



# Geo- targeting

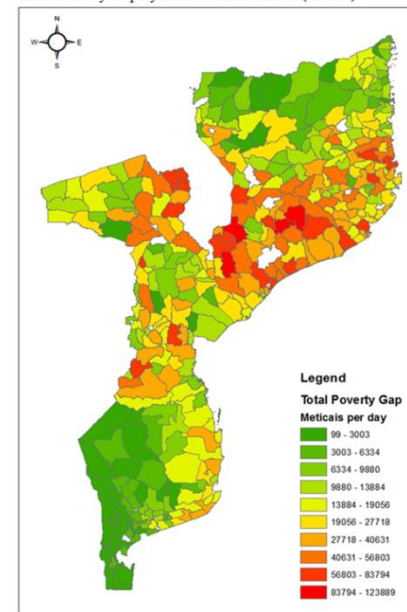
Cost and impact  
implications

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# What are poverty maps?

*Poverty mapping, the spatial representation and analysis of indicators of human wellbeing and poverty within a region*

Rural Poverty Gap by Posto Administrativo (deciles)



# What can poverty maps be used for?

**Poverty maps help understanding poverty and its determinants by:**

- Highlighting geographic variations
- Simultaneously displaying different dimensions of poverty and/or its determinants

**Poverty maps help SP program design and implementation by:**

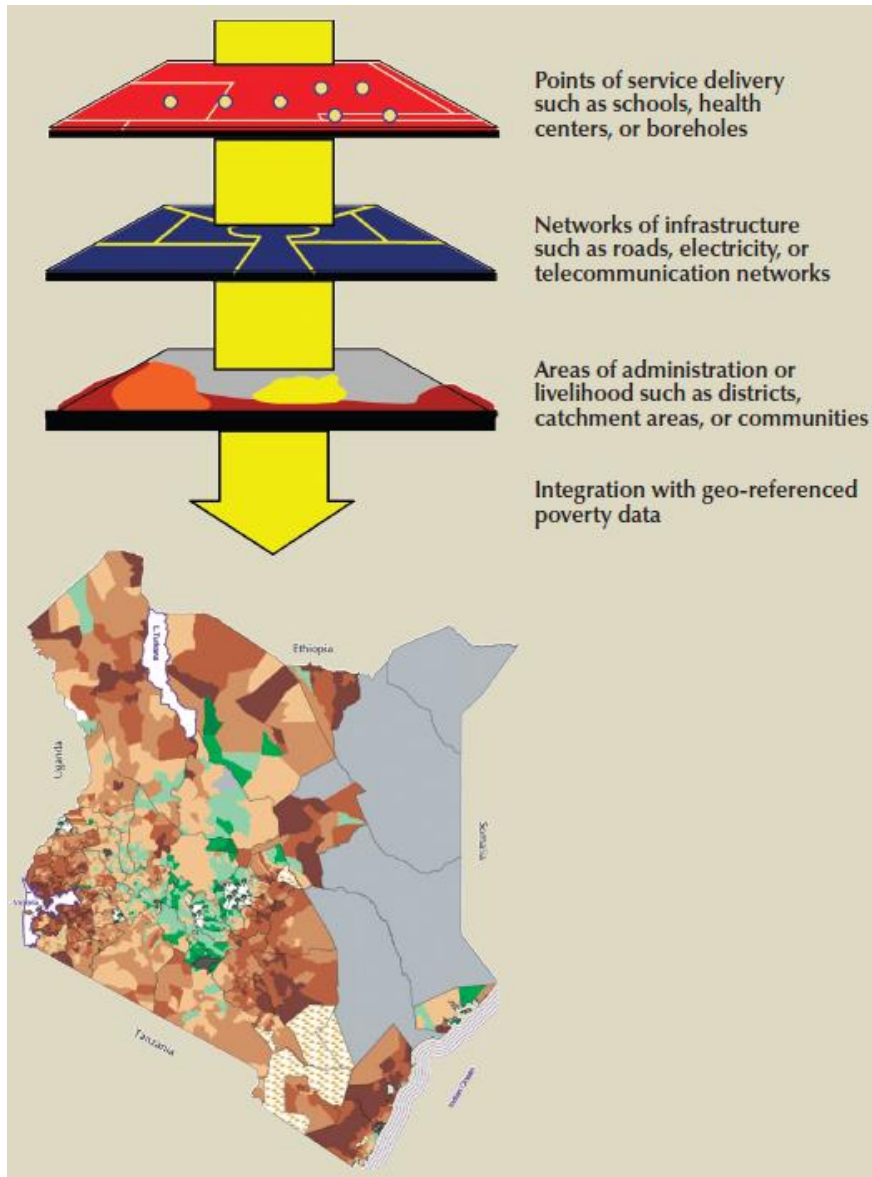
- Spatial allocation of resources. Determining funding formulas
- Giving any poor, irrespective of its place of residence, the same probability of being included in a program
- Improving targeting performance

# How are poverty maps built?

Information sources: Poverty maps can be built using censuses, surveys, administrative data and other sources of information.

Geographic Information Systems (GISs): GISs are software programs which allow to display information on the basis of their geographic coordinates. They allow to combine information from heterogeneous sources.

Small area estimation: A technique developed by the World Bank to combine information from surveys (which contain comprehensive information) and censuses (which allow fine disaggregation). This allows to present detailed information on poverty that is sufficiently disaggregated to capture heterogeneity.



- Small area poverty data may be integrated with other data, such as information on infrastructure, education, topography, and health, through the use of a graphic information system (GIS).

# Performance

- In 32 out of 33 programs it was combined with other methods
- Programs using geographical targeting allocate 33% more resources to the target group than would be the case with a universal or random allocation

<i>Targeting method</i>	<i>Sample size</i>	<i>Median targeting performance</i>
<i>All methods</i>	85	1.25
<i>Any form of individual assessment</i>	37	1.50
Means testing	26	1.55
Proxy means testing	7	1.50
Community assessment	6	1.40
<i>Any categorical method</i>	58	1.32
Geographic	33	1.33
Age: elderly	12	1.16
Age: young	26	1.53
Other categorical	17	1.35
<i>Any selection method</i>	38	1.10
Work	6	1.89
Consumption	25	1.00
Community bidding	7	1.10

# How much does it help?

- Targeting resources to areas where poverty is more acute is an intuitively appealing solution to the budget constraint faced in poverty reduction programs

Cost Comparison: Uniform Transfers Versus Optimal Targeting

Transfer type	Rural Ecuador %	Madagascar %	Cambodia %
Uniform transfer	100.0	100.0	100.0
Optimal targeting			
First administrative level	76.0	60.7	54.5
Second administrative level	66.7	46.4	41.4
Third administrative level	58.4	37.6	30.8

Source: Elbers et al. 2007.

# Limitations

- Some non-poor live in the poorer areas and some poor live in the richer areas, so geographical targeting may still produce errors of inclusion and exclusion



Combine targeting methods (CBT, PMT, etc.)

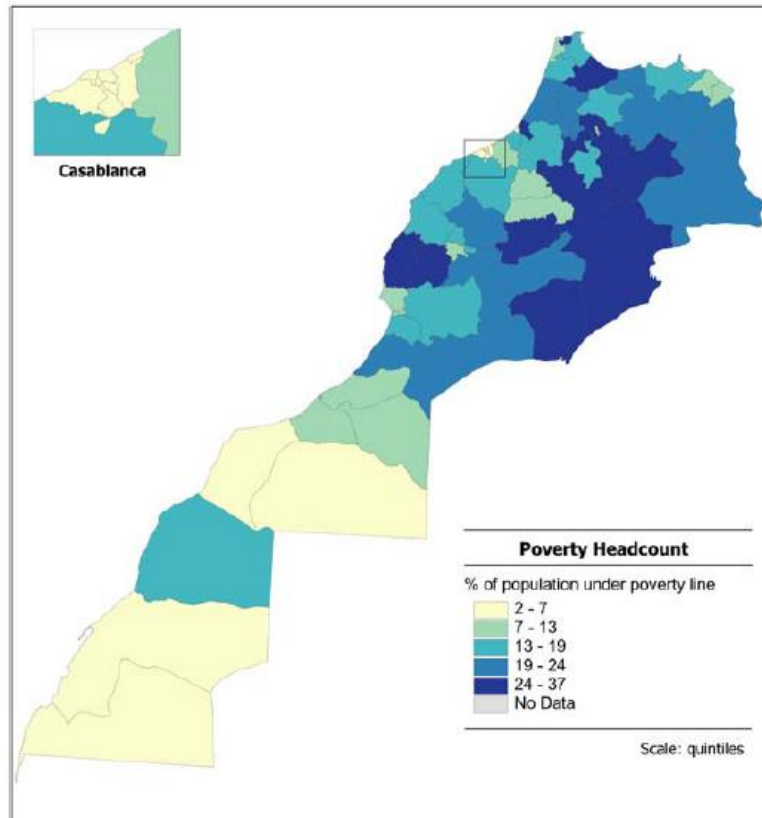
- The poverty map is only accurate as the survey and the census
- The poverty map provides estimates of poverty, but it does not provide information on the causes of poverty
- Availability of data (census and surveys)



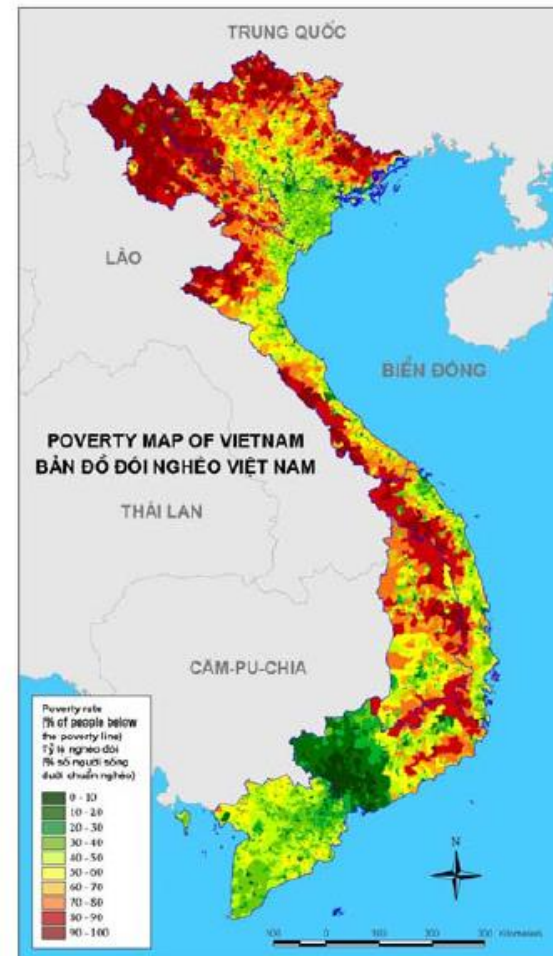
# More information

- <http://go.worldbank.org/PW6PU9YUX0>
- Google: poverty mapping World Bank
- Software: povmap2 <http://bit.ly/JrBcL8>
- Training on poverty mapping

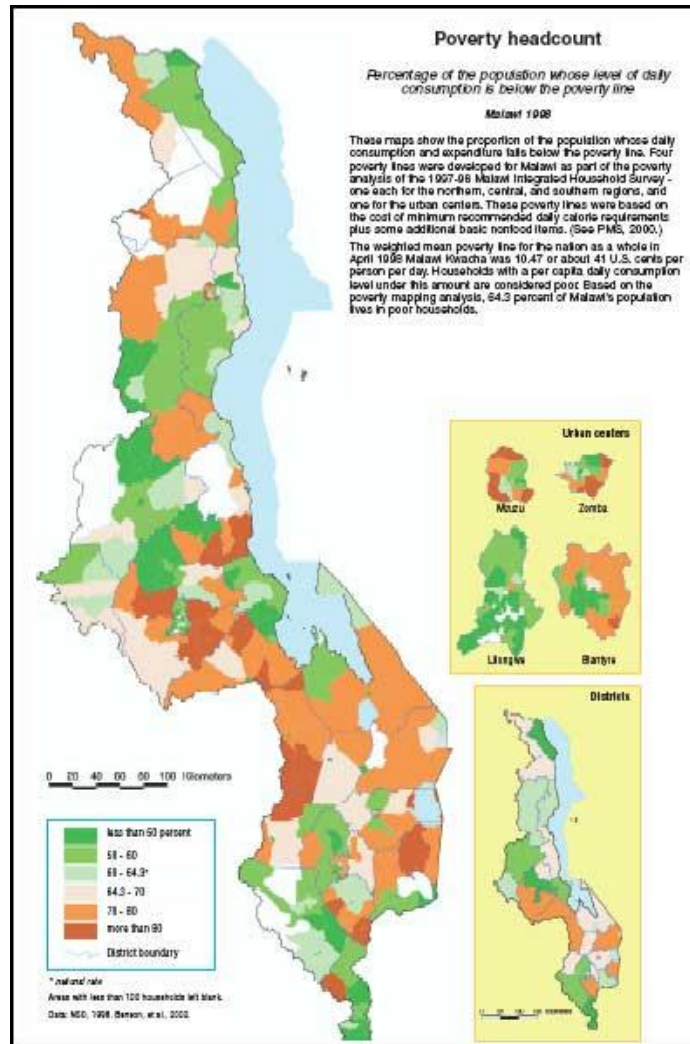
# Morocco



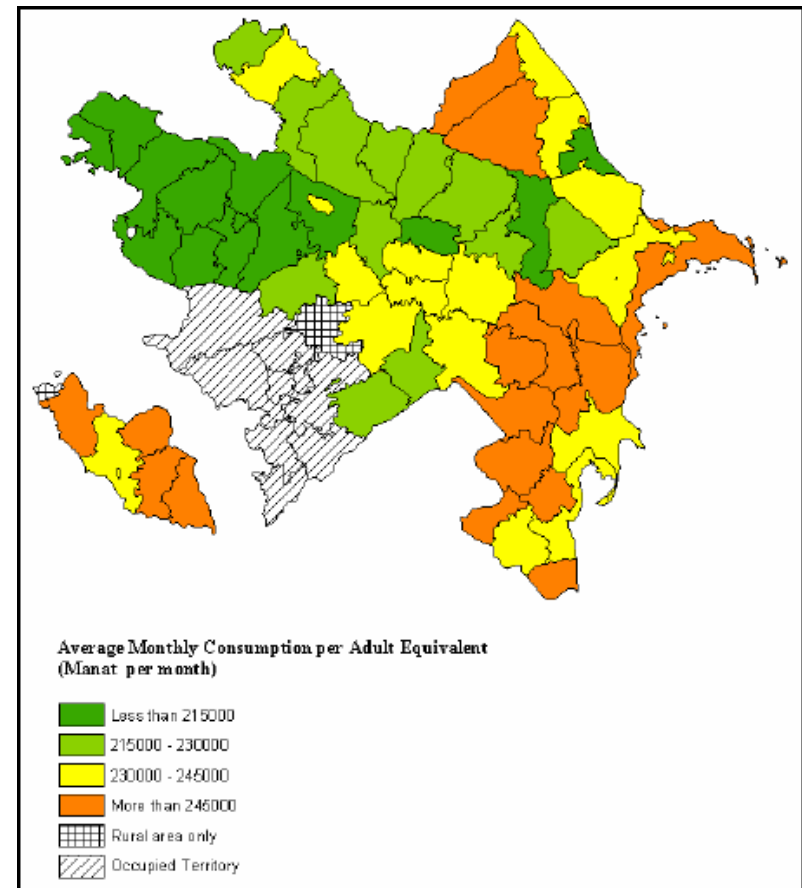
# Vietnam



# Malawi



# Azerbaijan, urban area

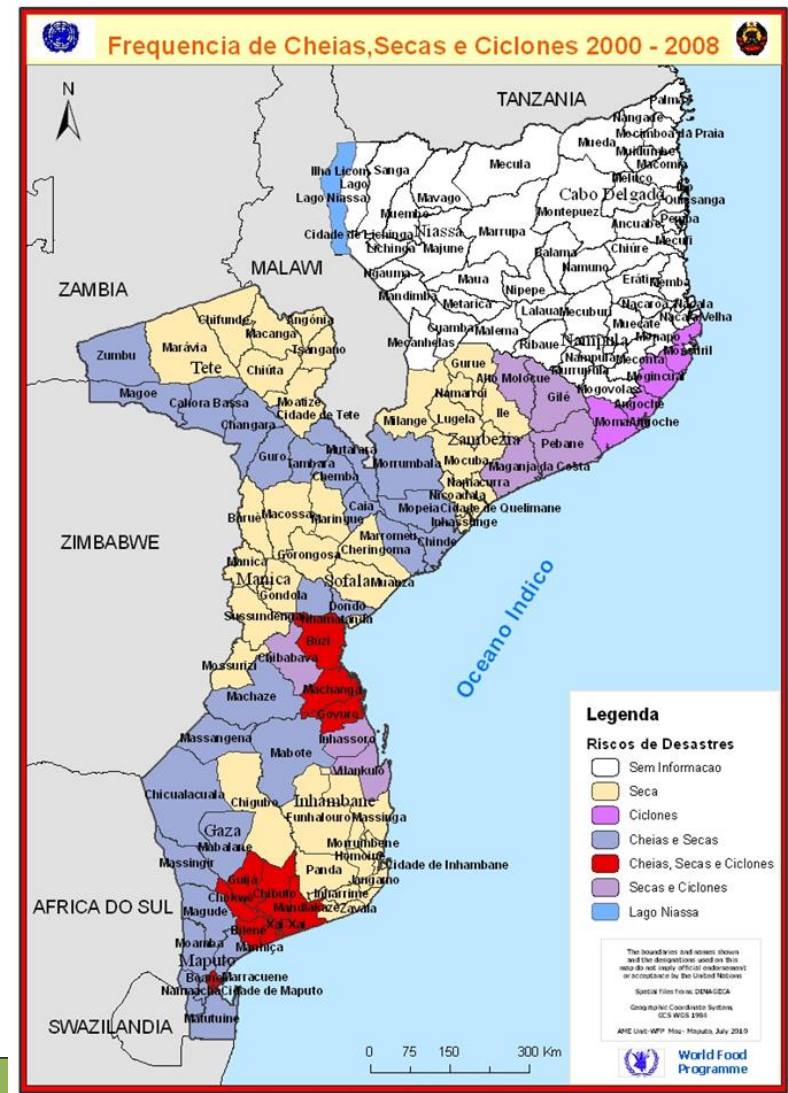


# **Geographical targeting: the case of Mozambique**

Cost and impact implications

# Mozambique context

- GDP: 14.5 billion
- GDP growth: 7.4%
- 25 million people
- 54.7% poverty headcount
- GNI: 510 USD/per x year



# Targeting in Moz: Three easy steps

Geo-targeting

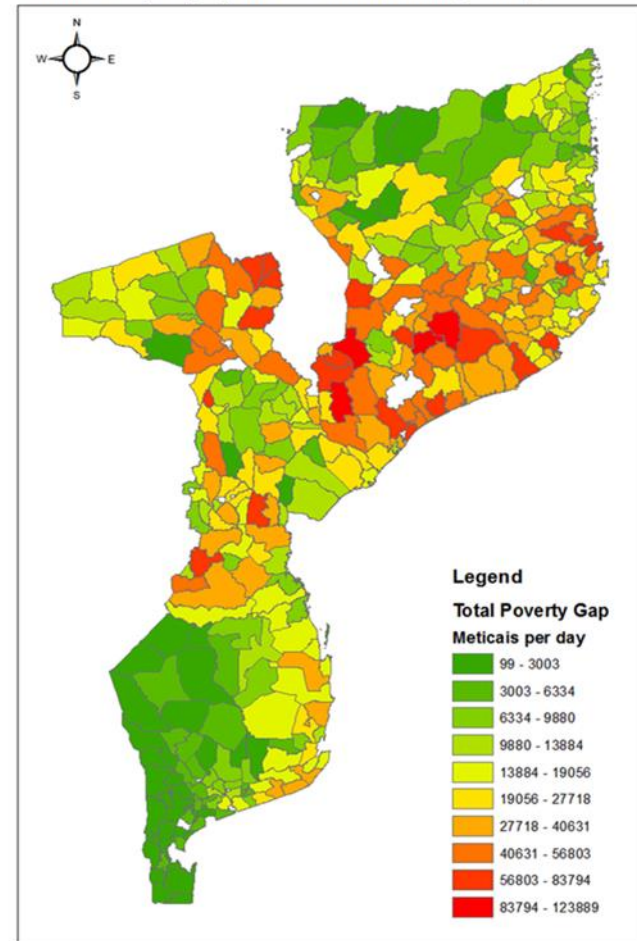


Community Based Targeting



Proxy Means Test  
+ Food Consumption Score

Rural Poverty Gap by Posto Administrativo (deciles)

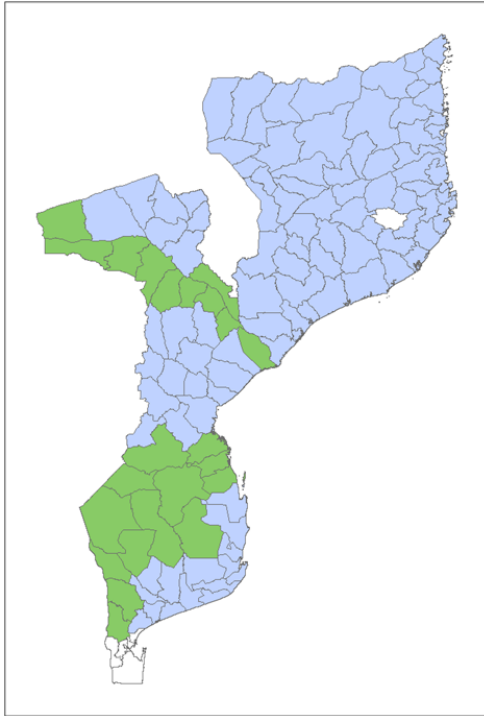


# Program

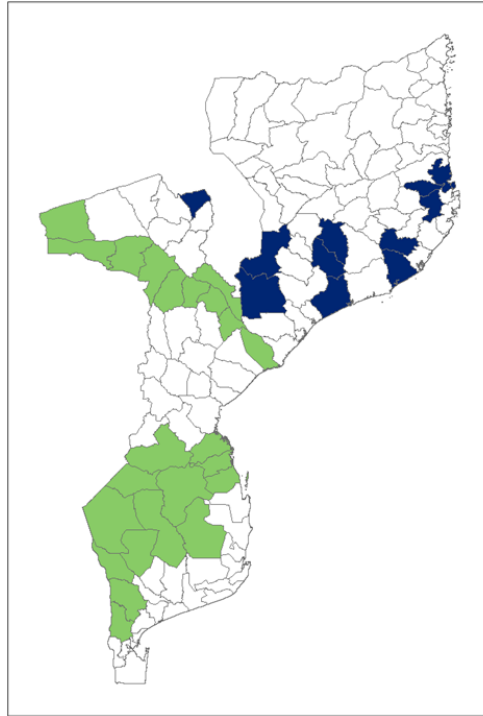
- The Government plans to implement a cash transfer program
- The available budget for the cash transfer program is US \$ 50 million
- Size of transfer: US\$ 20/beneficiary\*month (18% generosity)
- How to roll out the program?
  - Costs?
  - Political Economy?
  - Impact?
  - Operational feasibility?



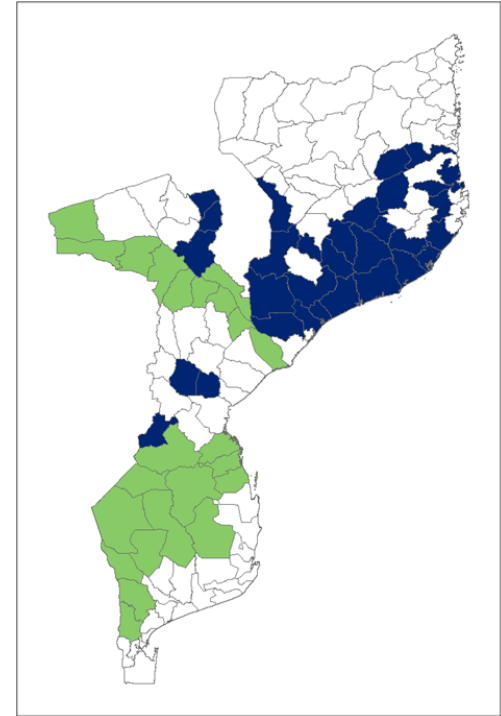
# Three scenarios



**High dispersion**



**High concentration**



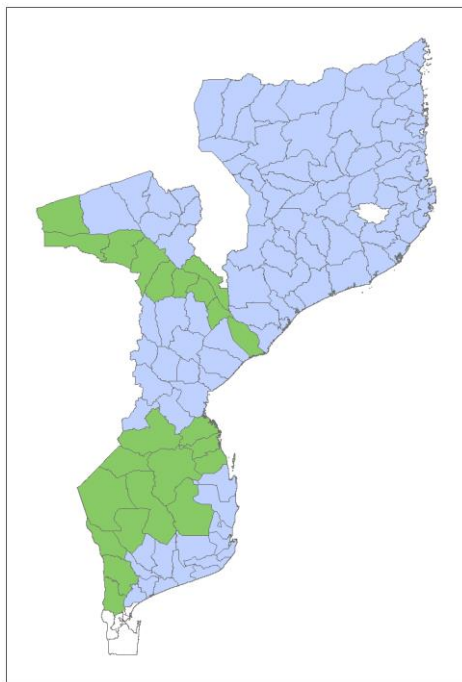
**Intermediate  
geographical  
concentration**



# Questions?

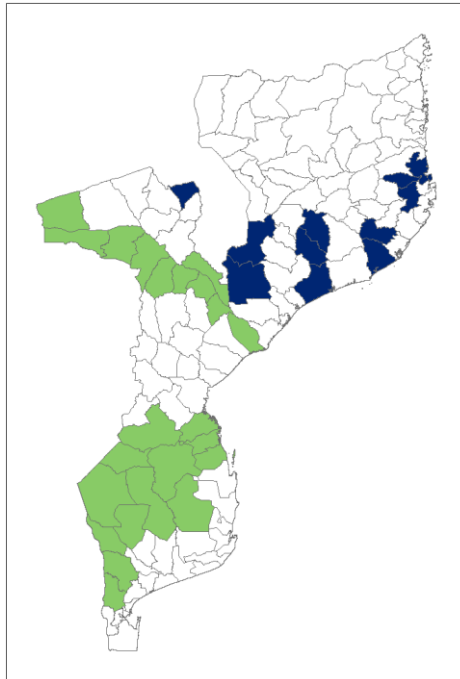
- Which one is the most cost efficient option?
- Which option targets the largest number of beneficiaries?
- Which option has a greater impact on poverty reduction?
- Which option is more politically acceptable?

# Scenario 1: High dispersion



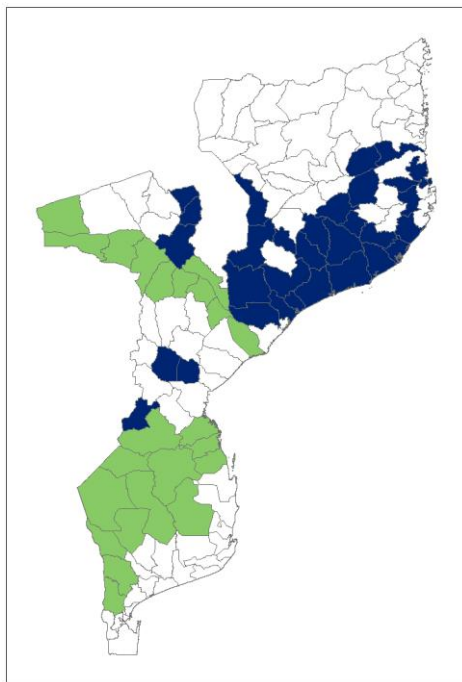
	Scenario 1
Districts covered 4th year	100
Beneficiary hh	64,000
Hh/districts	640
% poor hh per district	3.7%
Headcount 4-year	-0.7%
Poverty gap 4-year	-4.0%
Administrative costs	8.8 mill USD

# Scenario 2: High concentration



	Scenario 2
Districts covered 4th year	11
Beneficiary hh	86,400
Hh/districts	7,855
% poor hh per district	17.7%
Headcount 4-year decrease	-2.5%
Poverty gap 4-year decrease	-23.8%
Administrative costs	2.5 mill USD

# Scenario 3: Intermediate geographical concentration

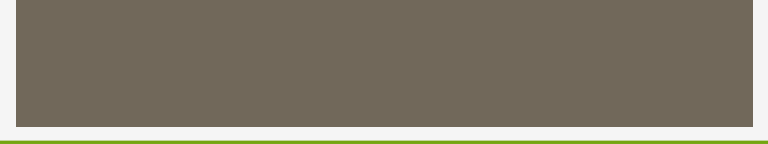


	Scenario 3
Districts covered 4th year	40
Beneficiary hh	70,000
Hh/districts	1,750
% poor hh per district	6 %
Headcount 4-year	-0.6%
Poverty gap 4-year	-8.1%
Administrative costs	5 mill USD

# Summary

	Scenario 1	Scenario 2	Scenario 3
Districts covered 4th year	100	11	40
Beneficiary hh	64,000	86,400	70,000
Hh/districts	640	7,855	1,750
% poor hh per district	3.7%	17.7%	6 %
Headcount 4-year	-0.7%	-2.5%	-0.6%
Poverty gap 4-year	-4.0%	-23.8%	-8.1%
Administrative costs	8.8 mill USD	2.5 mill USD	5 mill USD

- The simulations assumed perfect targeting
- Broader geographical coverage is likely to result in higher overall administrative costs and lower impact on poverty
- Concentrating in few districts could be operationally challenging for the district authorities



**Thanks**