

Roles of small ruminants in the improving rural livelihood – Case study in Egypt

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Introduction

Main farming systems

- **The rainfed production system** : this system based on livestock, annual crops (mainly barley), trees.
- **The irrigated production system**: the typical mixed agriculture-livestock system that represents the majority of farms in the Delta and Nile Valley (around 76% of farming systems in Egypt).
 - Mixed livestock system with large ruminants (cattle and buffaloes), small ruminants and poultry.
 - Feeding system based on berseem, green corn and external feedstuff and concentrates

Feeding and housing systems In irrigated areas



At the regional level, sheep and goat play many functions :

- **Food security: Produced around 23.5% of meat production and 25.3% of milk production.**
- **Resistance to very harsh conditions.**
- **Strong adaptability to climatic changes.**
- **Satisfy cultural and family events**

Objectives...

- **To analyze the contributions of small ruminants activities to reduce vulnerability**
- **Analysis also the diversity of the roles of small ruminants under three different production system in Egypt: the pastoral systems of North West Coastal zone (Matruh governorate), the intensive agriculture system in the Nile Valley (Sohag governorate) and the oasian systems in west desert of Egypt (New Valley governorate).**

METHODS AND MATERIALS

**Data used in this study was collected
through collaborative project
CIRAD-INRA-APRI-ICARDA**

Rapid description of the sample in the 3 Regions

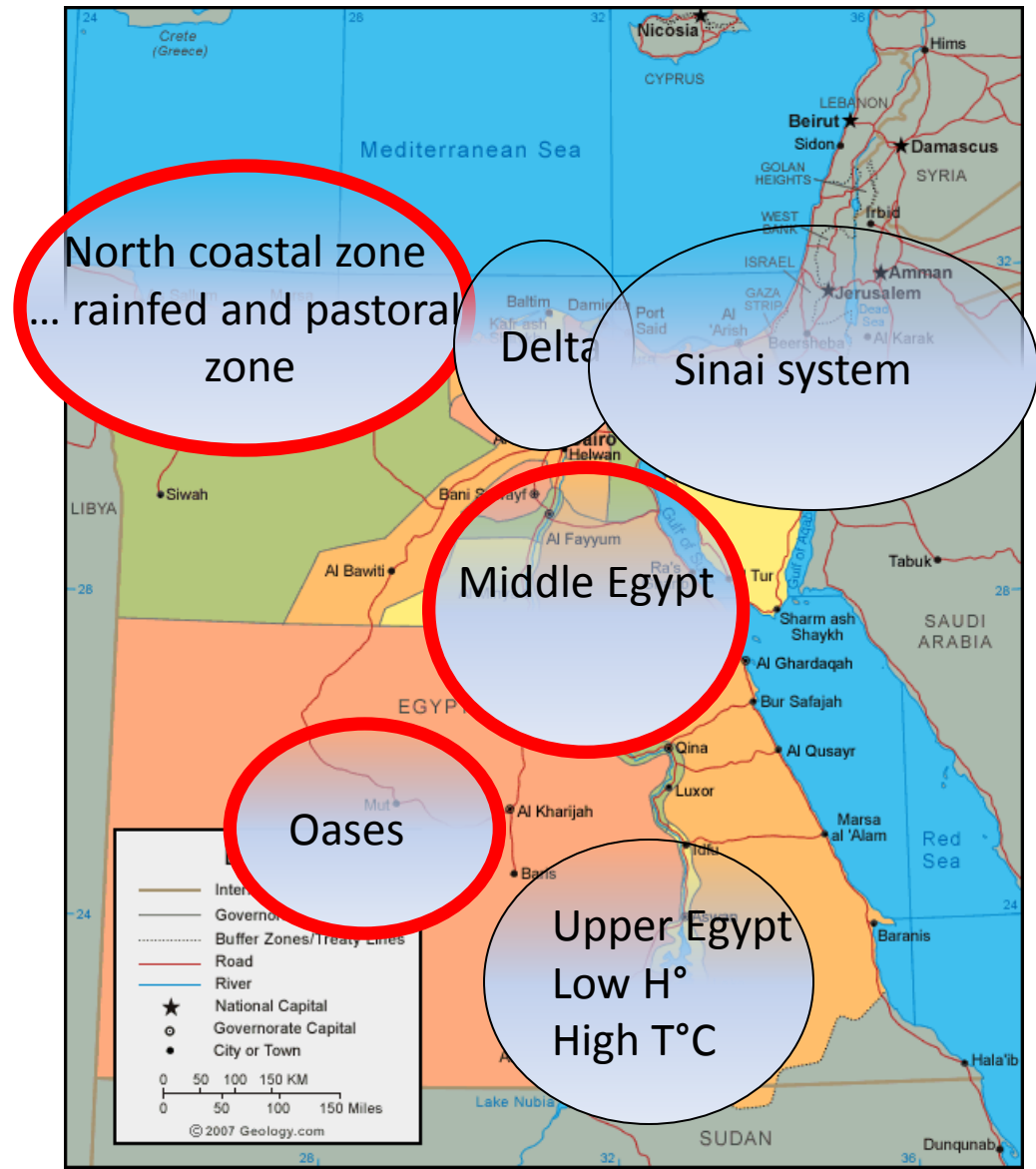
(Source: survey, 90 farmers, 2010)

Region	Location	Sample
Matruh	<ul style="list-style-type: none">- Matroh- Negila- Sidi Barani	30
Sohag	<ul style="list-style-type: none">- Sohag city : 2 villages- Al Muncha : 2 villages- Saqolta : 2 villages	30
New Valley	<ul style="list-style-type: none">- El Karga- Darlha- Paris	30

Variation of resource management (land, water access and management)

→ feed constraints → social, technical and market adaptation

- Climate gradient (T°C, H, radiation)
- → a biotic stresses
- Physiological and biochemical adaptative processes
- Demand/market



Capital asset approach

- **Human capital: education, active, family size**
- **Physical capital: small ruminant, large ruminant, irrigated land, total land**
- **Financial capital: off farm job**

RESULTS

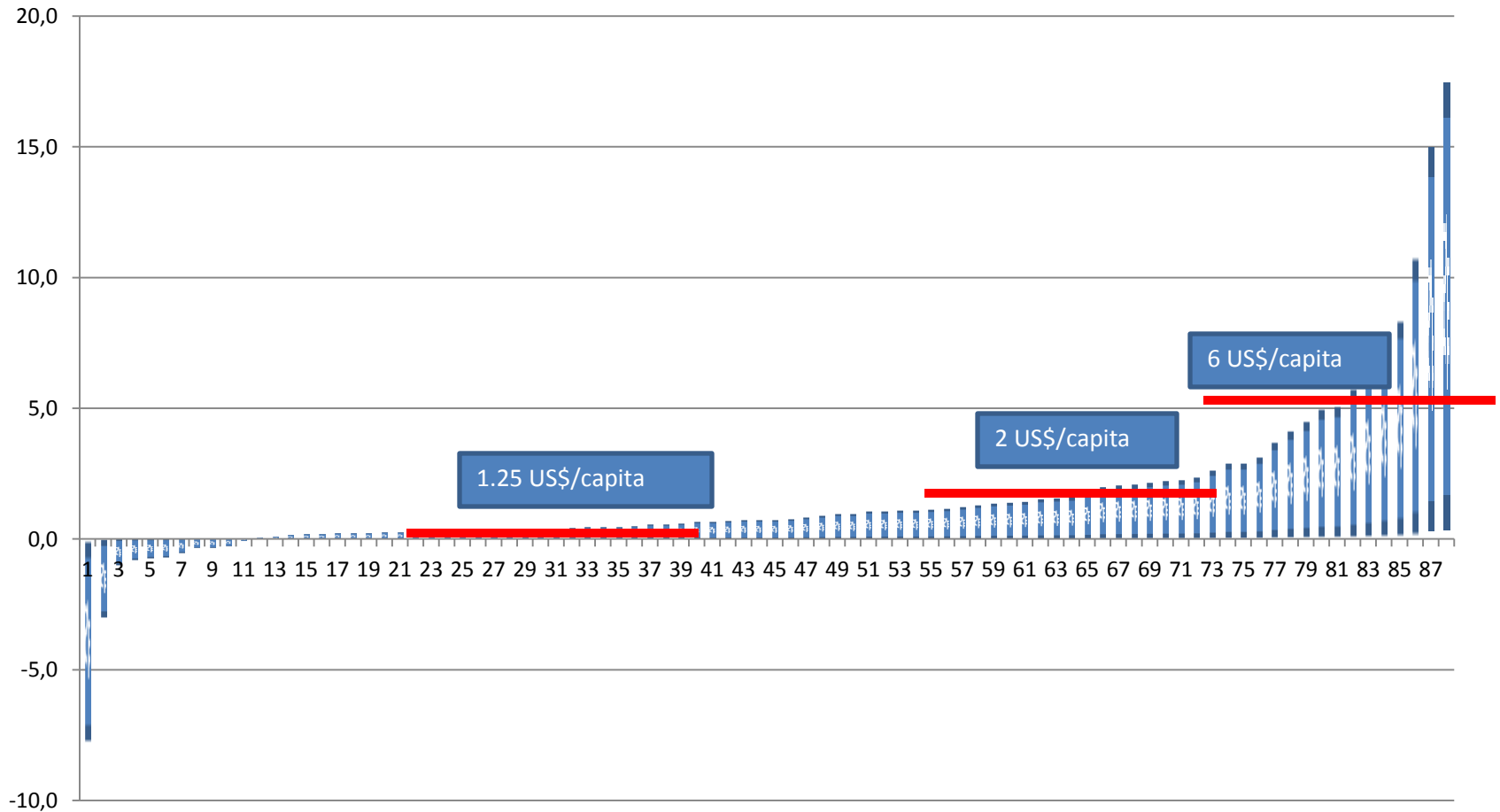
Rapid description of farming system in the 3 zones

(Source: survey, 90 farmers, 2010)

Zone	Farming system	Share of fodder crop on cultivated area (%)	Av. Small ruminant stock (heads)	Av. large ruminant stock (heads)	Feed cost per SR head (LE/head)
Sohag	Mixed crop-livestock farming system	66,5% (Green corn: 36,8%; berseem: 18,2%)	7	4	105
New Valley	Oasian system	58,9% (Alfafa: 23,5%; berseem: 17,6%; green corn: 16,02%)	54	28	66
Matruh	Agro-pastoral system	75,26% (Barley: 83,4%)	112	1	459

SOME INDICATORS OF POVERTY AND VULNERABILITY

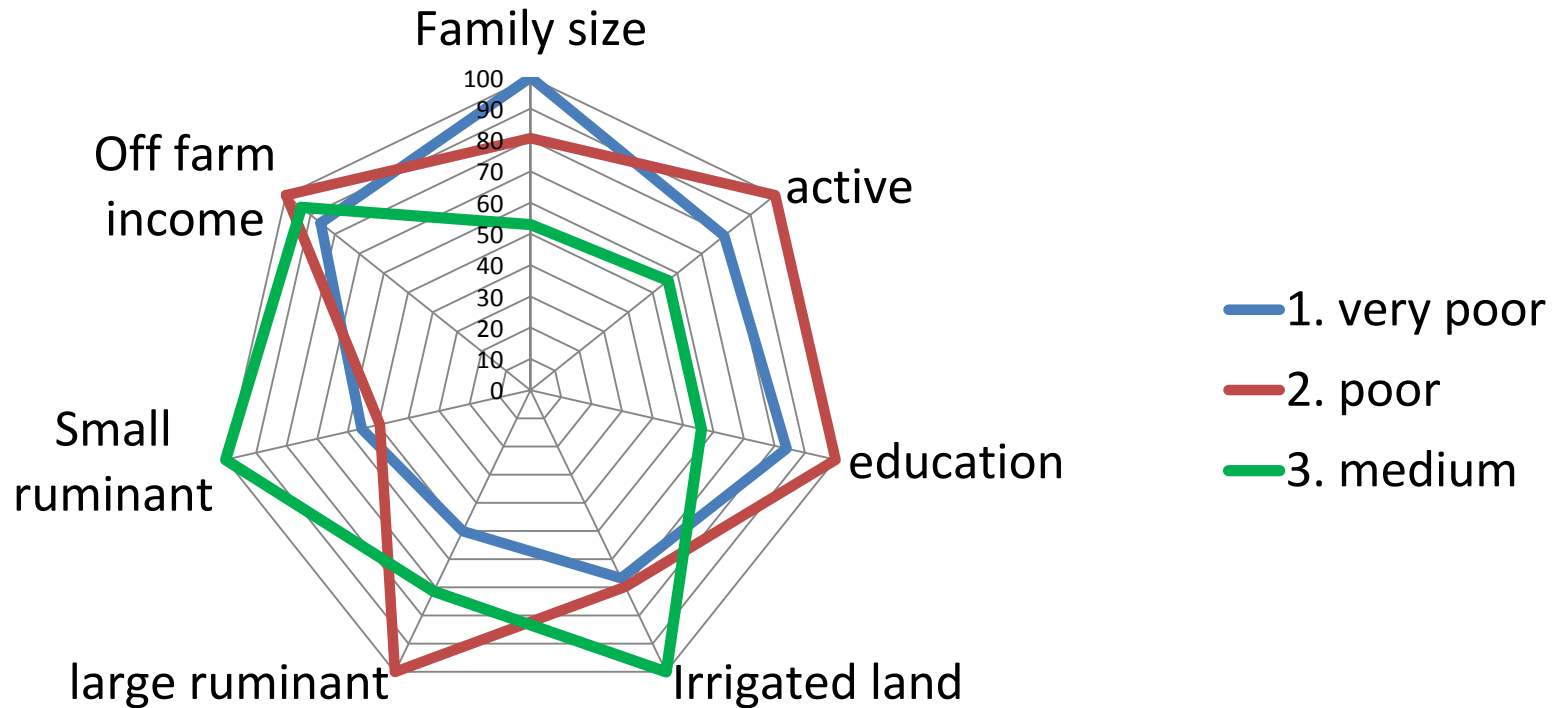
Net income per capita and per day for all sample (Survey: 90 farms, CIRAD/APRI, 2010)



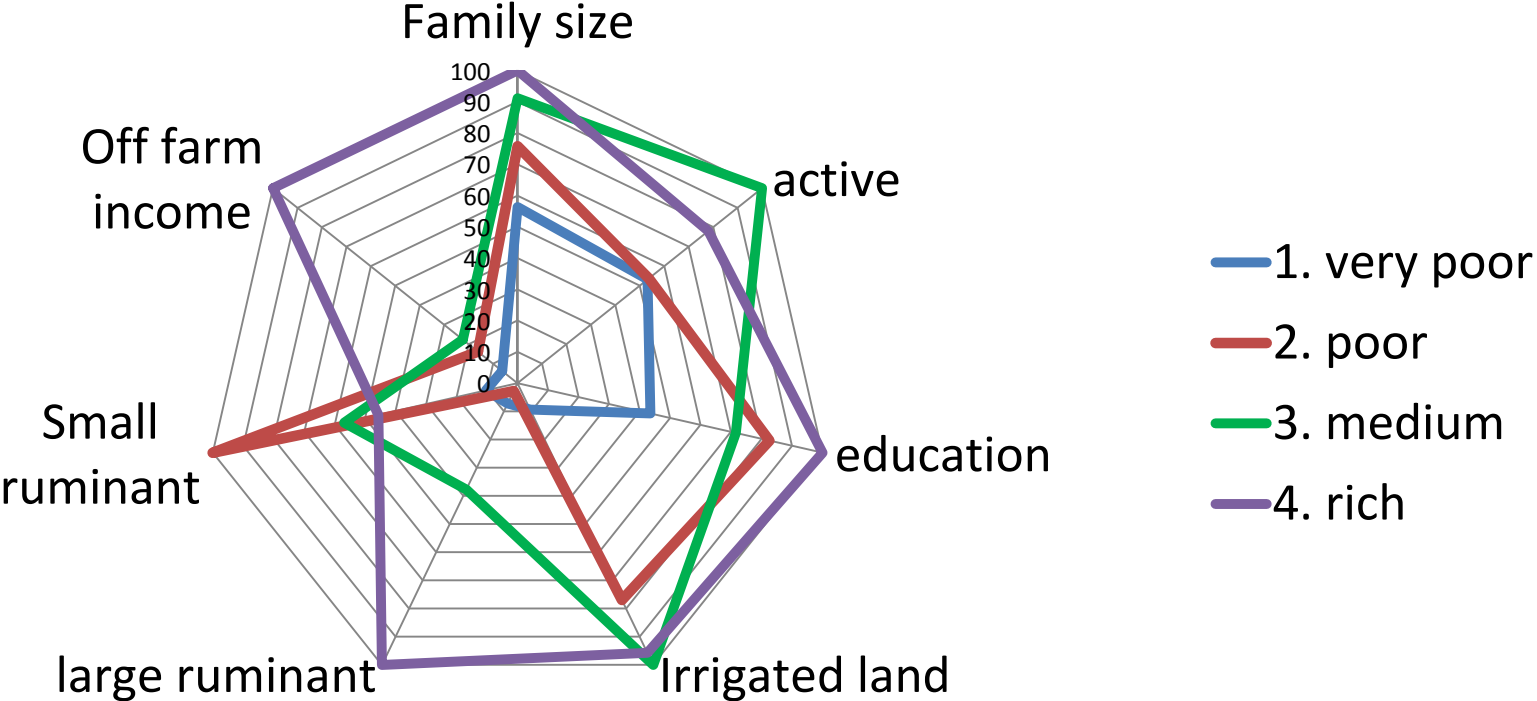
Repartition of the regional sub sample between the different levels of poverty (Survey: 90 farms, CIRAD/APRI, 2010)

	Very poor (less than 1.25 US\$/day)	Poor (between 1.25 and 2 US\$/day)	Medium (between 2 and 6 US\$/day)	Rich (more than 6 US\$/day)
Matruh	76,7%	23,3%	0,0%	0,0%
New valley	37,9%	13,8%	27,6%	20,7%
Sohag	34,5%	34,5%	31,0%	0,0%
All sample	50,0%	23,9%	19,3%	6,8%

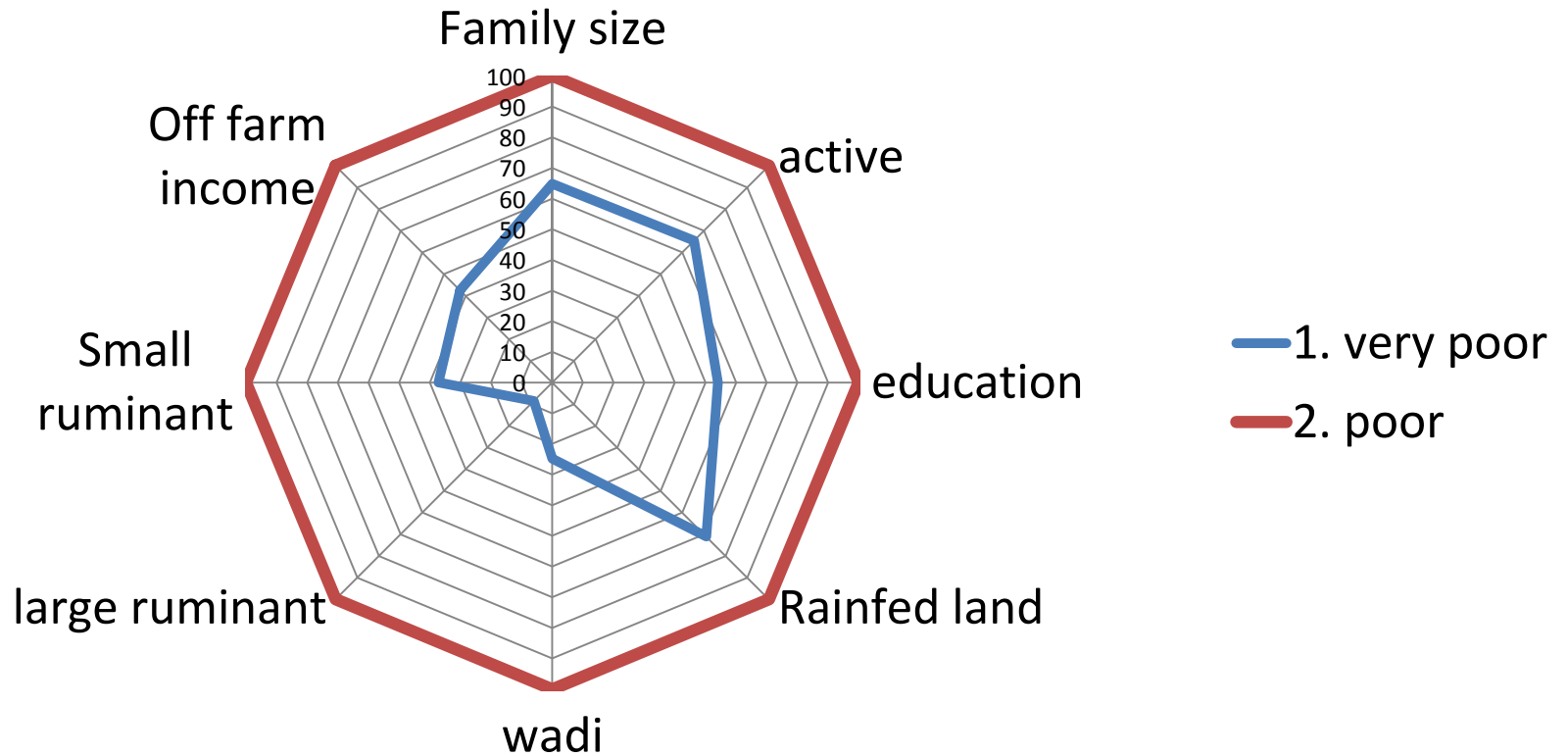
capital asset radar for Sohag



capital asset radar for New Valley



capital asset radar for the North Coastal zone



Main reasons to become poor according to farms (Survey: 90 farms, CIRAD/APRI, 2010)

Region	Drought	Land fragmentation	Social events	Employment	Livestock risk	Other
Matruh	91.7%	0%	0%	6.3%	0%	2.1%
Sohag	0%	54.9%	21.6%	9.8%	13.7%	0%
New Valley		56.7%	10.0%	16.7%	16.7%	0%

The impact of drought on range land



Main factors to escape poverty according to farms (Survey: 90 farms, CIRAD/APRI, 2010)

region	Employment/ Off farm	Development project	Livestock development	Social support	Other/ No answer
Matruh	38.0%	32.4%	18.3%	2.8%	8.5%
Sohag	64.4%	17.8%	8.2%	6.8%	2.7%
New Valley	26.6%	20%		16.7%	36.7% (cost of life)

DISCUSSION AND CONCLUSION

The factors to escape poverty are more diversified and they are well embedded in the history of each area

For New valley... Roles of SR to escape poverty

- For the landless and very small land owners, sheep and goat **provide the main source of income to escape the poverty trap.** They used mainly the common land along the canal or ground berseem after large ruminants.
- As soon as the farmers are able to invest in large ruminants (cattle or buffaloes), sheep and goat become basically cash flow while large ruminant provide a sort of family insurance.

In Sohag: role of SR for Income diversification

- In Sohag governorate, sheep and goat constitute majour way of income diversification for the “medium”
- In the ‘poor’ categories, the farmer prefers to invest in large animals that constituted a more consequent social and economic capital.

In Matruh... SR a traditional activity for rainfed zone

- **The livestock development is mainly cited as one way to escape poverty where livestock represent the main asset faced to drought events.**
 - **The perception of livestock to escape the poverty is completely linked to the livestock size.**
- **But not only... During drought events the main sources of cash flow come off farm activity, mainly through the trading at the Libyan-Egyptian border**
- **Another way: capture the support from development project such as the Matruh Resource Management Project (MRMP) that had prevailed during ten years in the region.**

Thank you