SWISS NGO DRR PLATFORM

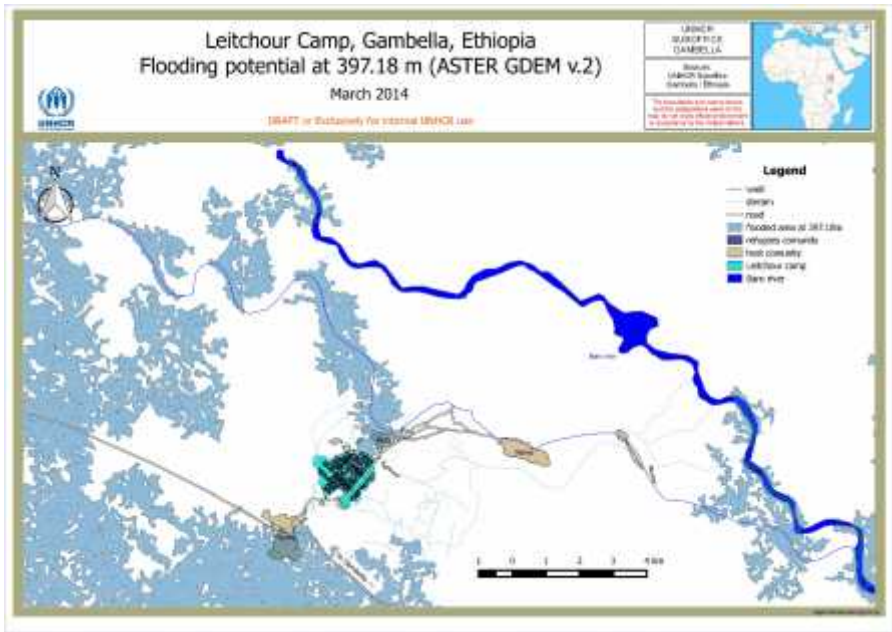
F2F 2015: Integrated floods management: Acting locally, linking beyond!

Topic information for market place poster presentation

Country/Region: Ethiopia, Gambella region, Leitchour
Institution: UNHCR / SDC
Time Frame: March 2014
Partner(s):
Beneficiaries: Refugees of South Sudan
Key words: Quick and easy first emergency flooding analysis based on free available digital elevation models and observation on the field with the use of GIS software (Global Mapper, qGis).
Contact: Cippà Andrea, rimo@gmx.ch

1. Context and rationale

- A UNHCR refugees camp location is planned in an area where flooding might be expected.
- There is a strong pressure from Government to have the site on a potential flood prone area.
- Evaluate in a quick (overnight) and easy manner if the selected area will



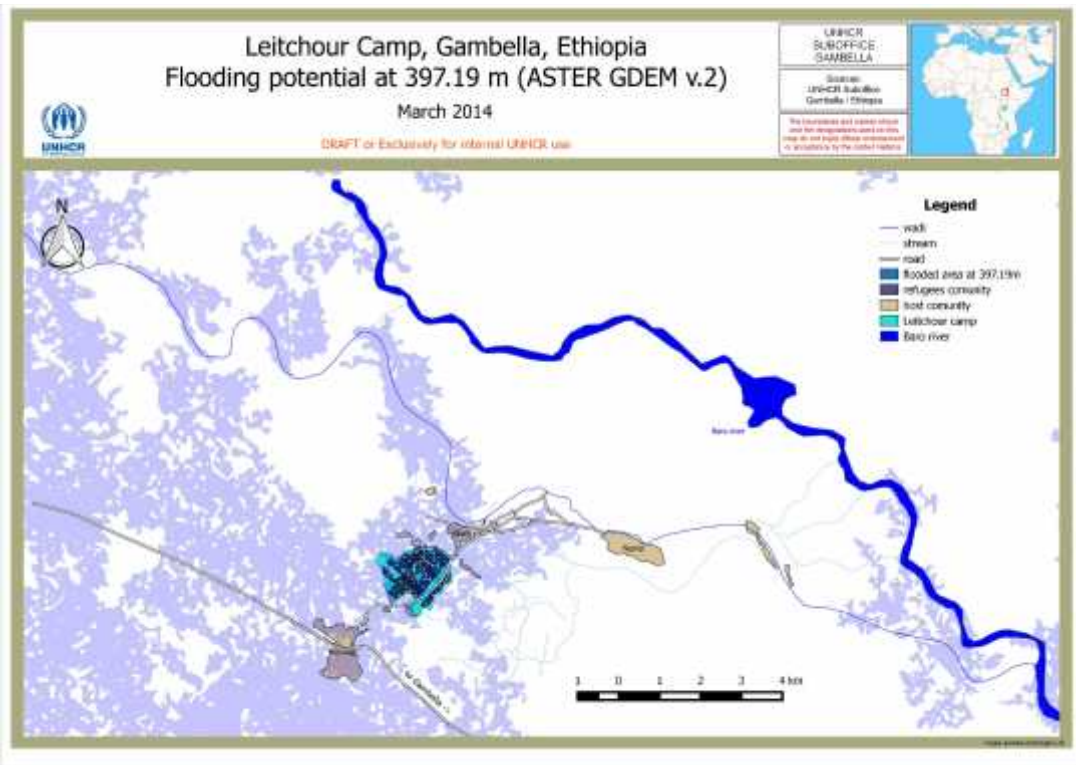
*Map 1: Flooding analysis of the region of Leitchour (Gambella, Ethiopia) at the ground elevation of **397.18** meter based on ASTER GDEM elevation Model (1 Arc-Second Resolution)*

2. Description of intervention approach / project

- Objective:
  - Define and explain if the selected area is flood prone or safe
  - Show on a map the potential extend of the flooding
  - Develop a tool for negotiation with authorities (map)
  - Propose alternative locations
- Process:
  - Collect information on the field (interview, photos, observation of silent witness)
  - Collect information online (imagery and DEM)
  - Analyse the collected information
- Advantage:
  - Quick
  - Easy
  - Cheap
- Disadvantage:
  - not very precise

3. Lessons learnt

- Visualisation with maps and pictures are very powerful for negotiations process
- Tools must be quick available on the field and for free (open source)
- Information (imagery, DEM) must be available on the field (internet and for free)



*Map 2: Flooding analysis of the region of Leitchour (Gambella, Ethiopia) at the ground elevation of **397.19** meter based on ASTER GDEM elevation Model (1 Arc-Second Resolution).*

4. Entry points for scaling up the approach

- Training and tutorial must be developed for WASH officers
- More precise systems must be developed and divulgated in the WASH sector
  - Example of available tools related to flood analysis:
  - - WOIS
  - - qGis/Grass plugins like;

  r.sim.water: Overland flow hydrologic simulation using path sampling method (SIMWE)
  r.inund.fluv: Allows to obtain a fluvial potentially inundation map given a high-resolution DTM of the area surrounding the river and a water surface profile