

**Program Rain Water Harvesting TMT- Orange knowledge
Programme Wageningen University & Research-
Netherlands 27.09.2020 – 01.10.2020**

Day 1 (27 Sept): start 9.00h local time (8.00 Dutch time)

Morning

- 9.00h. Introduction water shortage and Rain Water Harvesting (RWH) (Dr. Michel Riksen) [Reader chapter 1]
- 9.30h. Main principles of RWH (Michel Riksen) [Reader chapter 1]
- 10.00h. Rainwater Harvesting techniques: Introduction in WOCAT (Dr. Michel Riksen) [Reader chapter 2; WOCAT website]
- 10.15h. Coffee/thee break
- 10.30h. Define an assignment for your students based on the WOCAT website. [WOCAT website]
- 11.30 Importance of Meteorological /Agro Meteorological Data in Kurdistan Region (Dr. Mohammed Azeed Saeed). The lecture is video recorded and available on Youtube on the link: <https://youtu.be/zdjTVxUZn0E>
- 12.30h. Lunch break

Afternoon

- 14.00h. Rainfall data and estimation of the design rainfall event versus estimation crop water requirement/shortage (Jos van Dam) [Reader chapter 3]

Day 2 (28 Sept):

Morning

- 9.00h. Introduction in the design steps in RWH (Michel Riksen) [Reader chapter 4]
- 10.00h. Start make a student assignment on RWH design [Reader chapter 4]
- 10.30h. Coffee/thee break
- 10.45h. Guest speaker Joren Verbist (ICADA): Designing RWH taking up- and downstream water needs into account: A case study in Jordan.
- 11.45h. Guest speaker Francesco Sambalino (MetaMeta): Designing RWH for rangeland.
- 12.45h. Lunch break

Afternoon

- 14.00h Evaluation and planning of RWH at region/country level: case West Bank and Case Iraq
 - 14.00h. Dr. Ammar Adhem : Evaluation and Selection of Suitable Rainwater Harvesting Sites in Arid and Semi-Arid Regions.
 - 15.00h. Dr. Sameer Shadeed: Mapping of WP and RWHS in Palestine
 - 16.00h. Rasha Abed MSc: Mapping suitability of RWH techniques.
- Assignment: Design a lecture on suitability and planning of RWH for your students.

Day 3 (29 Sept):

Morning

- 9.00h. SWAP model to predict impact on water availability and crop production (Dr. Jos van Dam; Dr. Joop Kroes) Optimization RWH for crop production model: Run-off versus Run-on (cropping) area. [Reader chapter 6; ANNEX A short guide SWAP; SWAP ZIP file] *Please install the SWAP model in advance on your laptop. Read the short SWAP guide and follow the instructions.*
- 12.30h. Lunch break

Afternoon

- 14.00h. Environmental Impact assessment (Dr. Ben Sonneveld) ◦
 - Rationale of Environmental Impact assessment
 - Principles of Environmental Impact assessment Goals of Environmental Impact assessment
 - Sustaining a responsible technology assessment.
 - Case study I.

Day 4 (30 Sept):

Morning

- 9.00h. Environmental impact assessment: EIA Techniques (Ben Sonneveld)
 - Baseline studies
 - The ICID Check-list
 - Matrices
 - Network diagrams
 - Overlays
 - Mathematical modelling
 - Expert advice
 - Economic techniques
 - Case study I 12.30
- Lunch break

Afternoon

- 14.00h. Cost Benefit analysis to predict the impact on farm income (Ben Sonneveld) ◦
 - The costs
 - The benefits
 - Discount rates
 - Accounting
 - Scenario analysis
 - Case Study

Day 5 (1 Oct):

Morning

- 9.00h. RWH and Entrepreneurship (Otto Kroessen) [Reader chapter 9]
 - Elements of a business plan (canvas of Osterwalder)
 - How to train entrepreneurial capacities for development?
 - Exploration of entrepreneurship options for RWH
- 12.00h. Lunch break

Afternoon

- 13.30h. RWH and Gender issues (Gül Ozerol) Reader chapter 10]
 - Governance and stakeholder analysis (to prepare: read paper by Bryson (2004))
 - Gender analysis (to prepare: read paper by Eige (2018))

16.30h. TMT evaluation and closure