INTRODUCTION

This is a project under Research, Production and Extension Division funded through innovation funds with three phases, namely:

Phase 1 that includes training needs assessment, identification of required equipment, development of the syllabus and the setting up of a laboratory/workshop;

Phase 2 that involves the actual training at JKUAT, Taita-Taveta Campus, and;

Phase 3 that will involve selected topics in business management and follow-up in the field to evaluate the effectiveness of the course.

PROGRESS

1. Equipment
   (i) Procurement for the following equipment has commenced;
       Microscope and its camera,
       Gem cutting and polishing equipment and its accessories
   (ii) Laptop computer and a scanner has been procured
   (iii) The rest of the equipment will be procured before commencement of the training.

2. Syllabus
   (i) The provisional syllabus has been drawn up pending the results from the training Needs Assessment.
   (ii) The respective training manual will be ready by mid-July.

3. Setting up of the Laboratory/Workshop
   (i) Laboratory space and preparation room have been identified for burglar proofing. A technician’s office will also be burglar-proofed.
   (ii) Material for the works has been procured and work has commenced on the burglar-proofing.
Shelves and cabinets that are necessary for gemstone storage and display have been identified and an order placed for a few of them.

It is planned that this will be a full-scale Gemology Laboratory that will cater for research and development in the field of gemology.

4. **Training Needs Assessment**

   (i) Fieldwork has been successfully carried out between 13\textsuperscript{th} and 23\textsuperscript{rd} June, 2010. Small scale miners have been interviewed at their mining sites in the following places:

   Kishushe area,  
   Mgama Ridge comprising Alia, Gituma, Chungaunga, Kamtonga and Digai areas,  
   Sagala area,  
   Kasigau area  
   Taveta (Jipe Settlement Scheme)

   One of the impressive mines where ample time was spent is that of Davies Mining Co. Ltd. The company is using both open-cast and underground mining methods to extract the green garnet commonly known as tsavorite.

   (ii) At these places the following gemstones are being produced: ruby, tsavorite and other types of garnets, iolite, alexandrite, various colours of tourmaline, rhodolite, amethyst, aquamarine, kyanite, and pink sapphire.

   (iii) Samples of rocks and gemstones (not valuable) were also collected during this period. These will form part of the training and will be displayed in the laboratory/workshop that is being prepared.

   (iv) Photographs of the mines/mining areas were taken and will also be used during the training

Data from the training needs assessment field work will be processed/analysed and used to refine the syllabus and organize an effective course.

5. **Wanjala Iron Ore Mining**

The team also visited Wanjala open-cast iron ore mining where both alluvial and reef iron ore are being extracted. The ore is crushed and screened to -40 mm size before being transported by lorries to Mombasa and onward to export markets.

Iron ore processing is one area in which Taita Taveta Campus plans to go into to establish a ferrous laboratory and workshop.