

Differentiated effects on poverty of a climatic shock: evidence from a longitudinal survey in rural Sindh, Pakistan.

HARI LOHANO AND JAMES COPESTAKE.

Centre for Development Studies at the University of Bath.

CPRC Conference, Manchester
8-10 September 2010

Abstract

1. *Since the late 1980s, the agricultural sector of Sindh has experienced a sharp fall in availability of irrigated water from the Indus River.*
2. *The paper draws on data for households interviewed during 1986–91 and 2004-5 to assess associated changes in land use, land tenure, cropping, income and poverty mobility.*
3. *On average, both richer and poorer households interviewed experienced falls in income. However, this decline was far from uniform.*
4. *Upwardly mobile, downwardly mobile, chronic poor and non-poor households are compared.*
5. *The burden of adjustment was skewed by increased concentration of access to cultivated land through a sharp fall in sharecropping.*

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1. Changes in average household indicators

	Sample Size	Age of head (years)	Education of head (years)	Size of households	Land owned (acres)	Income/ person (Rs/yr)
<u>Baseline, 1987/88</u>						
Matching panel sample	226	42.9	1.6	9.4	13.3	3,203
Not-interviewed	13	38.5	1.9	7.4	9.4	3,391
Total	239	42.7	1.6	9.3	13.1	3,214
<u>Resurvey, 2004/05</u>						
Matching panel sample	225	52.3	2.7	10.0	11.7	2,618
New (split) households	46	36.5	2.1	7.1	7.8	2,606
Total	271	49.6	2.6	9.5	11.0	2,616

3. Mean acres owned and cropped by farm size category

	1987/88			2004/05		
	No. of HHs	Acres owned	& cultivated	No. of HHs	Acres owned	& cultivated
No land	95	0	8.4	80	0	2.6
Small	31	3.3	9.9	49	2.8	4.5
Medium	50	11.0	8.1	58	11.9	5.8
Large	49	47.9	19.2	38	47.1	7.1
Total	225	13.3	10.9	225	11.7	5.5

6. Changes in absolute poverty incidence

Year	1987/8				2004/05			
	Sample Size	Head count	Poverty gap	Squared poverty gap	Sample Size	Head count	Poverty gap	Squared poverty gap
Landles	14	0.624	0.422	0.327	27	0.723	0.392	0.287
Tenant	81	0.800	0.402	0.243	53	0.936	0.593	0.476
Small	31	0.688	0.344	0.209	49	0.783	0.442	0.296
Medium	50	0.537	0.208	0.109	58	0.562	0.315	0.206
Large	49	0.197	0.087	0.051	38	0.574	0.330	0.244
Total	225	0.552	0.264	0.158	225	0.702	0.410	0.298

7. Relative poverty mobility

1987/88 status	Total	Chro- nic	Ascen- ding	Descen- ding	Never poor
Landless	14	2	4	6	2
Tenant	81	38	9	24	10
Small	31	10	5	7	9
Medium	50	9	8	17	16
Large	49	3	1	19	26
Total	225	62	27	73	63

Summary of findings

1. Average fall in household income: greatest for those initially richest (most to lose).
2. Increase in poverty across all households, but greatest for sharecroppers without their own land or non-farm income.
3. Malthusian features: reduced availability of irrigable land accentuated by some population growth (capital dilution).
4. Marxian features: landowners re-established control of land as a strategy for maintaining the area they cultivated directly for both food and cash crops (esp. sunflower).
5. But no rise in casual farm labour, few land sales, and some tenants did replace rented in land with inherited land.
6. Poverty impact accentuated by lack of non-farm livelihood options.
7. Some upward mobility out of poverty (27/225 households); associated with falling dependency ratios, securing non-farm employment and inheriting land.

Some unanswered questions

1. How were changes in land tenure contracts negotiated, taking into account falling land quality, water availability and kin/caste relations.
2. Political economy of lack of growth in non-farm sources of income.
3. How would the findings have changed with more than two data-points?
4. Comparison with other areas, and the impact of the current flooding.

General conclusions

- Scope for improving the resilience of household livelihoods by improving their access to farm support and financial services. But the effect on poverty are powerfully conditioned by the distribution of land ownership.
- Old and new methodologies for researching agrarian dynamics. Cost-effectiveness of different combinations of repeat household economics surveys, qualitative life-stage studies and participatory methods.