

An Economic Return to Education in Small-scale Fisheries in North-East Madagascar*

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*Published in WIOMSA Journal 2014

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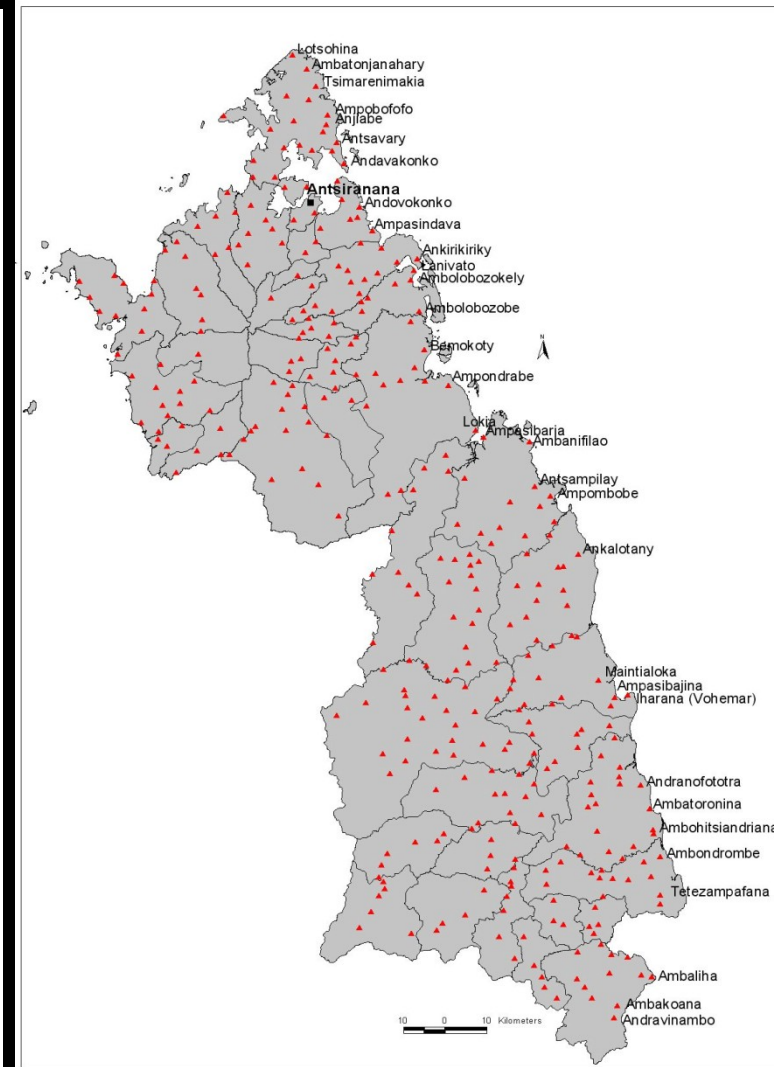
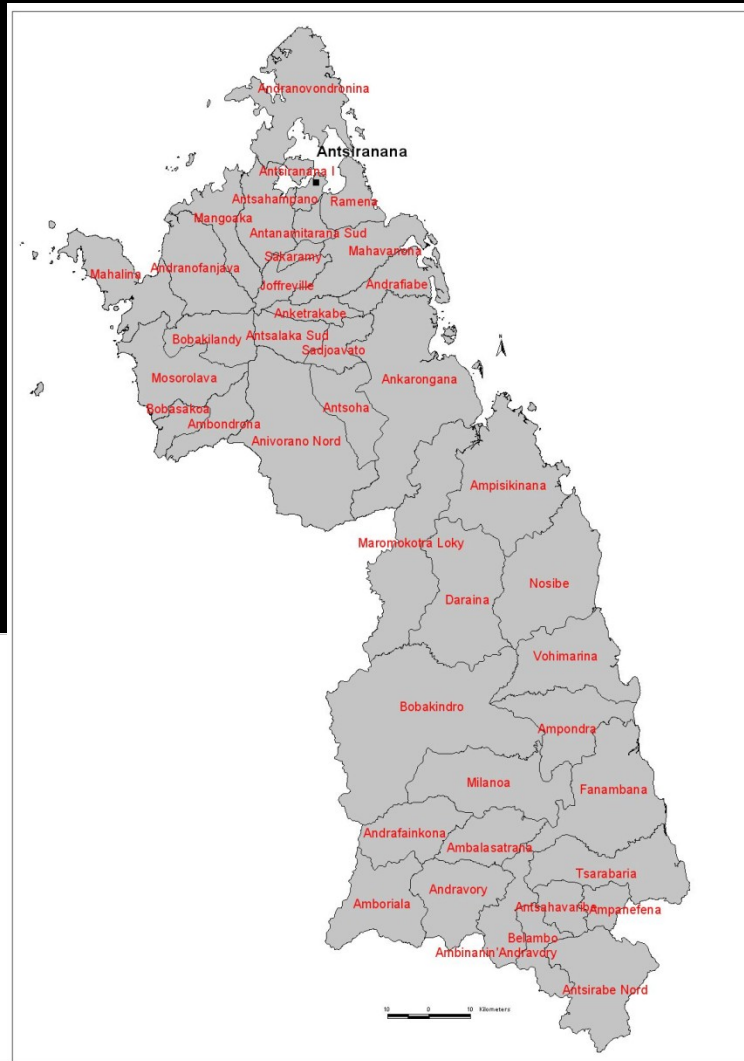
Economic return

- Contribution of education to the economy is demonstrated over the years (Psacharopoulos & Patrinos, 2002; Fang, 2006 and Huffman & Orazem, 2007).
- This contribution named the 'economic return to education' and can be divided into:
 - the private return (Wirz, 2008);
 - social return (Martins & Jin, 2010);
 - and labour productivity return (Leigh & Ryan, 2008, Kwon, 2011).
- Most studies reveal that educational level has a positive linear influence on an individual's income (Handa *et al*, 2005; Ajakaiye & Kimenyi, 2011; OECD, 2001; Oketch, 2006; Manteaw, 2012),

Methods

- Method of social return calculation (Martins & Jin, 2010);
- According to Deininger & Olinto (2001), 'pluri-activity', or livelihood diversity, is important in rural areas in developing countries and may contribute 45% to the total household income
- Modelling income and education using households income, pluriactivity, equipment, years of activity

Study area: North East coast— Ambodivahibe to Vohemar

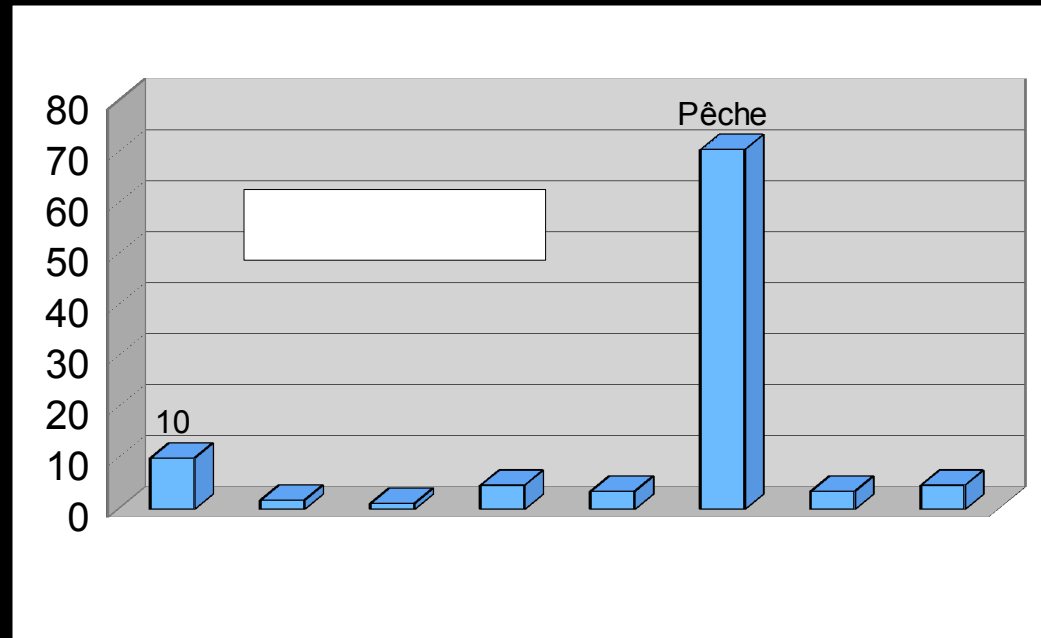


Surveys

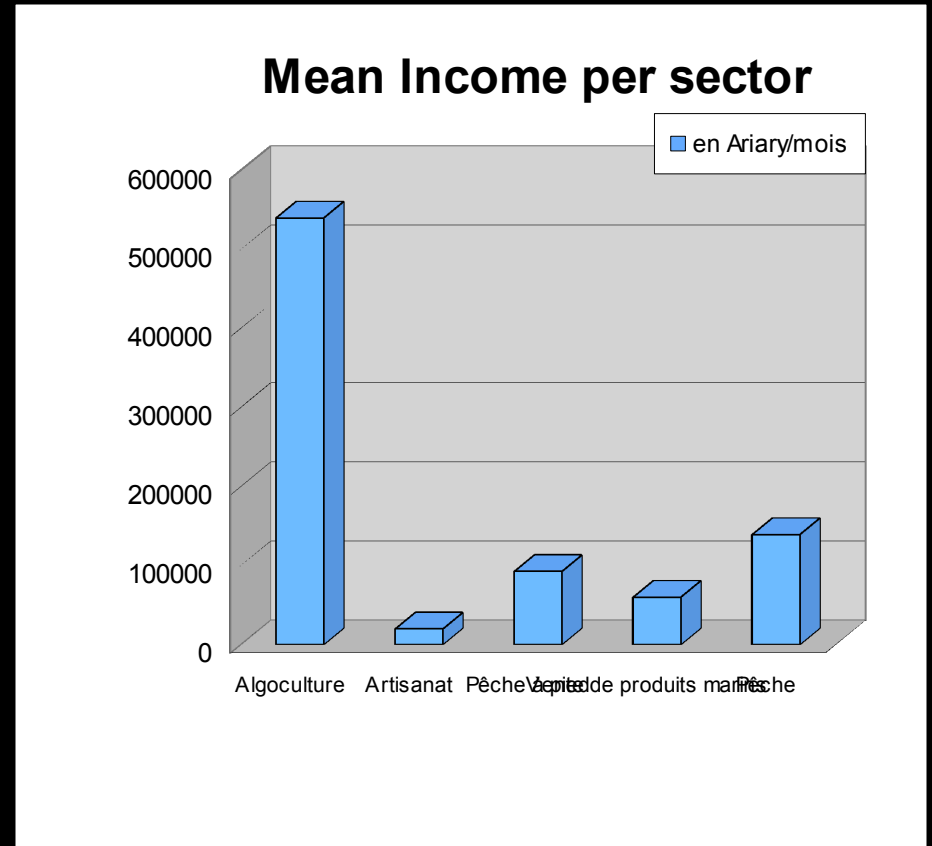
- 15 villages , 350 households
- 10 Communes : Ramena, Mahavanona, Maromokotra Loky, Nosibe, Vohimarina, Ampondra, Fanambana, Ampanefena, Antsirabe Nord, Tsarabaria
- Regions SAVA et DIANA

Population Economic Activities

Agriculture (%)	10
Algoculture (%)	1.7
Professionalized worker (%)	1.1
Salaried (%)	4.7
Trade (%)	3.52
Fishing (%)	70.5
Handcraft (%)	3.52
Selling marine products (%)	4.70
TOTAL (%)	100



Population Income



Results

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Education level (Years)		Annual Income (Ariary)	Equipment (Ariary)	Pluriactivity	Years of activity
Mean	3.03	4 610 077	72 716.92	1.138462	16.91
SD	3.11	17 100 000	108 680.60	0.524646	15.28
Median	2.00	2 120 000	20 000	1	10
<u>Educational level <5 years (70% of fishers)</u>					
Mean	1.41	2 552 065	74 335.48	1.16129	18.13
SD	1.54	3 463 630	108 614.90	0.537512	15.99

Results

[MHS1]N????

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Education level (Years)		Annual Income (Ariary)	Equipment (Ariary)	Pluriactivity	Years of activity
<u>Educational level 5-9 years</u>					
25% of fishers					
Mean	6.35	4 500 645	75 483.87	1.032258	13.87
SD	1.42	4 898 592	118 774	0.4069292	13.71
<u>Educational level ≥9 years</u>					
5% of fishers					
Mean	10.71	8 081 811	35 714.29	1.285714	11.71
SD	1.11	8 025 983	30 472.47	0.755928	10.09

Economic Return of Education

- 200 fishers surveyed,
- 70% had less than five years of education, 25% had 5-9 years of education, and 5% had more than nine years of education.
- The mean educational level was 3.03 years and the lower the education level, the greater the number of years that fishers were involved in their occupation

Economic Return of Education

- The mean annual income of fishers with <5 years of education (2 552 065 Ariary) was almost half that of those with 5-9 years of education (4 500 645 Ariary). Economic Return ~ 1.76
- those with more 9 years schooling earned (8 081 811 Ariary). Economic Return 1.79
- However, educational level did not appear to have any effect on the type of fishing equipment used; this was similar at all education levels.

Conclusion

We confirm that educational level has a positive linear influence on an fisher's income following (Handa *et al*, 2005; Ajakaiye & Kimenyi, 2011; OECD, 2001; Oketch, 2006; Manteaw, 2012)

- How about equipment which diminish from 50% after 9 years of education?

Misaotra Tompoko