



Water and  
Environment Centre

# Groundwater Disappearing and Desertification in Coastal Yemen



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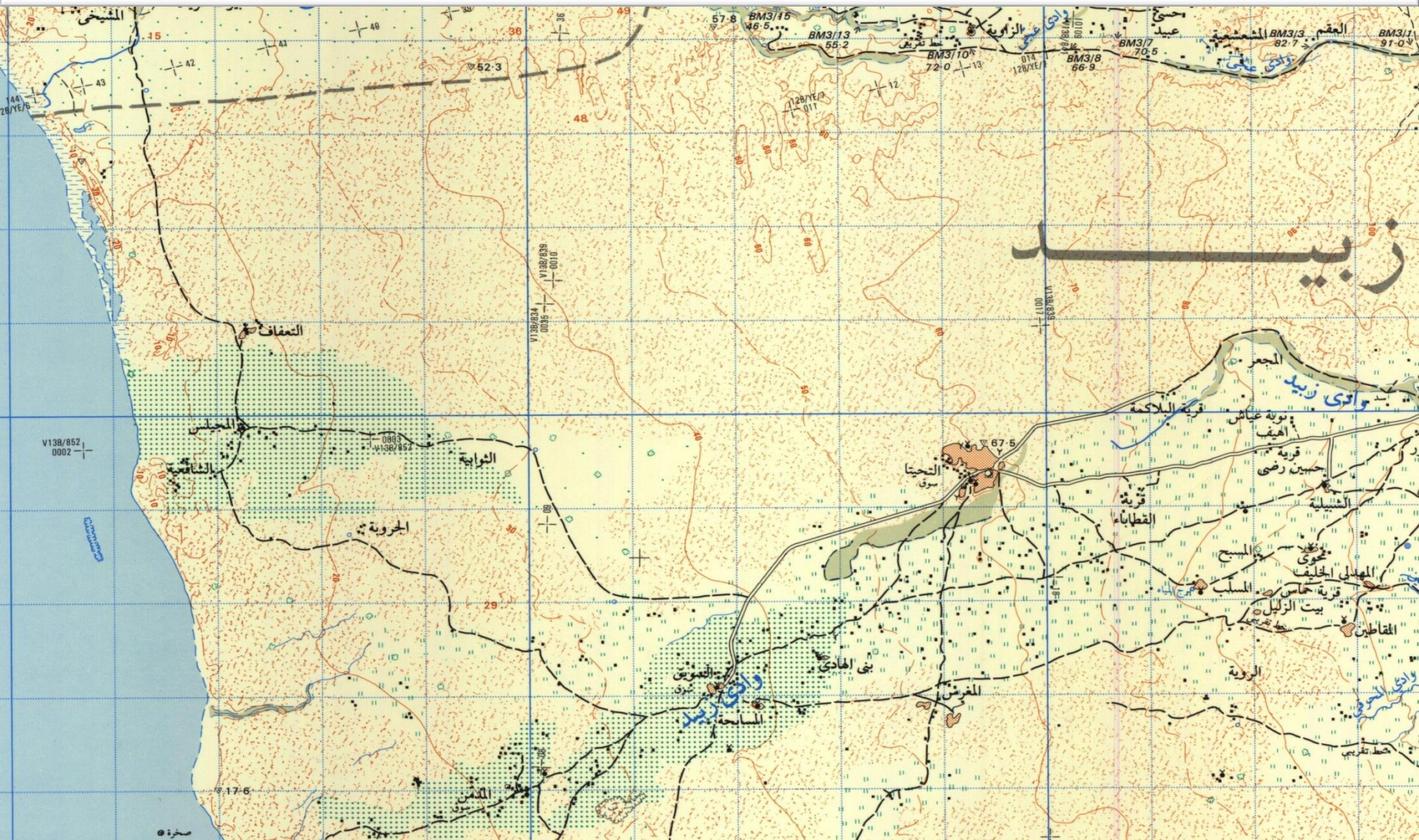
- This paper of the CoCooN project in Yemen aims to relate the impact of politics and power on the environment situation in coastal Yemen
- **Its main focus zone study is Al Mujelis village which located downstream of Wadi Zabid in the coastal area**



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Irrigation Channel		قناة ري
Water Pipeline		خط أنابيب ماء
Waterhole, Spring, Hot Spring		ينابيع حارة ، ينبوع ، بركة طبيعية
Borehole, Well, Cistern		صهريج (خزان)
Contours: Vertical Interval 40m with some 20m contours in flatter terrain		كتتورات بفاصل رأسي ٤٠ م ، مع بعض الكتتورات بفاصل رأسي ٢٠ م في المناطق السهلية
Supplementary Contour (VI 10m)		خطوط مناسب ( كونتور ) اضافية كل ١٠ متر
Depression Contour		خطوط مناسب منخفضة
Cliff, Steep Slope		إنحدار حاد ، جرف
Crater, Isolated rocky Hill		جبل صخري مفرد ، فوهة البركان
Sand Dunes		كثيب رملي
Sand or Gravel		رمل أو حصى
Lava		حمم البراكين
Trees and Bushes		أشجار وشجيرات
Dom Palms		دوم
Cultivation		زراعة
Plantation, Vineyard		مغرس أشجار ، بستان لزراعة الكروم

## الارتفاعات بالأمتار

الارتفاعات لمتوسط منسوب سطح البحر

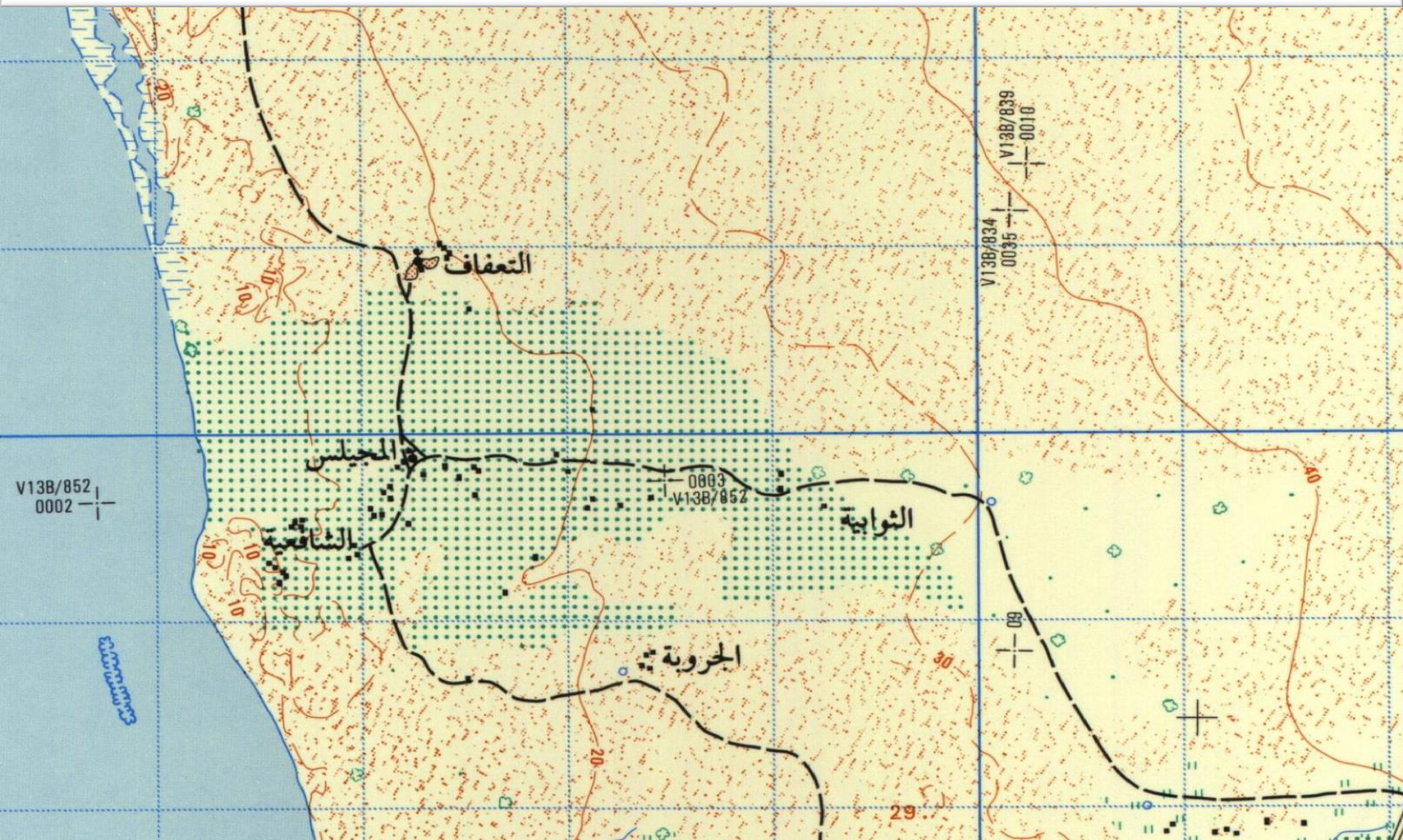
لا يمكن الاعتماد على الخريطة الحالية



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- **The environmental degradation in Al Mujelis is characterized by:**
  - Desertification increasing in area
  - Rapid depletion in groundwater
  - Increasing probability of saltwater intrusion





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- **Al Mujelis environmental disaster started directly after the construction of five diversions structures upstream of Wadi Zabid.**
- **This affect negatively the equity of water distribution between up and downstream of the Wadi and cause no longer the seasonal floods reach the coastal areas and ceasing aquifer recharging.**



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- Meanwhile, the expansion in cultivated areas upstream the Wadi and changing of cropping pattern towards high irrigation water requirement ones as banana and mango causing excessive abstraction of groundwater and rapid groundwater level declining.



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- **In addition, five months of wind seasons towards coastal areas attack Al Mujelis by huge amount of sands dunes covering its vegetation and doom palms and transferring it into desert environment.**
- **Most of Al Mujelis population already migrate to main cities. While the rest community were forced to change livelihood from farming to fishing**



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- **Water Rights is the master key to figure out the case of Al Mujelis and its similar cases, starting from:**
  - Evaluating of the real effect of existing diversions in upstream,
  - Studying Wadi Zabid actual water budget
  - Assessing role of policies and powers that resulting non equity in water rights and re-put each player in its proper role,
  - Modification of upstream area crop pattern from water conservation vision,
  - Redistribution of seasonal flood water between up and down streams with a manner that realize an equity in water rights.





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