that were under investigation. Data presentation was done using Statistical Package for Social Sciences (SPSS) software. This was in the form of tables, graphs and charts whereas qualitative findings were presented thematically. From the findings, it can be deduced that the community was not fully involved in all the stages of projects development. In the project planning phase, the respondents indicated minimal involvement where a majority of the respondents disagreed in community engagement in the identification of community based projects. In the project implementation stage, majority of the respondents disagreed on involvement of the community in the coordination of the project activities. The findings also indicated lack of community engagement in the evaluation and monitoring stage which was evidenced by the fact that most of the respondents disagreed that the community formed the evaluation team and helped develop the performance indicators. The study concluded that sustainability has neither been mainstreamed nor prioritized in each phase. It was recommended that there is need for community members to identify their own needs, analyze the factors that lead to the needs, and draw up community action plans and schedules to address the needs. The study also recommended that before the implementing parties commence on the project, there should be exhaustive and detailed approach to mainstream and