



13th Poverty  
and  
Environment  
Partnership  
Meeting

# **Recent experience in Natural Resource Management and Sustainable Livelihoods in Pakistan:**

## **Environmental Rehabilitation in Northern Pakistan**

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# The Problem

- In late 1990s, increasing recognition of the need to conserve Pakistan's vital mountain forest ecosystems in the Himalayas and the Hindu-Kush.
- These comprise vital catchments for the Indus and Jhelum Rivers and receive high rainfall – and provide water services to the irrigated plains in Punjab and Sindh provinces downstream.
- However, catchment ecosystems severely threatened by large-scale deforestation, degradation of grazing lands, accelerated soil erosion, and degenerated farming systems.



# The Project

- ***ERNP project - concluded in 2004 - consisted of two project sites in NWFP and one site in Punjab:***
- Upland Rehabilitation and Development project in Dir-Kohistan (DK)
- National Resource Conservation Project (NRCP) in Galiat
- Upland Rehabilitation and Development Project for Murree, Kahuta and Kotli-Sattian Tehsils (URDP-MKKS)



# The Aims and Objectives

- Aim to halt and reverse on going process of environmental degradation through integrated measures of rehabilitation/ conservation of natural resources and socio-economic development

## Wider objectives

- To develop and strengthen local capabilities for sustainable resource management and utilization;
- To interrupt the process of current degradation of the watersheds and repair damage to natural resources by improving agriculture, livestock and other NR alternative incomes and take pressure of ecosystems.



# Immediate Objectives

- To increase environmental awareness and to attain a consensus locally on the need for taking steps to adopt protection measure;
- To develop local economic potential and income and improve the status of the population for an estimated population of 1.1 million in the project area;
- To improve practices in water run off control, in forestry, rangeland in approximately 35,000 ha, agricultural and livestock management in approximately 200 villages;
- To stimulate a process of community development (creation of village organization, women's organizations, clusters of villages, NGOs and association in 200 villages;)
- To catalyze local planning and co-operation with Federal & Provincial Government depts.





# Key Intervention Areas

- Mountain Agriculture
- Livestock Management
- Forestry
- Biodiversity Conservation
- Ecotourism
- Wildlife Management
- Fisheries



# But what about impact?

- After a few months of the conclusion of the project, the team was interested in immediate impact on sustainable livelihoods and incomes
- Project felt that the environmental improvement through rehabilitation (replanting, terracing, range management) and other livelihood inputs was largely achieved or at least visible

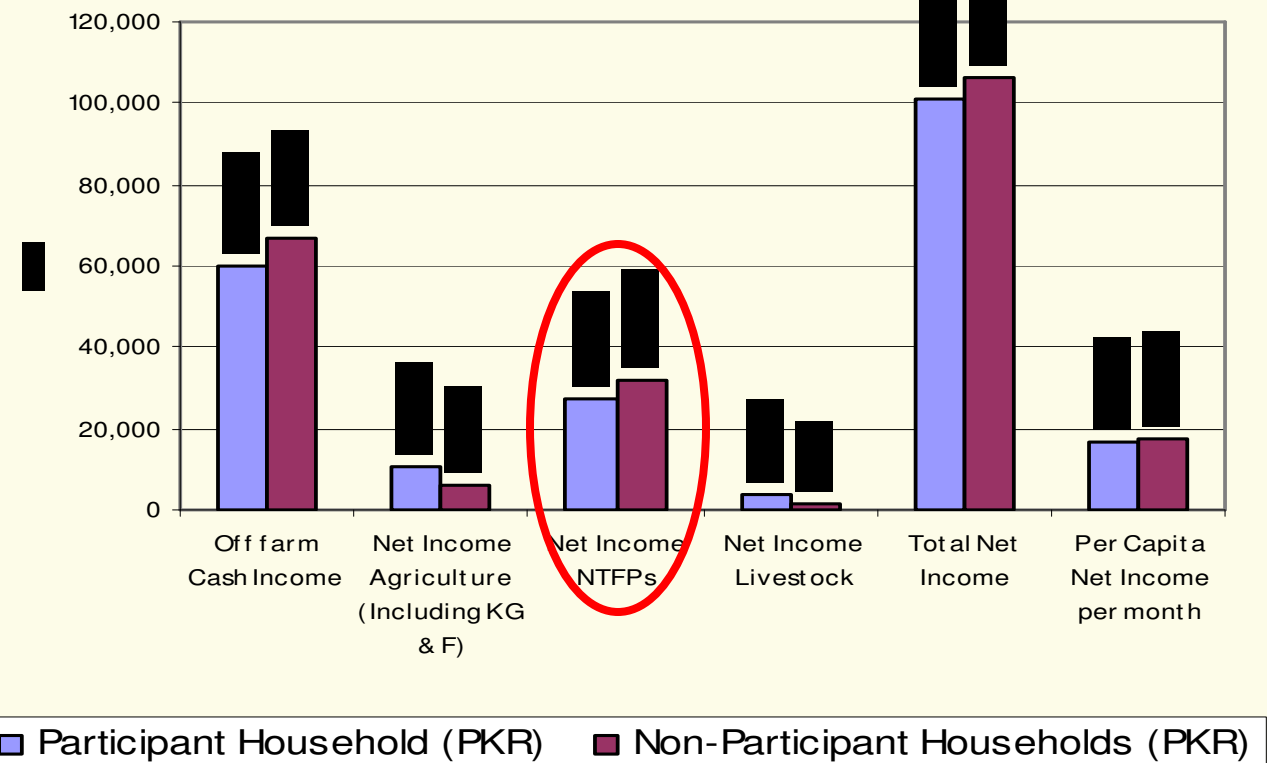


# Case study

- A case study to assess the impact of ERNP project on the “incomes” of project participant HH was undertaken using a ‘***with and without***’ project scenario in the absence of baseline socio-economic data
- The study compared households within the same MKKS locality that participated in ERNP project with those that did not.
- The fundamental idea was that participant household would have benefited from project interventions in diversifying, enhancing and sustaining livelihoods and incomes. The non-participant would be the situation of participant households if the project never took place.

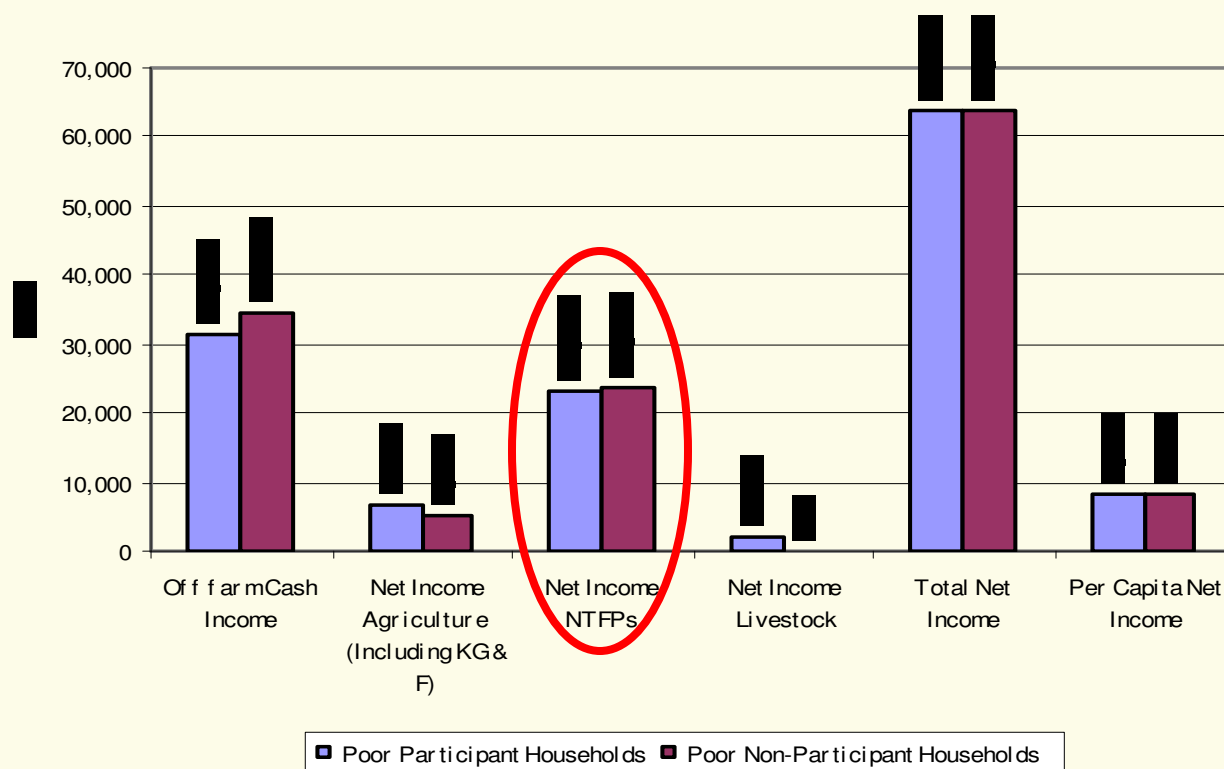
# Results

**Figure 3: Comparison of Average Participant and Non-Participant Households' Level and Source of Incomes Per Annum**



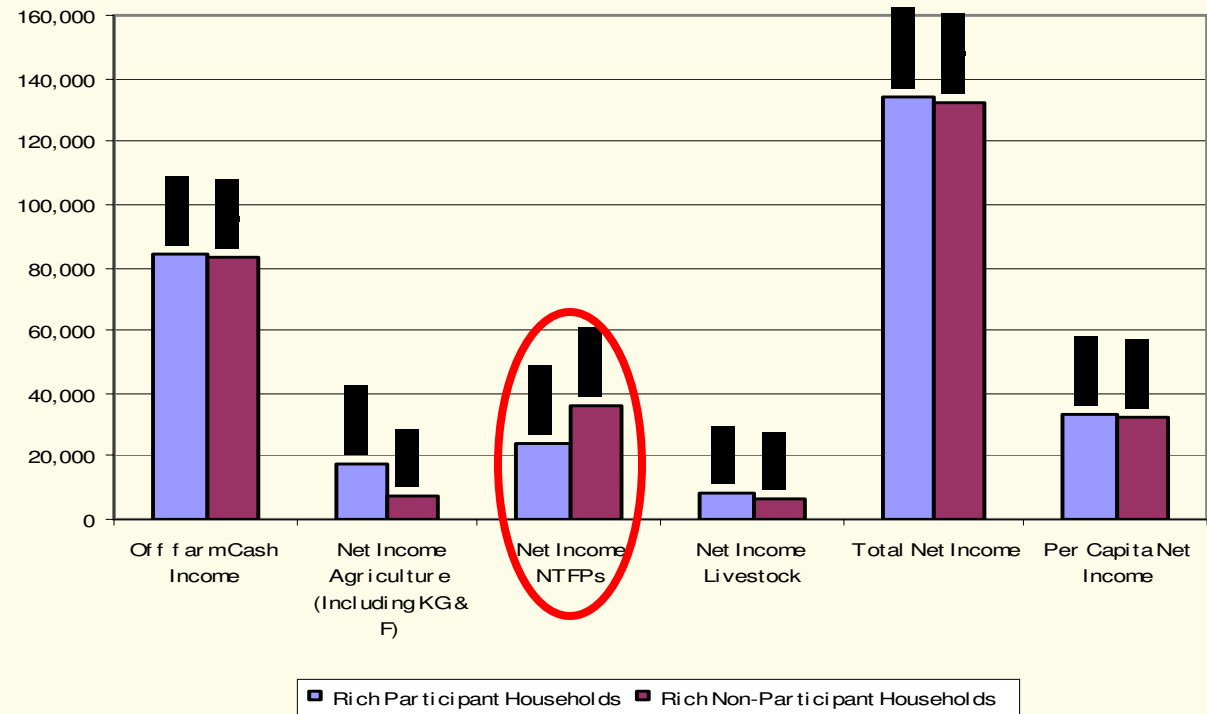
# Results

**Figure 5: Comparison of Poorest Participant and Non-Participant Households Level and Source of Incomes Per Annum**



# Results

**Figure 7: Comparison of Least Poor Participant and Non-Participant Households Level and Source of Incomes**





# Key findings from disaggregating

- *ERNP does not appear to have made a discernible aggregate impact on the poorest participant households.*
- Poorest participant households have experienced significant gains in net livestock incomes and some gain in agricultural incomes. At the same time, poorest non-participant households have strategised to raise off farm cash incomes and maintained reliance on NTFPs.
- Without the non-marketed incomes from NTFPs, both sets of poorest households would plunge into severe poverty. NTFPs extraction takes on a different meaning as a key livelihood strategy to escape the worst effects of poverty, providing a “safety net” for the poorest households.



# Key findings from disaggregating

- least poor participant households are the only participant group, which have higher incomes than non-participant households, while significantly lowering NTFP use in comparison.
- ***NTFP use is highly correlated to ownership of gas stoves and not correlated to increase in incomes from agriculture and livestock interventions.***
- The project seems to have most benefited the least poor participant households both in terms of relative and absolute increases in sectoral incomes introduced through project interventions.

# Poverty Environment Relationships

## Non-participant Households

Figure 8: Non-Participant HHS - The Classic Poverty-Environment Relationship

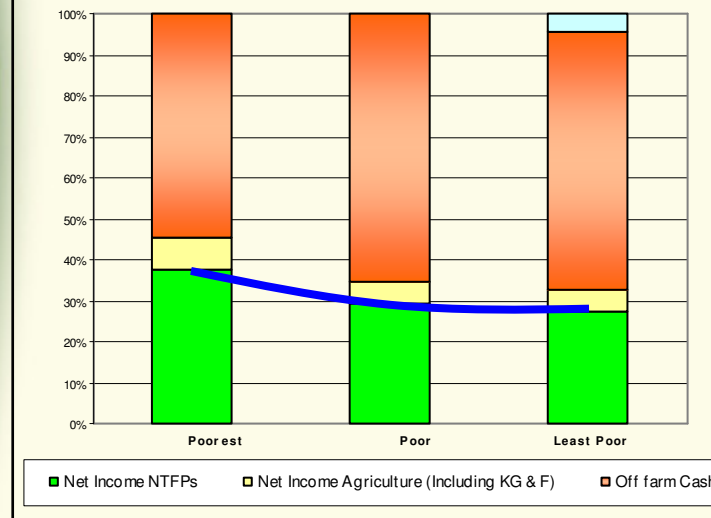
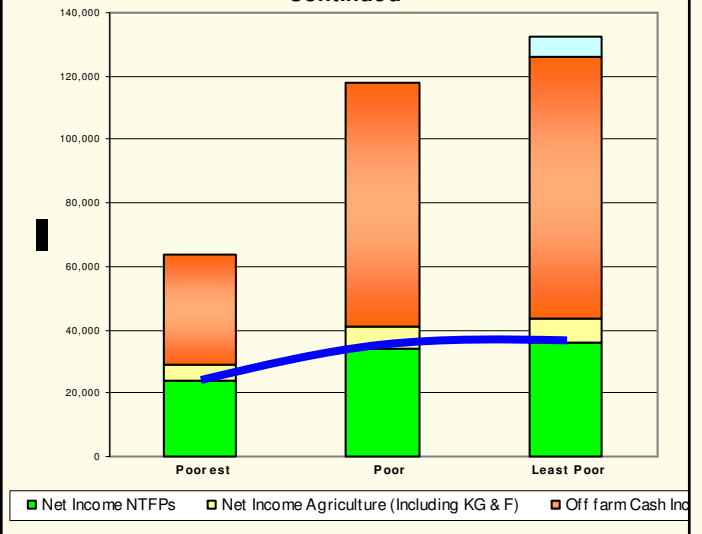


Figure 9: Non-Participant Households - The Classic Poverty-Environment Relationship Continued



# Poverty Environment Relationships

## Participant Households

Figure 20: Potential Impact of ERNP on Poverty-Environment Relationships

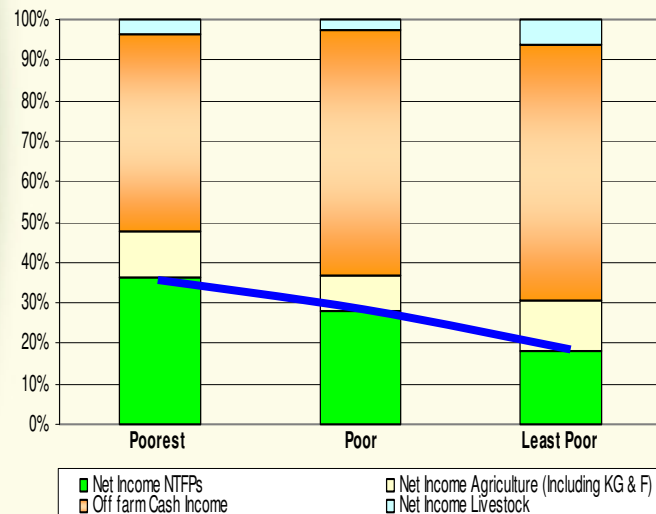
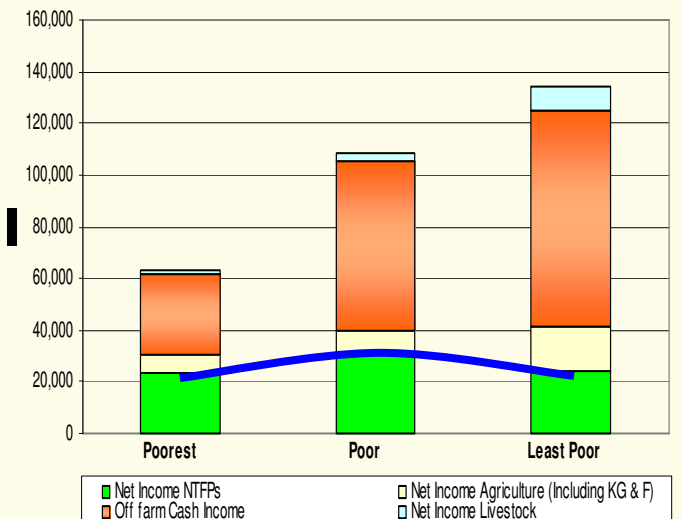


Figure 21: Potential Impact of ERNP on Poverty-Environment Relations





# Conclusions

- ***ERNP case study*** reveals that there has been little discernible aggregate increase in the incomes of participant households as a result of ERNP project interventions.
- However, there is ***clear evidence of higher sectoral incomes*** – namely agricultural and livestock related incomes – of participant households.
- It appears that ***better off households have captured the bulk of project benefits.***
- ***Off farm cash incomes seem to be a key factor driving poverty reduction*** and enhanced, sustainable livelihoods of least poor households. The poorest and poor participant households have significantly lower off farm cash incomes and their incomes from agricultural and livestock are in subsistence form.



# Conclusions

- ***Gas tanks have played a major role in taking pressure off catchments forests, but largely for the least poor participant households.*** It would be interesting to see if subsidised gas can be used to take pressure of catchment ecosystems.
- Neither Off-farm employment nor gas tanks/stoves were ERNP interventions
- ***NTFPs play a significant and complex role in the livelihoods of different strata of households*** – e.g. a safety net for the poorest households
- Employing Payments for Ecosystem Services (PES) may generate financing for the provision of gas and other livelihood enhancing options.