

## EvSum148

# INDIAN FARMERS' FERTILISER PROJECT (IFFCO) AT KALOL/KANDLA

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## The Project

The IFFCO project was designed to establish a fertiliser complex which was large by world standards and which would account for 10% of fertiliser production in India, with 910 t/day of ammonia and 1,200 t/day of urea fertiliser to be produced at Kalol and 1,500 t/day of N:P:K fertilisers to be produced at Kandla, 200 miles away, the latter based on imported phosphoric acid and potash and 200 t/day of ammonia railed from Kalol.

Total capital cost in 1975 was £52m with a high foreign exchange content because of the need to import much of the plant. The USA and UK were the main donors, providing £8.2m for the ammonia plant and £6.2m for the urea plant respectively.

## The Evaluation

The evaluation team consisted of a member of ODA's Economic Planning Staff and a consultant with long experience in the fertiliser industry, (ICI), including responsibility as General Manager for design, implementation, commissioning and operation of an earlier ammonia/urea factory in India.

## The Main Findings

- There were problems of site organisation, delay in signing contracts and late delivery of 2 major items of UK equipment, and some locally purchased items caused a seven-month delay in start-up. But, in general, the project has been an outstanding success, to the extent that a second and larger ammonia/urea complex has since been completed in Uttar Pradesh by IFFCO without further technical assistance from overseas and work has started on a third.
- Exceptionally high utilisation of plant with little down-time and production in excess of design capacity has been accompanied by sound financial performance and an internal rate-of-return of 5% overall.
- The evaluators identified a number of factors which contributed to success and some which reduced efficiency. One was luck - discovery of exploitable natural gas (a cheap and convenient feedstock for ammonia production) at Kalol and another the result of Indian Government control of prices for inputs and products, designed to give an after-tax return of 12% a year on net fixed assets, but good design, commissioning, operation and management were essential for success.
- A collaborative arrangement with the USA Cooperative Farmers International led

to the choice of proven processes and contractors and they helped IFFCO form a very competent team of managers.

- ODA, in the absence of appropriate technical staff, appointed an experienced external consultant for technical appraisal and to monitor implementation and this worked well. (One reason was that the key person continued to have responsibility throughout.)
- The evaluation team also reported that "the ODA fulfilled its function adequately and was well served by the Development Section of the British High Commission in Delhi and by the consultants it appointed".
- Other factors identified as contributing to success were great attention to the *active* training of IFFCO managers, staff and operators and a very sensible arrangement to supply on a reciprocal basis the nearby customers of other plants, reducing transport costs for a high volume/low value product.
- Delays in the supply of equipment might have been avoided if manufacturers' other resources commitments had been more vigorously inspected or expediting been tougher.
- Working capital was greatly under-estimated - a common error.
- Firm supply contracts for all vital raw materials were not negotiated in advance as stipulated in the aid agreement, delaying start-up of the NPK plant, and "both ODA and IFFCO should have presented their justified concern to the Government of India (which was responsible for the delay) with even more determination".
- There were inevitably weaknesses in implementation and the attention drawn to them by the evaluation team is of value to ODA in planning and managing similar projects.