

ZIL in the Service of Farmers

Commissioning of Zuari Industries fertiliser plant in Goa, more than three decades ago was a significant milestone towards country's self-reliance in foodgrains. Faced with the major challenge of educating farmers to enhance their yields through increased use of fertilisers and adoption of scientific methods in farming, Zuari devised its service oriented marketing strategy and organised innovative education programmes for farmers. Frontline task of extension education was undertaken through agricultural graduates. Attaching great importance to selection of right type of dealers, Zuari familiarised dealers with their role as 'change agents.' The company was pioneer in implementing extension programmes like soil testing services, audio-visual van, block demonstrations with soil test-based fertiliser use, farmers educational tours, crop competitions, etc., and winning the hearts of farmers. Company also implemented area specific rural development programmes such as watershed development, bore-well recharging, village adoption, horticultural development programmes, intensive fertiliser promotion campaigns, etc. "*Krishi Samrat*" award instituted by Zuari in 1985 is recognised as a premier award in its marketing territory. Through unrelenting efforts towards the growth of Indian agriculture the company has achieved an enviable position in its marketing territory with its strong brand equity and farmer friendly image.

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THE INDIAN FARMER IS VERY HARD working, tough and bold. He provides food to millions of Indian population. Story of Indian Green Revolution and self-reliance in food production is the story of successful Indian farmer. Given proper and adequate support, he is capable of flooding the world market with Indian foodgrains and prove to be the best in the world.

Green revolution was the product of combined efforts. Indian scientific community, extension agencies, government machinery, input supply agencies, political leaders and fertiliser industry – all came together and played their role of reinforcing the farmers to give their best. India which was referred to as begging bowl by the west became self-sufficient in foodgrain production. Zuari Industries Ltd through the decades of dedicated service made an outstanding contribution to farmers' success, nation's food security and to the evolution of modern India.

COMPANY PROFILE

ZUARI INDUSTRIES LTD (ZIL), WAS incorporated in 1967 as Zuari Agro Chemicals Limited, (ZACL). A joint venture with US Steel Corporation, USA, it was set up to manufacture urea and

complex fertilisers in Goa. Zuari's urea plant was commissioned in 1973 followed by NPK plant in 1975 and DAP plant in 1984. Since early 1990s, company diversified into cement, furniture, hybrid seeds, engineering consultancy, financial services and oil tanking through a clutch of subsidiaries and joint ventures. It was renamed Zuari Industries Ltd in 1998.

Marketing Infrastructure

With marketing head office based at Zuarinagar, Goa, the company has a network of regional marketing offices in the states of Goa, Maharashtra, Karnataka, Andhra Pradesh and Tamil Nadu. ZIL markets its products urea, and complex fertilisers - Sampurna (19:19:19), Samrat (18:46:0), Samarth (10:26:26) and NPK 12:32:16 under *Jaikisaan* brand.

Market Development Activities

Commissioning of Zuari Industries' fertiliser plant in Goa in 1973 was a significant milestone towards India's self-reliance in foodgrains. This was the time when agricultural revolution had not crossed the boundaries of Punjab and few other states. Productivity of land was very low. Use of urea and complex fertilisers, high yielding variety seeds, etc., was unknown to most of

the farmers. Educating the farmers to reap bumper harvest through adequate and proper use plant nutrients, adoption of high yielding variety seeds and proper agronomic practices was the main challenge before the fertiliser industry and extension workers.

Zuari took up this challenge and devised service oriented marketing strategy carrying out well-structured technical service programmes. To ensure proper flow of agronomic knowledge to farmers, Zuari appointed agricultural graduates for the posts of Marketing Officers. Marketing activity was supported with a comprehensive package of advisory services. Zuari attached great importance to selecting right type of dealers and encouraged them to adopt "single window" concept of providing all agricultural inputs under one roof. Through repeated training programmes, dealers were familiarised with their role as change agents. Zuari dealer shops, by virtue of their unique yellow colour and high visibility became the landmarks in Zuari marketing areas. Zuari dealer came to be recognised as a friend, philosopher and a guide of the farmers.

Summarise below are some of the important technical service activities undertaken since inception.

Promotional Activities Undertaken in the Past

Education through entertainment - Audio-visual Vans

That was the period when television services were not available except in major cities. For common man, main source of entertainment was films in neighbouring towns and cities. Zuari used audio-visual medium to entertain and educate farmers in the rural areas. Special films incorporating agronomic information on various crops coupled with a film story of entertaining nature were developed exclusively for farmers. These films were made by hiring professional actors and had emotional touch. They were dubbed in colloquial languages and were screened in villages during night time with the help of audio-visual van. Each van was equipped with 16 mm projector and a screen for film screening and was manned by agricultural graduate besides a driver-cum-operator. Zuari operated two vans in Maharashtra, two in Karnataka and one in Andhra Pradesh.

Audio-visual van was moving from village to village in rural areas. During daytime, promotional activities such as poster, literature distribution, farmer meetings, group discussions, field visits, soil sample collection, etc., were undertaken and during night time film shows were organised at two locations,

one between 7 to 8.30 pm and the other between 9 to 10.30 pm. Screening of films produced by govt. departments on agriculture, animal husbandry, family planning, adult education, public health, etc., were also undertaken occasionally.

With penetration of TV in rural areas, the response to Zuari film shows started waning and company discontinued audio-visual vans. However educational and emotional impact created by this medium has been unique and long lasting.

Agricultural Development Laboratories

Scientific agriculture calls for judicious and balanced use of fertilisers for better soil health, better economics and sustained high yields. Zuari is one of the pioneering fertiliser companies to identify this vital service area and establish a well-equipped soil testing laboratory as early as 1974 at Bangalore and later at Pune.

The role of micronutrients became critical in crop production due to high yielding/hybrid varieties, intensive cultivation, multiple cropping and lesser availability of organic manure. Again Zuari was pioneer to equip the laboratories with Atomic Absorption Spectro Photometer in 1979 to determine micronutrient status in the soil. Further these laboratories were also equipped to undertake water, leaf/petiole analyses.

So far both laboratories have tested 1.1

million soil samples for NPK and about 1.5 lakh samples for micronutrients besides 4816 water and 5164 plant petiole/leaf sample.

Demonstrations

Demonstrations play important role in convincing farmers about benefits of fertiliser use and adopting scientific package of practices.

In early seventies, Zuari organised result demonstrations in the entire marketing territory showing right method of fertiliser application and using correct fertiliser doses as per soil test reports. Cost : benefit ratio arrived at on harvesting encouraged the farmers for continued fertiliser usage.

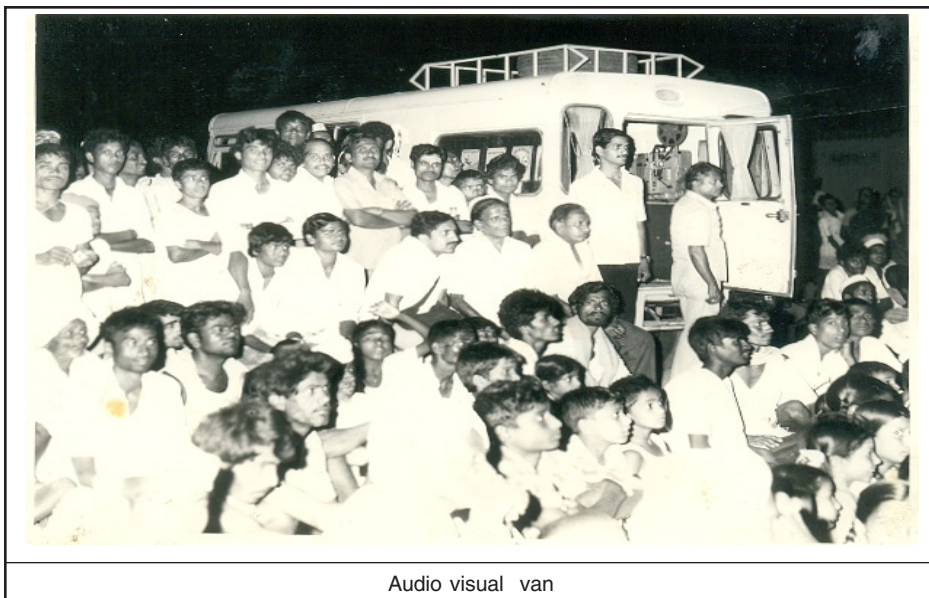
Further, large numbers of spot demonstrations were taken up in the entire marketing territory to convert non-user into user.

In collaboration with State Departments of Agriculture, Zuari organised number of block demonstrations in various districts of Maharashtra, Karnataka and Andhra Pradesh during 1975 -1985 to educate farmers on soil test based fertiliser use, improved varieties, inter-cultivation practices, post-harvest technology, etc. These demonstrations helped in promoting improved package of practices amongst farmers.

In collaboration with Dry Land Research Station, Solapur, special campaigns were implemented in rain shadow areas of Maharashtra to educate them on innovative dry farming techniques.

Intensive Fertiliser Promotion Campaign

Under centrally sponsored programmes, Zuari implemented Intensive Fertiliser Promotion Campaigns in Nanded (Maharashtra), Tumkur (Karnataka) and Nalgonda (Andhra Pradesh) districts for four years from 1980 to 1984. Owing to implementation of this project, NPK consumption increased from 17 kg per hectare to 31 kg per hectare in Nanded, from 21 kg to 32 kg per hectare in Tumkur and from 34 kg to 60 kg per hectare in Nalgonda.



Audio visual van



Agri. dev. lab

Agricultural Advisory Service Centres

To provide agricultural consultancy on regular basis to farmers in districts having vast potential for agricultural growth, Zuari operated Agricultural Advisory Service Centres in selected districts in the marketing territory.

An agricultural graduate having vast experience in extension work was appointed as Agricultural Consultant at the centre. Each centre adopted 4 contact villages in neighbouring areas and 10 farmers were identified in each village as contact farmers to carry forward the extension message. Agricultural

Consultant was available for consultancy at the centre throughout the day on the market day and other important days. On selected days he paid visits to the villages and contacted the farmers at their doorsteps and on their fields providing spot solutions to their agricultural problems.

Need based activities such as soil testing, introduction of HYV varieties, field demonstrations, crop seminars, farmer training programmes, visits to research stations, veterinary health camps, etc. were organised in contact villages to educate them on improved farming methods.

Zuari operated Agricultural Advisory Service Centres in Nanded, Latur, Jalgaon, and Nandurbar districts of Maharashtra and in Gulbarga and Raichur districts of Karnataka.

These consultancy centres have brought about significant transformation in the neighbouring villages. Farmers in these villages have adopted latest agronomic practices in their fields and are now practicing agriculture as a business venture.

Rural Development Activities

In a true spirit to uplift the community at large, Zuari has been implementing number of rural development activities in its marketing area. These activities include village adoption programmes, watershed development projects, bore-well

recharging programmes, etc.

Recently Zuari implemented rural development projects, one in Maharashtra and one in Karnataka state with focus on improving the quality of life in rural areas.

1. Watershed Development Project, Kohinkarwadi

Kohinkarwadi, a drought prone village in Pune district was chosen for implementation of Watershed Development Project in Maharashtra. Twin objective of this project was to ensure water conservation by constructing different water harvest structures and enrichment of soil health through measures of contour bunding and regeneration of biomass cover. Zuari undertook construction of a number of permanent structures such as farm ponds, masonry check dams, contour bunds, loose boulder structures, etc., in the village in collaboration with Vanarai, Pune, a NGO having expertise in watershed development. Large scale afforestation programme was also undertaken besides organising number of extension activities such as training programmes for farmers, crop seminars, soil testing, field demonstrations, animal health camps, etc.

The project has greatly aided in the socio-economic transformation of the village by easing the drinking water problem and boosting farmers' incomes through both agriculture and dairy business. Now the farmers in this village take up *Rabi* crops such as onion, potato and wheat and harvest good yields.

On successful completion of work, the project was formally handed over to local village Panchayat in March 2004.

2. Bore-well Recharging Programme in Hiriyur, Karnataka

Hiriyur, a drought prone village in Chitradurga district of Karnataka, with majority of small landholders was selected for implementing bore-well recharging programme. In this village rainwater and bore wells are the only sources of water both for domestic consumption and



Agri. adv. service centre



Watershed dev. project

agriculture. Most of the bore-wells in this village had gone dry due to over exploitation of water and lack of replenishment.

Natural replenishment of ground water being a slow process, drying of bore-wells has become a common feature in several parts of interior Karnataka. However these bore-wells can be brought into reuse through artificial replenishment of water by constructing recharging/infiltration tanks around the well and injecting rain water directly into the ground water resource.

Zuari selected three bore-wells in the village and undertook the construction of recharging tanks in association with Mysore Resettlement and Development Authority, a NGO having expertise in recharging technique. The work was undertaken in January 2005. With receipt of good rainfall in *Kharif* 2005, recharging tanks have helped in injecting large quantity of surface flowing water into these bore-wells and the three bore-wells are now yielding normal water for daily use. Project has not only helped in solving water problem of the farmers but also demonstrated to them the modern and innovative technique of rejuvenating bore-wells.

Special Programmes to Enhance Paddy Yield in Goa

1. All Goa Paddy Crop Competition

To encourage farmers to reap bumper

harvest of paddy crop in Goa, Zuari in collaboration with Directorate of Agriculture, Goa implemented All Goa Paddy Crop Competition. During *Kharif* and *Rabi* season about 400 to 500 paddy growers were enrolled under this scheme through Zonal Agricultural offices, Block Development offices and Zuari dealers. Participant farmers' yield was assessed by committee members comprising of officials from Department of Agriculture, village level extension workers and Marketing Officer of the company. Zuari offered first and second prize to the top yields. These awards were presented by organizing special functions at the end of *Kharif/Rabi* season

2. Paddy Seed Replacement Project

Paddy is the staple food in Goa. *Kharif* paddy is being cultivated in an area of about 42000 hectares. However in eighties, yield of paddy was low, i.e. 6 to 8 quintals/acre owing to repeated use of local poor quality seed. Zuari implemented a novel scheme for replacement of local paddy seed with certified seed procured from National Seed Corporation. Every year in *Kharif* season Zuari distributed about 10 tonnes of seed to farmers at subsidised rate. Seed distribution was undertaken in predominant paddy growing villages of Goa through village panchayat offices, self help groups and Zuari dealers. This activity helped in creating awareness about the importance of seed replacement, helping the farmers to increase their paddy yield by about 20 to 30%. Subsequently, with increase in demand for certified seed, Department of Agriculture formulated a special scheme for providing paddy seed at subsidised rate to farmers and regular availability of certified seed was ensured.

Horticultural Development Projects in Goa

1. Cashew Development Scheme

Cashew is an important horticultural crop of Goa with coverage of about 55000 hectares. Prior to 1985, entire cashew crop in Goa was local variety and use of high yielding varieties was unknown to farmers.



Bore-well recharging

Average yield of local varieties is about 1.5 kg per tree against 12 to 15 kg per tree of high yielding varieties. To enhance cashew yield, Zuari embarked upon a novel scheme of familiarising Goan farmers with high yielding cashew varieties. Every year, Zuari procured 3000 number of cashew grafts of high yielding varieties such as Vengurla-1, Vengurla-4, etc., from research stations in neighbouring states and distributed the same to progressive farmers in Goa at subsidised rates. Special functions were held giving wide publicity to the importance of planting cashew grafts instead of seedlings.

This programme helped in generating awareness on use of high yielding cashew grafts in state of Goa. Subsequently Directorate of Agriculture formulated special scheme for cashew area expansion and planting of cashew grafts became a common feature among farmers in Goa.

2. Kalpataru Project

Next to paddy, coconut occupies pride of place in Goa. Coconut tree apart from being beautiful provides variety of useful products for living. Since all parts of the tree are useful, it is called "Kalpataru" In Goa two commonly grown varieties are "Benaolim" and "Calangute" and both are potential high yielders. However average yield of coconut in Goa was poor (20 –30

nuts/tree) owing to lack of scientific cultivation practices.

With the objective of educating farmers on improved methods of coconut cultivation, Zuari has been implementing "Kalpataru" project in Goa since 1982.

In early eighties, Zuari organised block demonstrations all over Goa on use of proper dose of fertilisers for coconut in collaboration with Department of Agriculture. Recommended doses of fertilisers were provided to all participant farmers at subsidised rate. This activity promoted use of fertiliser for coconut crop.

Every year in the month of August, Zuari is organising a week-long farmer advisory campaigns for coconut farmers in Goa. During this week, a team comprising of Zuari marketing officers along with officials from Department of Agriculture visit predominant coconut growing villages in Goa and contact farmers at their doorsteps advising them on usage of right doses of fertilisers, use of green manure, biofertilisers, plant protection measures, irrigation techniques, etc., for enhancing coconut yields.

Implementation of Kalpataru project has enabled farmers in Goa to adopt scientific cultivation practices and to increase yield of coconut many fold.

Sugarcane Development Project in Goa

In Goa, sugarcane is cultivated mainly in interior talukas of Sanguem, Quepem and Sattari. Sugarcane is registered with Sanjivani Sugar factory situated at Dharbandora. State Government has taken various steps to give a boost to sugarcane cultivation in collaboration with Department of Agriculture, Irrigation Department and Fertiliser Industry. Responding to the request from state government, Zuari provided services agricultural graduate to Sanjivani Sugar Factory on deputation for the period of three years from 1988 to 1991 with the special assignment of undertaking sugarcane development in the state. During this period, production of sugarcane in Goa increased from 50000 tonnes to 80000 tonnes.

Zuari introduced early maturing, shy flowering and thermo-insensitive varieties like Co 8021 and Co 671 in Goa by procuring the seed from research stations in Maharashtra and Karnataka. The seed was distributed to selected progressive farmers in Sanguem taluka for seed multiplication and further distribution. Co 8021 variety performed well in the state and is being cultivated by large number of farmers, today.

Zuari adopted village Vantem in Sattari taluka, which was newly covered under lift irrigation scheme. All farmers in this village were small and marginal farmers. Through concerted efforts, every farmer in the village was motivated to take up sugarcane crop. Necessary inputs such as sugarcane seed, fertilisers, etc., were provided to farmers by taking up a block demonstration. Within three years about 150 acres was covered under sugarcane and the village recorded highest average yield of 40 tonnes per acre.

In 1987, village adoption programme was further extended to Kerim under Morlem villages, newly covered under Anjunem irrigation project. Here additional 300 acres of area was covered under sugarcane during following 3 years period.



Kalpataru project

ONGOING ACTIVITIES

Krishi Sudhar Programmes

Field visits and one to one farmer contact programmes of the company are categorised under *krishi sudhar* programmes. These programmes of regular nature are common to entire marketing area. Various activities being organised under this programme are promotional squads, intensive farmer contact programmes, soil testing days, soil test results recommendation days, etc.

Promotional squad is a fortnight long programme of contacting the farmers at their doorsteps providing spot solutions to their field problems and acquainting them with modern agronomic practices. Each squad, consisting agricultural graduates and field assistants, is equipped with well-decorated van. They visit farmers at their doorsteps and organise farmer meetings, group discussions, method demonstrations, literature distribution etc. Wherever possible, help of subject matter specialists from various departments is taken to guide the farmers.

Similar programmes undertaken on smaller scale spanning 4 to 5 days are called intensive farmer contact programmes

Promotional squads and intensive farmer contact programmes organised in the marketing territory in 2004-05 are as under :

State	2004-05	
	Promotional squads	IFCP
Maharashtra	19	42
Karnataka	35	15
Andhra Pradesh	6	5
Goa	0	5
Total	60	67

Crop Seminars and Farmer Training Programmes

To update farmers' knowledge on crop production, Zuari organises crop seminars and farmer training programmes for farmers on regular basis in the entire marketing area. Faculties are drawn from Agricultural Research Stations, Agri. Universities, Department of Agriculture etc. These programmes facilitate one to one interaction with subject matter



Crop seminar

specialists helping farmers to get latest scientific information on crop cultivation.

Crop seminars and farmer training programmes organised in 2004-05 are as under :

State	2004-05	
	Crop seminars	FTPs
Maharashtra	25	34
Karnataka	12	17
AP	5	6
Goa	1	1
Total	43	58

Educational Tours

“Seeing is believing”, Zuari uses this principle of extension education in motivating farmers to enhance their agricultural income. The objective is to acquaint the farmers with new developments in the field of agriculture by giving them eyewitness account of latest techniques in farming.

Farmers are taken on educational tour to agricultural research stations, sugar factories, agricultural universities, progressive farmers' fields, krishi melas,



Educational tour



Bus shelter

etc. Here the farmers get an opportunity to interact with the scientists, subject matter specialist, etc., besides getting the chance to see the crop performance with new techniques.

Educational tours organised during in 2004-05 are as under :

State	2004-05
Maharashtra	8
Karnataka	2
Andhra Pradesh	1
Goa	1
Total	12

Public Utility Services

Public spirit has always been the hallmark of Zuari way of life. To enhance the quality of life across the various strata of society, Zuari initiated public utility service programme in the marketing territory. Under this programme various services such as construction of bush shelters for commuters in rural areas, provision of drinking water tanks in shandy areas, tree base structures, toilet facilities/play ground for schools, development and maintenance of parks/gardens, tree planting across highways, etc., are being undertaken.

So far Zuari has constructed about 20 bus shelters, 4 drinking water tanks, 15

tree base structures, and 2 playgrounds in the marketing territory under this programme.

In primary marketing state of Goa, Zuari awards scholarships to 2 students belonging to economically poor class, seeking admission in professional degree courses in Agriculture and Engineering.

Rural Sports

To inculcate values of competitive spirit and importance of physical fitness among the youth in rural areas, Zuari sponsors

several sports activities such as wrestling competition, kabaddi tournament, bullock cart race etc in the marketing area. These sports activities are organised in collaboration with village sports clubs, farmers clubs, youth associations, etc.

Krishi Samrat Award

To honour excellence in agriculture and recognise the valuable contribution to the community at large, Zuari instituted *Krishi Samrat* award in 1985. This award is given to outstanding farmer with proven leadership in the marketing territory. Late Mr. N. M. Chamankar, pioneer in mango cultivation from Sindhudurg district of Maharashtra was the first recipient of this award. So far 3 farmers in Maharashtra, 3 farmers in Karnataka, 2 farmers from Andhra Pradesh and 1 farmer from Goa have received this prestigious award.

In the year 2005, *Krishi Samrat* was conferred upon Mr. Pandappa Golabhavi of Mudhol taluka of Bagalkot district in Karnataka. He was selected for his pioneering efforts in harnessing water of Ghataprabha river through innovative lift irrigation project - Ranjanagi Yatha Niravari project. This project has been instrumental in transforming parched land along the river into highly productive farms and has liberated farmers from vagaries of rainfed



Rural sports



Krishi samrat award

agriculture.

Award carrying a citation, scroll, an attractive shield and a cash award of Rs. 30000/- was presented to Mr. Golabhavi on 27th August 2005 at the hands of Mr. Basavraj Horatti, Hon'ble Minister for

Science and Technology at a special function held in Mudhol town.

Jaikisaan Sangam – Zuari's Customer Relationship Management Programme

Zuari rolled out Customer Relationship

Management (CRM) programme in April 2005. CRM programme is christened as *Jaikisaan sangam*. All extension activities of the company are to be implemented under this brand. The objective is to strengthen relationship with farmers by providing value-added services, looking at their needs. The programme is implemented through grass-roots level extension workers known as *Jaikisaan krishi sevaks*. In the first year Zuari plans to register about 10000 farmers under this programme. Presently the programme is implemented in Maharashtra and Karnataka and from 2006-07 onwards the programme will be extended to entire marketing area. Company plans to provide customised services such as soil testing, animal health, family health, children education, agri-input marketing, etc., besides crop husbandry services to the farmers registered under *Jaikisaan Sangam*.

CONCLUSIONS

21ST CENTURY PROVIDES NEW CHALLENGES and opportunities to Indian fertiliser companies. New trends such as increased penetration of internet in rural areas, high growth in horticultural segment, increased coverage under micro irrigation, thrust on food processing, growing export demand for agricultural products, Central Govt. endeavour to bring 100 lakh hectares under irrigation, etc., call for reconfiguration of business operations to meet challenges of changing times.

Company has re-scripted marketing mission in line with above challenges and is in the process of ramification of farmer-oriented activities. Company has plans reorient its CRM programme basing on requirements of the customers. By using web based software programme, the plan is to have clear understanding of the needs and perceptions of the farmers and provide customised products and services with a goal to *create and retain delighted profitable jaikisaan farmer*. ●



Veterinary camp