



# MARKET INTEGRATION AND FOOD SECURITY IN THE MOROCCAN MOUNTAINS

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Terraces in the Imliil area have been completely converted to fruit production.

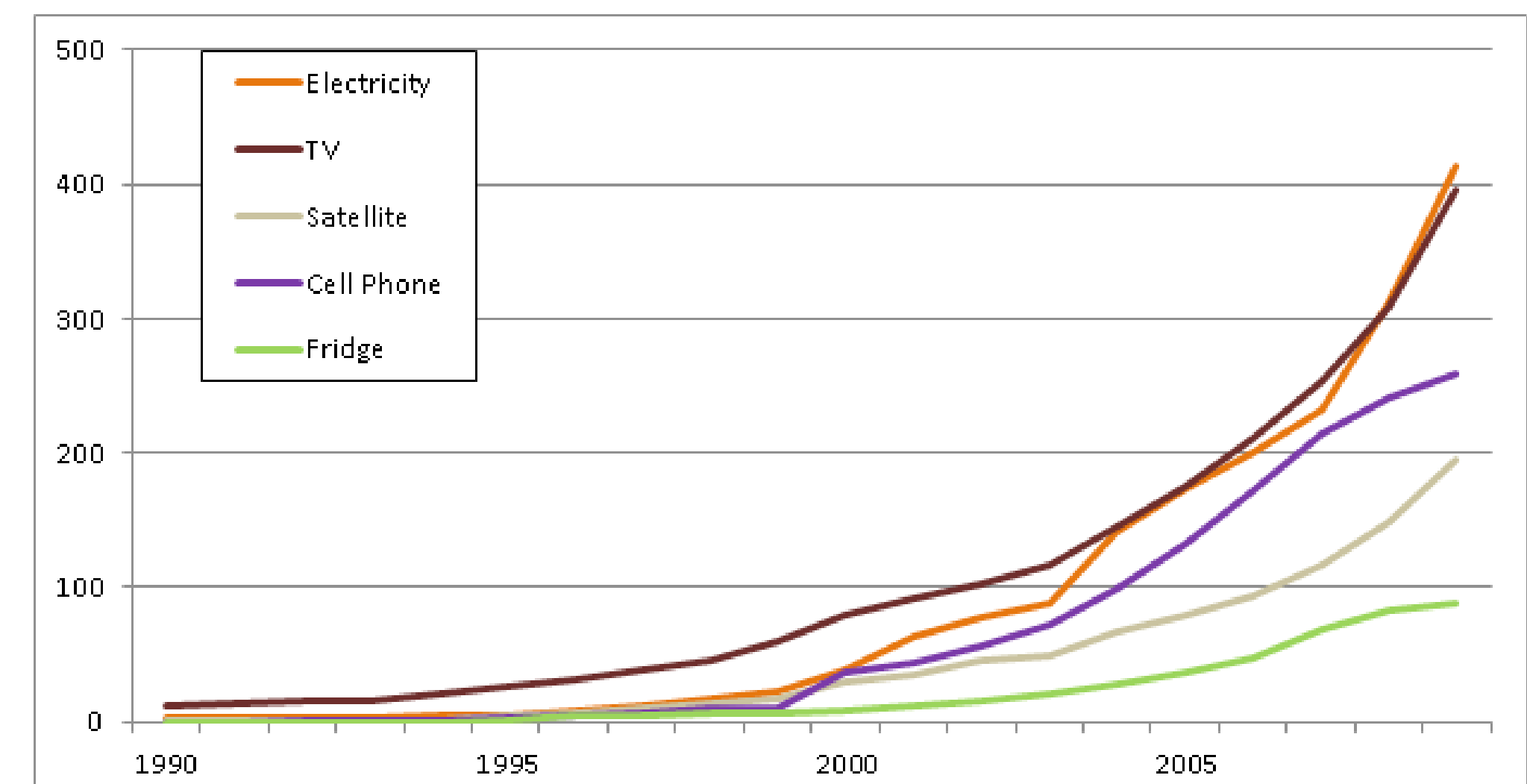
## INTRODUCTION

In the High Atlas of Morocco, cereal farming and transhumant livestock breeding have mostly been replaced by market-oriented fruit production, activities in mountain tourism, and wage labour.

As a consequence of market integration, locals increasingly sell their labour force in order to buy food.

Mountain ecosystems are based on delicate human-environment balances and are therefore particularly susceptible to climate change.

Research question: Do the ongoing, profound transformations of this production system have the potential to increase food security for the local population?



Number of households that have access to technologies (N=557, by year)

## MATERIAL AND METHODS

Socio-economic household survey in 2009: sample of 557 households in 22 selected villages.

Additional qualitative fieldwork since the 1980s (M. Mahdi).

Four zones with distinct characteristics:

- **Asni**: low altitude range (1.100-1.500 m above sea level), almost urban character, employment opportunities focused on service, trade, and construction sectors.
- **Imliil** (1.600-1.950 m): complete conversion to fruit trees; mountain tourism is the main income source in many villages.
- **Imnane** valley (1.800-2.350 m): has recently seen the introduction of fruit trees and development of infrastructure (roads, electricity).
- **Oussertak** (1.700-2.200 m): the most remote villages in this municipality. They maintain a strong pastoral and agricultural character.



Lifestyles in the villages are changing.

## RESULTS AND DISCUSSION

The new production system is highly integrated with economic forces outside the region. It has performed well so far, but may be threatened by an increasing competition over water.

Cash incomes and better access to expanding basic infrastructure have improved living conditions, health indicators, and educational opportunities for many families in the area. This varies from one zone to another.

The access to markets remains asymmetrical. It has introduced new risks and vulnerabilities.

- Apple production: demand slumped in 2014, people were not able to sell their harvest.
- Tourist flows: depend largely on events in other countries.
- Imported staple foods: subject to free trade agreements and world market fluctuations.
- Disappearance of traditional institutions: might lead to growing polarisation between households.

## CONCLUSIONS AND OUTLOOK

Increasing market integration characterises both the production and the consumption of food in this region.

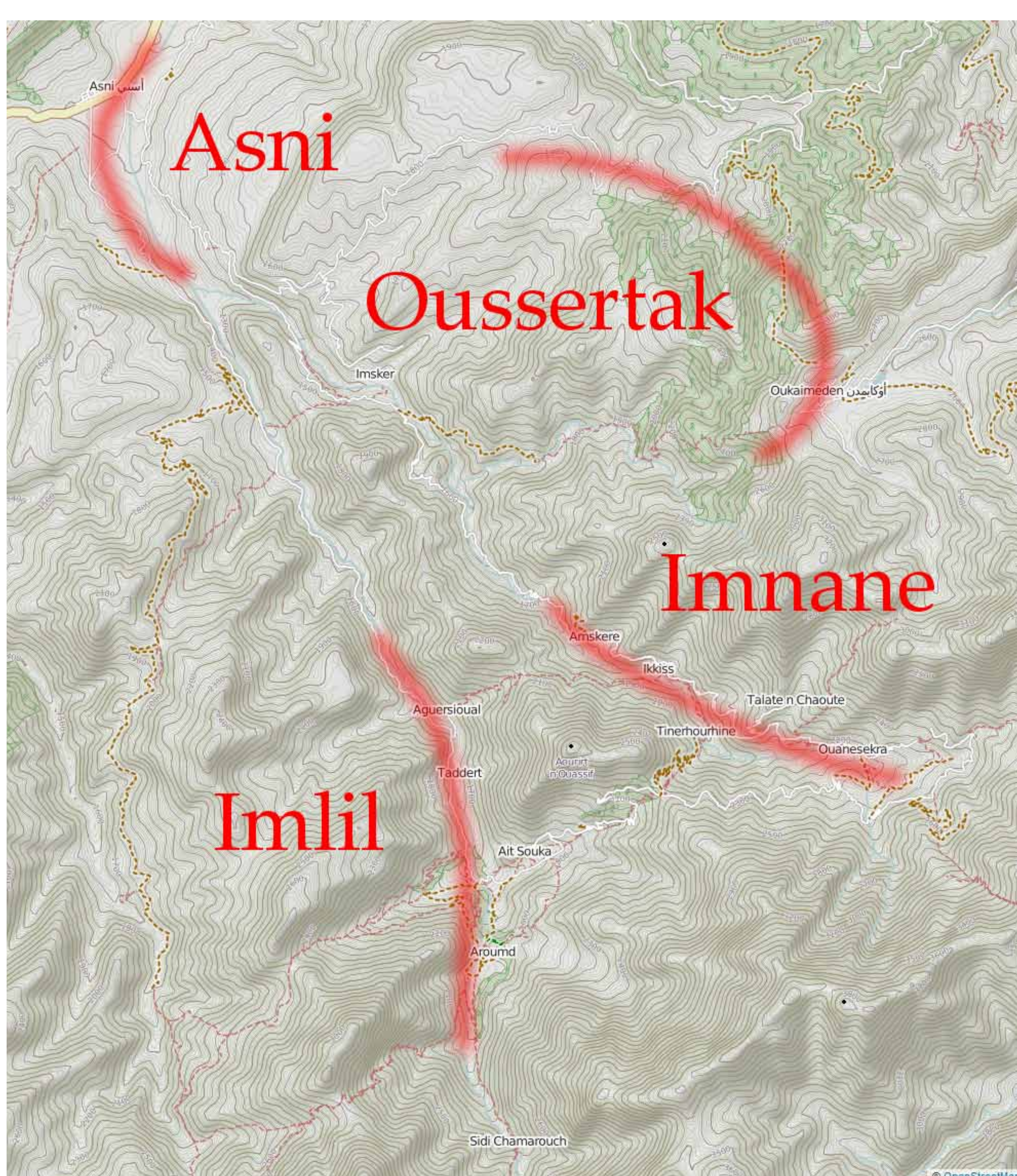
Due to climate change, tourism needs, and changed agricultural practices, water will likely become scarce in the future.

While climate risks play a role, the main threat to food security today is the unreliability of cash income caused by the locals' dependence on global markets.

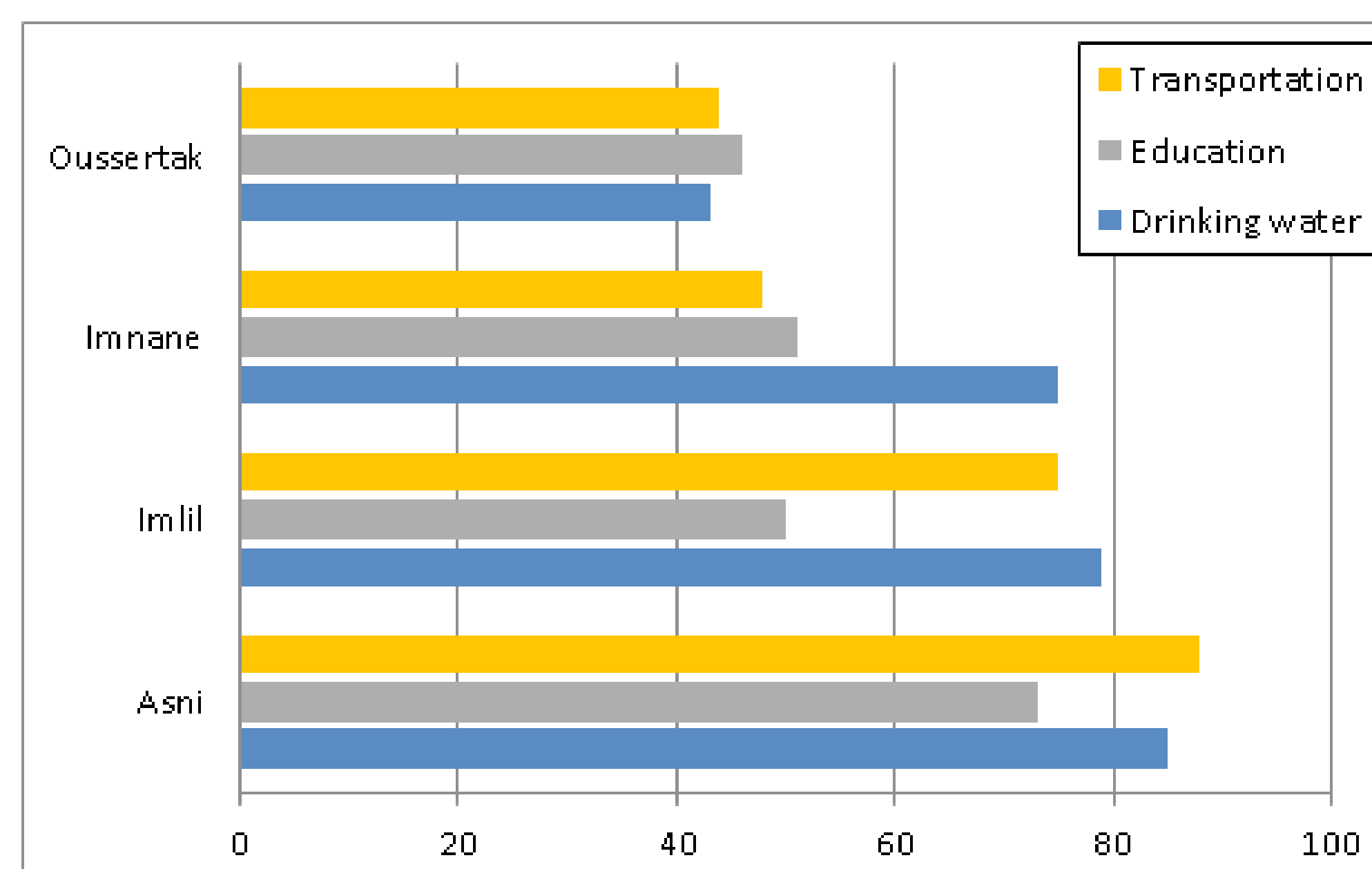
Moroccan state agencies, international organisations, and NGOs should assume more responsibility in buffering such income risks by providing adequate forms of social security or insurance products.

Only one in four household heads in our sample want their children to stay in the village when they grow up. This attitude could be changed by subsidising traditional modes of production and the conservation of local knowledge, especially in high-altitude zones.

Emphasising cultural aspects also seems promising for local agro-pastoral production and ecotourism. The High Atlas could be enlisted as 'Agro-Pastoral Cultural Landscape.'



Location of the four zones in our study area.



Percentage of household heads who see an improvement over the past five years in different areas (N=557, by zone)



A rather conventional land use system in the Oussertak region.

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