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► To cite this version:

Julien Blanco, Stéphanie M. Carrière. Should LEK be shared in a changing world? Evidences from an ethnobotanical survey in Morocco. 58. Annual meeting of the Society for Economic Botany (SEB), Jun 2017, Bragança, Portugal. 14 p. hal-01604426

HAL Id: hal-01604426

<https://hal.science/hal-01604426>

Submitted on 5 Jun 2020

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Should LEK be shared in a changing world?

Evidences from an ethnobotanical survey in Morocco

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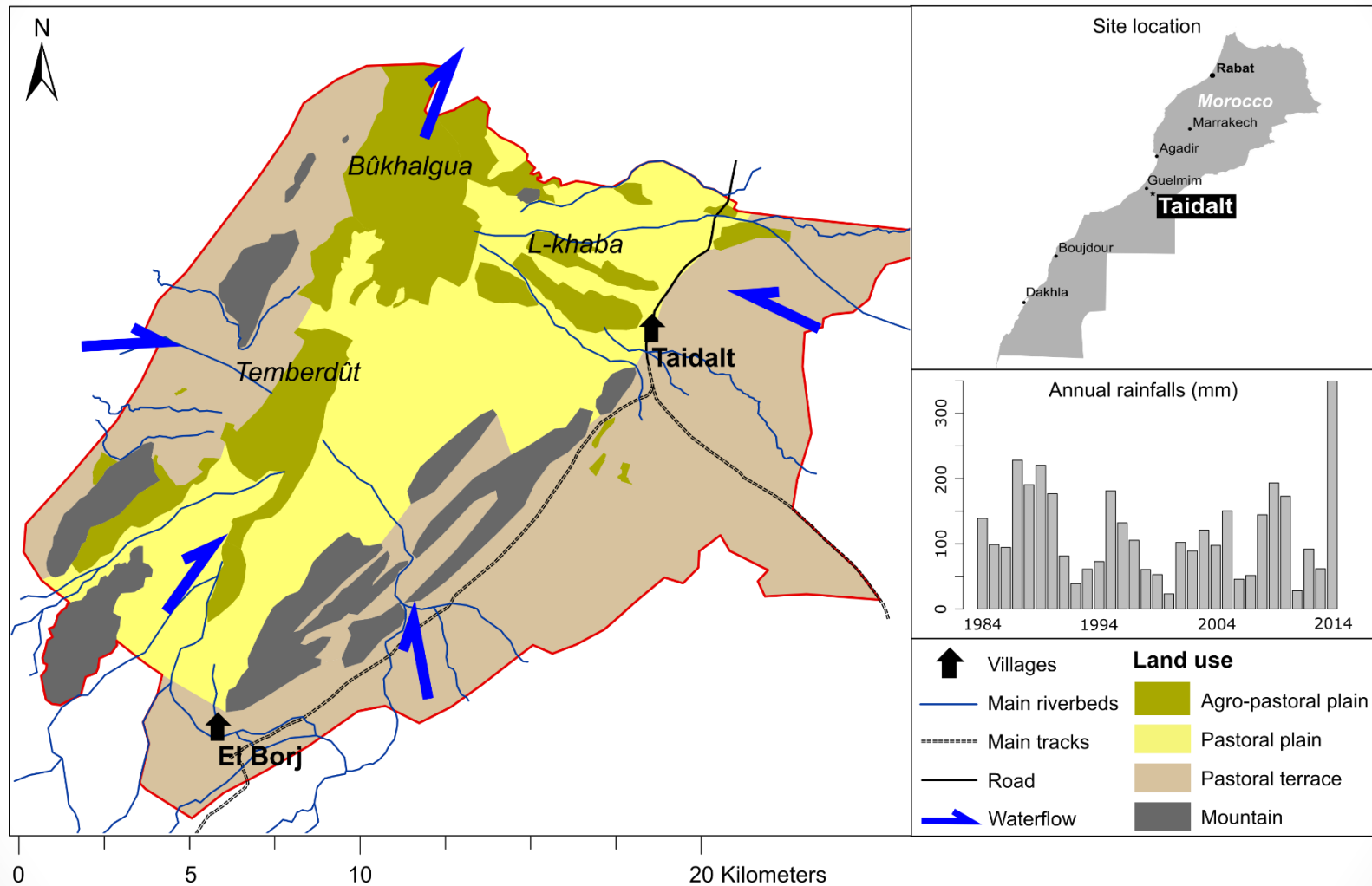
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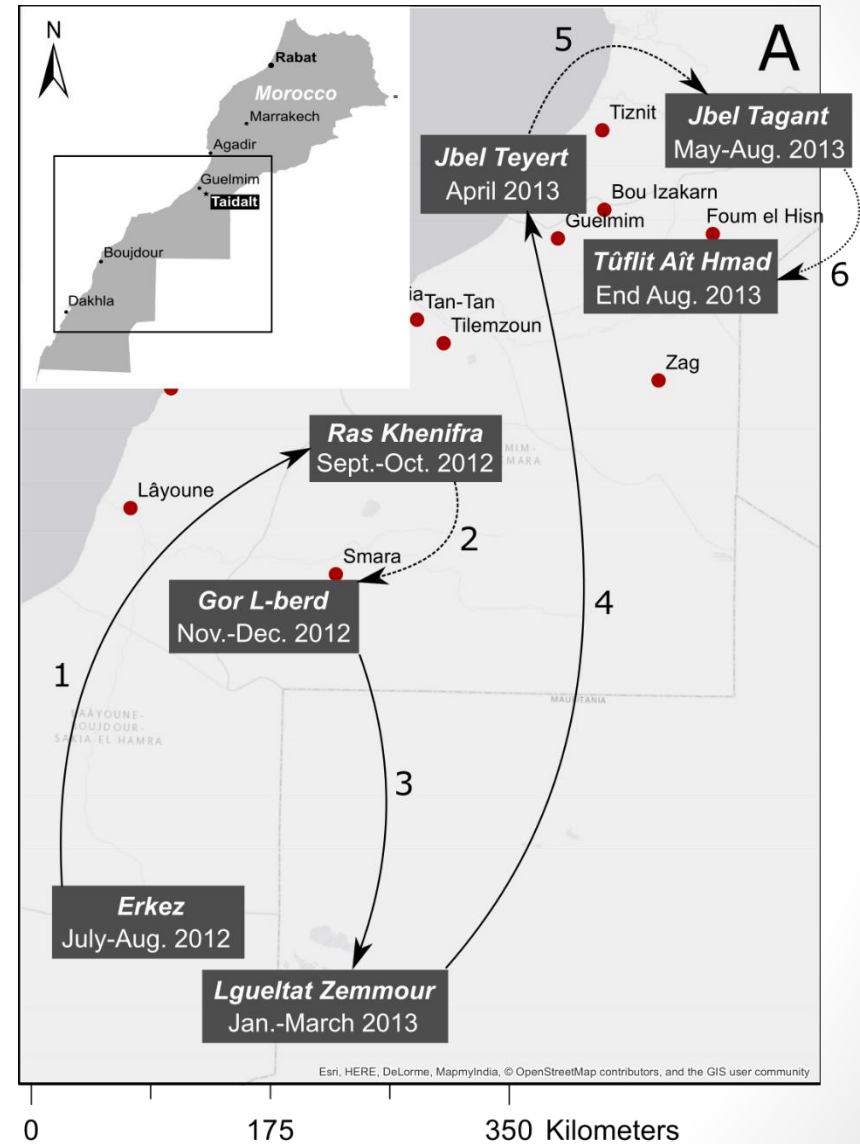
- Very dry and hot climate (<100 mm/year)
- A very high rainfall variability and uncertainty

How to sustain a sustainable livelihood in such uncertain environments?

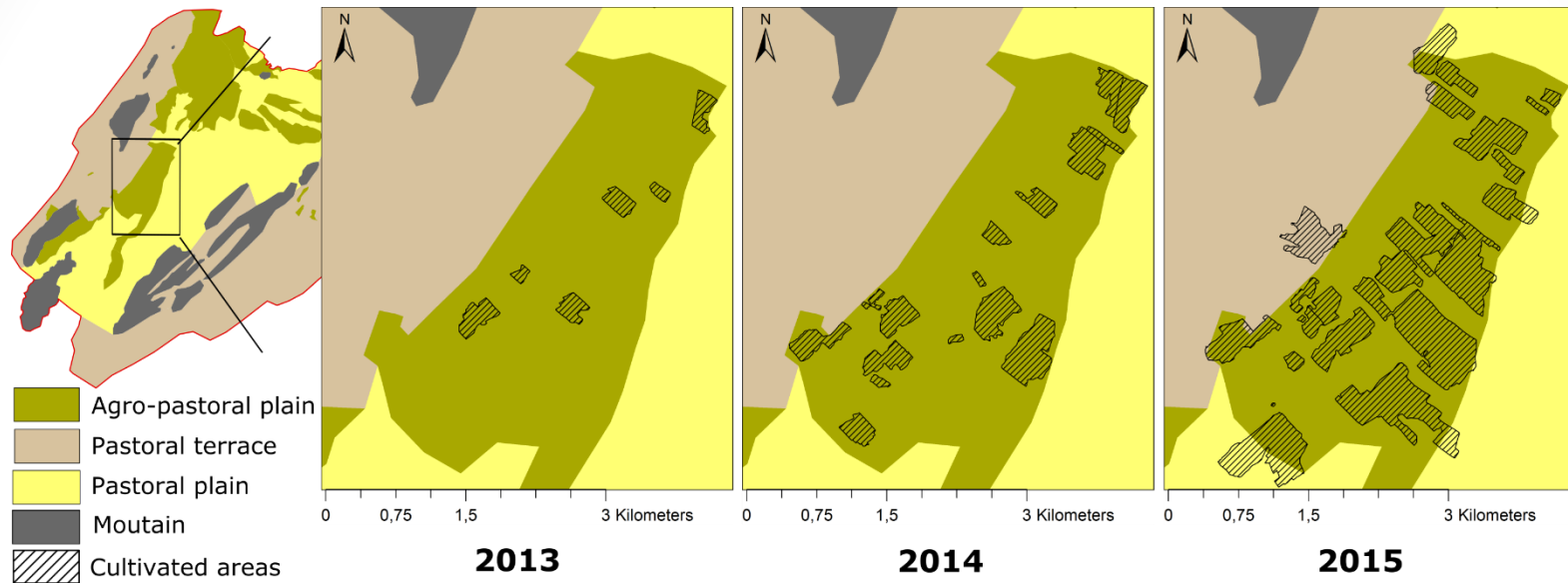
The *Ighuweln* agro-pastoral landscape in Southern Morocco



Agro-pastoralists track environmental variability



Farmers practice occasional and opportunistic swamp farming



Plants are a key component for local livelihoods



- People have an opportunistic strategy for MAPs gathering

Is there any strategy for LEK distribution to adapt to uncertainty?

- Q1: Distribution between plant species? *ecological apparency hypothesis*
- Q2: Distribution between people? *intra-cultural variations of LEK*
- Q3: Are LEK declining because of changes in the community?

LEK assessments: free-listings and semi-structured interviews

- Interviews with 37 sedentary informants
 - ✓ 19 males and 18 females
 - ✓ From 21 to 90 year-old
 - ✓ Former nomads and permanently settled-people
- Free-lists analyses (FLAME add-on)
 - ✓ Smith salience index based on ethnospecies (Smith and Borgatti, 1997)
- Interview analyses
 - ✓ Use Knowledge Index (UKI) for each informant and category of use (medicinal, technological, construction, edible)



Vegetation survey around the village

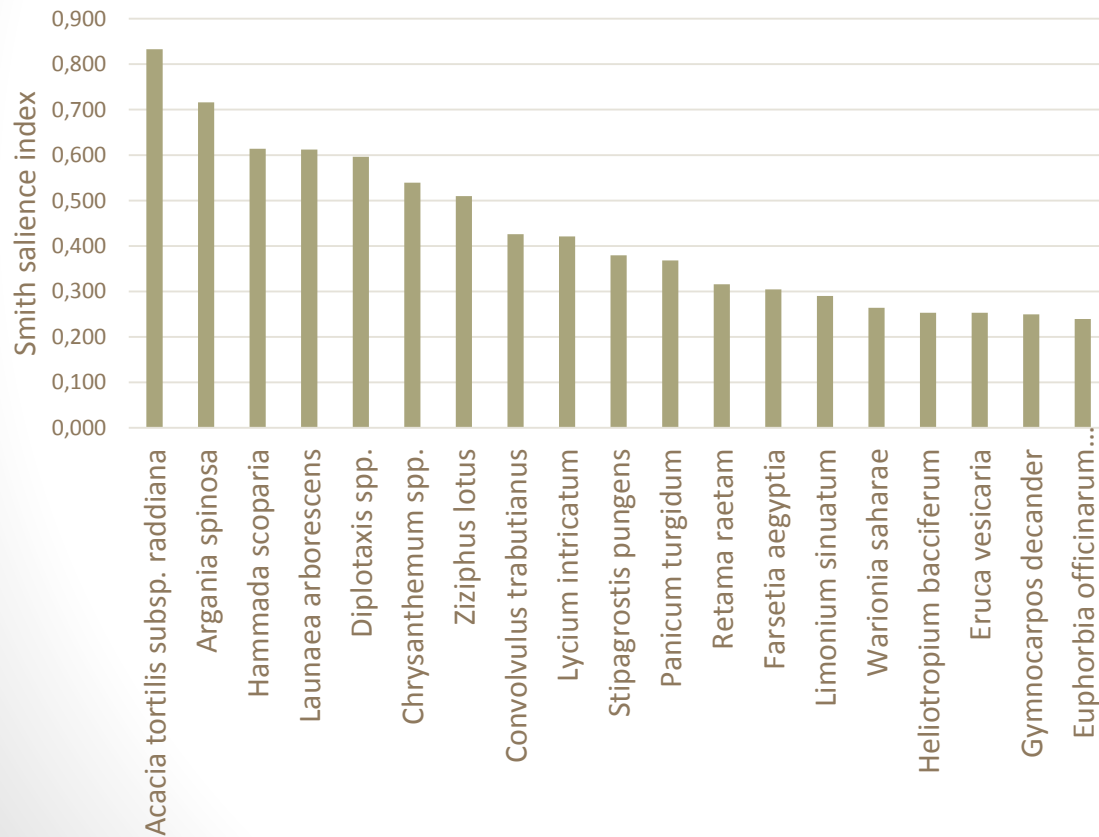
- Performed in 2013 (during a dry year)
- 141 square plots (50x50 m) over a radius of 10 km from the village
- All plant species recorded
 - ✓ Plant species frequency
 - ✓ Plant species Abundance-dominance index (Braun-Blanquet, 1964)



Plant cultural importance

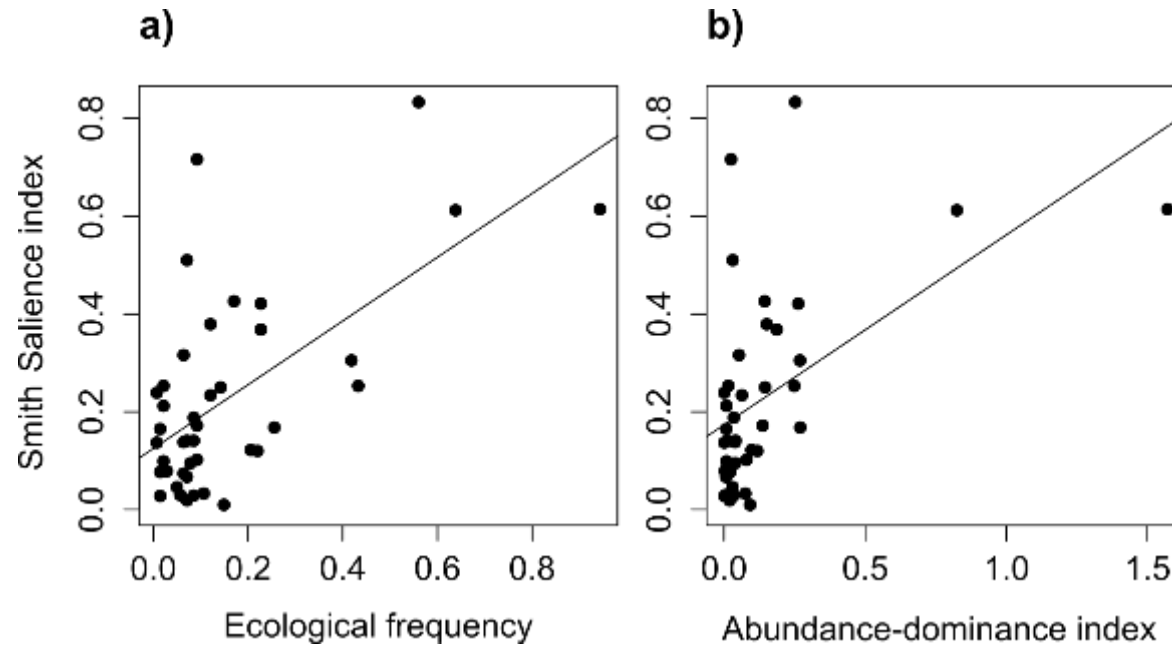
- A total of 164 ethnospecies cited by informants

- ✓ 72% were identified at the species & 17% at the genus level
- ✓ 43 botanical families (Compositae, Leguminosae, Amaranthaceae, Brassicacea)



The ecological apparency hypothesis

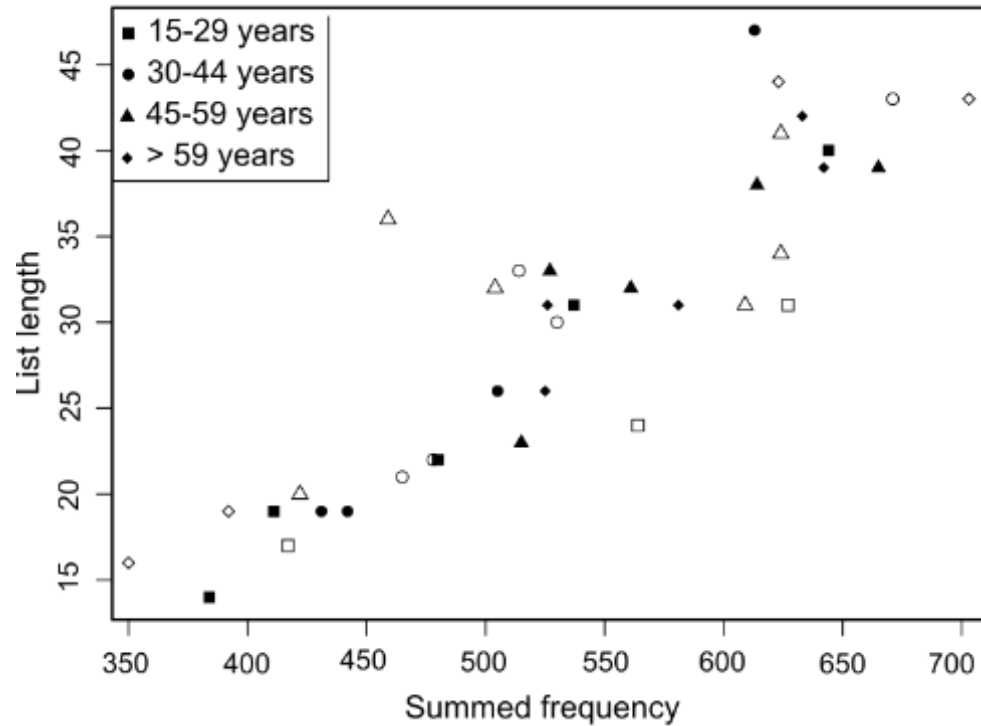
- A total of 71 species were identified (6.7 ± 4.6 SD/plot)



- The ecological apparency hypothesis was verified

LEK distribution among informants (1)

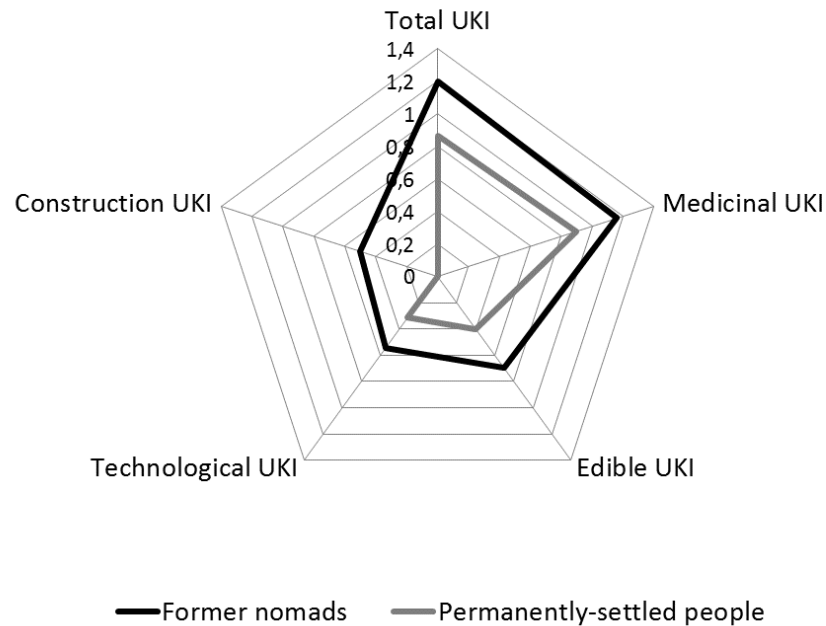
- Men cited 30.1 (± 9.2 SD) and women cited 29.8 (± 9.4 SD) on average



- No influence of gender, age, marital status or occupation

LEK distribution among informants (2)

- Significant difference between former nomads and permanently-settled people



- LEK are influenced by the connection of people with the learning environment (Ohmagari and Berkes, 1997)

Conclusion

- LEK depends of plant availability in drylands
 - ✓ But availability may vary in time
 - ✓ But apparency may also depends on plant visibility
- LEK was homogeneously distributed among people
 - ✓ LEK is easily shared and transmitted to people who needs it
 - ✓ It could constitute an adaptation to unpredictable environments
 - ✓ Transmission patterns should be better informed (through network analyses)
- LEK appears to be conditioned by people interaction with their environment
 - ✓ Are nomads people more knowledgeable than sedentary ones?
 - ✓ Is loss of LEK an on-going process in this region?

Thank you for your attention

