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SALINITY CONTROL & RECLAMATION PROGRAMME: PAKISTAN

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The Project

The project involved the provision of tubewell linings in support of the Salinity Control and Reclamation Programme (SCARP) under which publicly owned tubewells were constructed all over Pakistan. The aim of SCARP was to increase agricultural production by reducing soil salinity and providing irrigation water.

ODA provided £3.9m worth of linings which were used over 1976-79. The overall programme cost around £60m and was mainly funded by the Government of Pakistan.

The Evaluation

The evaluation was undertaken by a Consultant Economist and Water Engineer over March-December 1988 and involved a field visit to Pakistan. The study was focused primarily on the ODA materials supply project and examined whether the linings were used as planned, if the tubewells constructed were operational, and whether they were cost-effective.

Overall Conclusion

The ODA equipment supply project was *successful*. The linings were delivered and used as planned, the field performance of the tubewells constructed with the linings was reasonable, and they were cost-effective. However, the benefits of the SCARP programme as a whole in the areas where the tubewells were provided was below full potential.

The Main Findings

- The tubewells linings provided by ODA were used for the construction of over 3,000 tubewells in 12 different SCARP areas mainly in Punjab, Sind and NWFP.
- The majority of the tubewells installed were working at the time of the evaluation and the life expectancy of the wells was expected to slightly exceed appraisal estimates.
- For the SCARP programmes covered by the ODA project tubewells were found to be generally more cost-effective than the main technical alternative of tile drainage.
- The benefits from the SCARP programme as a whole were below potential. There

was some reduction in waterlogging and soil salinity but there were signs that these gains might be reversed in future. Although agricultural production had increased the targeted improvement in yields had not been achieved.

- The evaluators compared the economic returns from increased agricultural production to the cost of installing, operating and maintaining tubewells in three case study areas. The results indicated that despite the failure to achieve agriculture production targets an acceptable ERR of 11-13% was expected over the working life of the tubewells.
- The operation and maintenance of tubewells was the responsibility of Provincial Governments but the level of resources allocated to the task was inadequate. Private farmers benefiting from tubewells were making only a limited financial contribution through user charges.
- ODA's decision to support SCARP was made in the knowledge that there were weaknesses in the design, operation and maintenance of tubewells. The appraisal correctly identified the need to provide tubewells as part of a range of measures to improve agricultural performance and existing irrigation infrastructure. The failure to achieve this in practice may have contributed to the failure to achieve yield targets.

Lessons

- SCARPs are likely to be more effective if implemented alongside programmes which provide agricultural extension and input supplies; improve water management; and maintain and rehabilitate existing drainage and irrigation infrastructure.
- Institutional strengthening and policy measures may be required to ensure adequate funding of the operation and maintenance of completed SCARPs. The right balance between public funding and the need to charge economic rates for water use is important for sustainability.
- More research is required at the project level to establish the agricultural impact of SCARP and, in particular, the reasons why yields have not increased in line with targets.
- For effective monitoring of irrigation and drainage projects donors need to improve reporting and to design arrangements at the appraisal stage for assessing project impact through baseline and follow up surveys.