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Service
Quality



Lal Bahadur Shastri National Academy of Administration, Mussoorie

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Created through a project sponsored by the Government of India, this Cell partners with some of the leading quality institutions like the Confederation of Indian Industry to enable administrators to introduce TQM in their organisations. It also facilitates implementation of TQM in the Academy.

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Information for Contributors

About the Journal

Service Quality is a half yearly journal focusing on best practices and quality innovations in various government departments as well as the private sector. It receives articles from ministries, departments, public sector organizations, civil society organizations and the private sector. Contributors are requested to send quality related experiences to shkhan@lbsnaa.ernet.in or tqmccl@lbsnaa.ernet.in in the following format :

- *The Context* : Brief details of the institution and its activities
- *Opportunity/problem* : Pre-initiative status of the area/domain in which quality initiative was undertaken; reason(s) for taking the decision to start a quality initiative; persons involved in the decision-making process etc.
- *Aim, Goal(s) and Objective(s)* : What was the initiative all about? What did it set out to achieve?
- *Setting the Scene* : Pre-initiative activities, e.g. engaging a consultant, training of personnel, constitution of quality teams/task forces, deciding quality/success measures and instruments etc.
- *The Experience* : How did the institution go about it? What did it actually do?
- *Outcome and Impact* : What was the result? How did it affect/improve the area of activity chosen for improvement?
- *Lessons Learnt* : Do's and don'ts. Conceptualisation of good practices and pitfalls to be avoided.
- *Future Plans* : How are the lessons learnt going to be taken care of in the future?

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Ensure high availability of Tata Tiscon - Rebar brand in retail shops Chanakya Chaudhary	001
Forging a bond Trichy Community Policing Experience J.K. Tripathy	010
Quality Initiatives by NHPC Vineet Diddi	026
Initiatives of VHAI Experiences in Health, Development and Rehabilitation... The Journey has just Begun Alok Mukhopadhyay	031
Quality Circle Activities in BEML Limited Juli Jaypaul	057
Vardhman's Journey Towards Excellence B.B. Peer	082
Village Inquiry in Sanctuary Area - Protecting tribal interests Kiran Kulkarni	089

Ensure high availability of Tata Tiscon - Rebar brand in retail shops

Chanakya Chaudhary

ABOUT TATASTEEL

Tata Steel is a top ten global steel company, with a crude steel production capacity of 30 million tonnes per annum (mtpa).

A Fortune 500 listed company, Tata Steel comprising Tata Steel India (www.tatasteel.com), Corus (www.corusgroup.com), Tata Steel Thailand (www.tatasteelthailand.com) and Nat Steel Holdings (www.natsteel.com.sg) employs over 80,000 people across five continents and nearly 50 countries, making it the world's second most geographically diversified steel producer.

Established in 1907, Tata Steel developed around the Indian city of Jamshedpur, where the company established Asia's first integrated steel plant. The Jamshedpur works comprises a 6.8 mtpa crude steel production plant (with plans to grow to 10 mtpa by 2011) and a variety of finishing plants. The company's operations in India include captive iron ore and coking coal mines. In addition, three greenfield steel projects are being developed in the Indian states of Jharkhand, Orissa and Chhattisgarh, which will provide additional capacity of 23 mtpa. A greenfield project is also underway to build a 4.5 mtpa steel complex in Ha Tinh province, Vietnam.

With the acquisition of Corus in 2007, Tata Steel has 20 mtpa of steel production facilities in the UK and Netherlands and additional rolling mills and process lines, primarily in the UK, Netherlands, France, Germany, Spain and Sweden. Tata Steel Thailand, the

largest producer of long steel products in Thailand, has a manufacturing capacity of 1.7 mtpa and plans to build a 500,000 tonnes per annum (tpa) mini blast furnace project. NatSteel Holdings produces about 2 mtpa of steel products across its regional operations in seven countries.

Iron ore mines and collieries in India give the company a distinct advantage in raw material sourcing. Tata Steel is also working towards raw materials security through joint ventures in Thailand, Australia, Mozambique, the Ivory Coast of West Africa, Oman and Canada. The company has an agreement with the Steel Authority of India Limited to establish a 50:50 joint venture company for coal mining in India.

In 2008, Tata Steel India was the first integrated steel company in the world, outside Japan, to be awarded the *Deming Application Prize* for excellence in Total Quality Management (TQM).

After more than a century of growth, Tata Steel is well positioned to service a global customer base, to enjoy economies of scale in plant utilisation and research and development, and to deliver its ambitious vision with a motivated and highly-skilled workforce. The company's vision is to be the world steel industry benchmark in terms of Value Creation and Corporate Citizenship through its people by 2012.

Underpinning the vision and goals is a performance culture committed to aspirational targets, safety, social responsibility, continuous improvement, openness and transparency.

OPPORTUNITY/PROBLEM

To Ensure high availability of Tata TISCON our Rebar brand in retail shops :

Background - In the year 2000 LP Divisions Rebar brand Tata TISCON was positioned as a premium brand in the Individual House Building Segment. This brand was distributed through a professional distribution network spanning across the country (31 distributors and 1700 dealers)

Context and Environment - During FY05 & 06 feedback mechanisms like (QFD) Quality Function Deployment (Figure 4.3.2-1) and Customer satisfaction surveys (Figure 4.3.2-2) indicated that availability of Rebars of all sections at the retail shops were the important requirements for consumers of Tata TISCON.

Table 4.3.2-1 Channel partners perception of needs

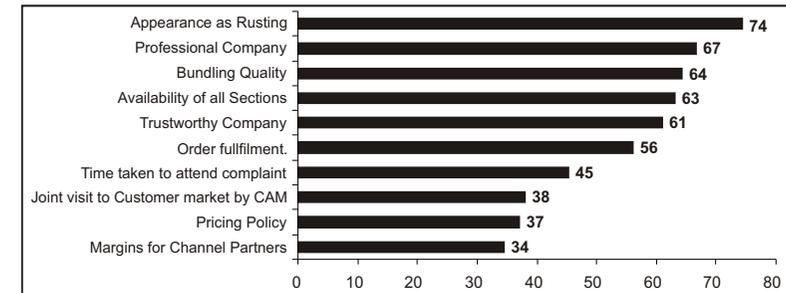


Table 4.3.2-2 Relative position of LP division

	Low	Average	High
Availability & Order Fulfillment	▲		
Product Quality & Performance	▲		
Earnings for Channel Partners		▲	
Customer Care			▲

While LP Division was working on other attributes, its position on availability at Retail shops continued to remain lower than competition (Refer Table 4.3.2-1). Our internal measures also showed that there were 25-30% Stock-outs happening with our Dealers (Retail shops).

Reasons for taking the decision to start a quality initiative :

- **Consumer Needs** - Our Brand Equity Studies revealed that the loyalty for Tata TISCON brand was the highest despite being a premium brand. Individual House Builders had very low tolerance time, so any stock-out at the retail shops resulted in

consumers not able to use our brand. By improving availability at the retail shops we would be able to fulfill the needs of the consumer of using a good quality premium brand of rebar.

- **Channel Partner Needs** - Poor availability at retail shops, also led to loss of sales as well as loss of profits for our Distributors and exclusive dealers. This was happening despite the fact that the channel inventory was as high as 60-80 days of sales. This high working capital was resulting in lower ROCE for the Distributor and low motivation.
- **Tata Steel Needs** - New Regional brands that were much smaller in size and limited in geographical presence would have the capability to react faster to stock-outs at the dealer shops. Hence to enhance its brand image in the context of entry of large number of regional brands, LP division had to quickly work on improving availability of its brand in the retail shops. However since Tata Steel was the only all India brand with a single manufacturing base, the strategy was even more challenging.

Key challenges in executing the strategy

- One of the challenges in executing the strategy was to make all the sections available to the large number of retail shops spread all across the country at all point of time (31 distributors and 1700 dealers).
- Designing and operating a reliable delivery network (right product at right time in right quantity at right destination) in India was also a tough task due to :
 - › Under- developed infrastructure roads and transportation
 - › Poor visibility in the channel, and
 - › Steel dealers operating with their different business thumb rules

Strategy, KPIs and Focused Activities

The learning from various retail industries indicated pull based “Replenishment system” as the solution of the above stated problems. Although doing replenishment in the steel industry was unheard of Tata Steel took up two focused activities (as shown in

table 4.3.5-1) setting up the replenishment process with the distributors (the first leg of the channel), and then setting up the replenishment process with the dealers (the second leg of the channel).

Table 4.3.5-1: Focused Activities

LPPC Objective	Challenging Strategy	Key Performance Indicators	Focused Activities (FA)	KPM
Continue to improve brand image for Re bars to the Individual House Building segment	Ensure availability of all sections in retail shops	<ul style="list-style-type: none"> ● % stock out at dealers ● Coverage of Distributors and Dealers 	FA#1 : Set up Replenishment process with the Distributors	% Stock out at distributors
				Data Sending compliance of distributors
			FA#2 : Set up Replenishment process with the Dealers	Number of distributors covered
				% Stock out at dealers
				Data Sending Compliance of dealers
				Number of dealers covered

THE EXPERIENCE

Details of the Focused Activities :

- **FA#1: Set up Replenishment process with the Distributors**
 - An analysis of our order and delivery system of the past period showed that to plan production, LP division took 1 month forecast from the distributors. These distributors were serviced from the nearest stockyards of Tata Steel. Our mills produced in campaigns and invariably in large batches. Our production would also vary from month to month. Thus dispatches to stockyards took place based on the forecast to the extent that was available from production and for sections that were produced. Therefore, in situations when we short produced, and consumer's actual requirements were more than forecast, it often led to stock-outs. To compensate for short rolling in a certain section, we used to compensate with other sections that were available. This resulted in increase in overall stocks of the distributors and dealers since consumers bought only when all sections were available. Based on the supply chain analysis the root causes were identified are shown in table 4.3.6.1-1

Table 4.3.6.1-1: Root Causes of Stocks-outs at the Retail Outlets

Root Causes Identified	Solutions
Production driven system	De-couple plant operations with Sales & subordinate operations to customers needs
Forecast based Supply Chain	Replenishment system based on sales(pull) of the distributors
Customers buying pattern all Sections together	Replenishment and Continuous Stock Management with guarantee of no stock out at the distributor-Using Daily Management
High Working Capital blocked	Stock level maintained at 7days(distributor)

The cause & effect analysis of the current scenario indicated the need of supply chain redesign based on the real consumptions.

- De-Coupling plant operations from Sales** - LP division decided to build a supply chain based on consumption instead of forecast (Fig. 4.3.6.1.1-1). Instead of pushing sections downstream to distributors based on forecasted sales, we held the materials back at the plant. Materials were dispatched to the destinations only based on actual demand. This helped in dispatches to correct locations and in the right quantity. Avoiding dispatching too early helped in aggregation of stocks at a central warehouse in Jamshedpur instead of large and unwanted stocks lying in all locations over the entire country. This aggregated stocks at the central plant warehouse, also helped in decoupling the market from the production fluctuation. The responsibility of the production department is to fill the plant warehouse to the desired levels only.

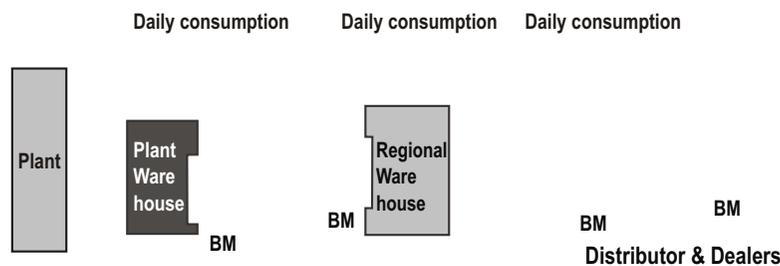


Figure 4.3.6.1.1-1 Replenishment Supply Chain with buffering points

- Replenishment based on pull of the Distributor** - The supply chain team took up the task of calculating the unreliability in each part of the order generation and fulfillment process e.g. Steel making compliance, finishing mill availability, transportation lead time reliability and fluctuations in the Distributors requirements. Based on the same, stock-keeping (buffer) norms were calculated for each link i.e. Plant warehouse (PWH), Regional warehouse (RWH) and Distributors and dealers (fig. 4.3.6.1.2-1). The operating philosophy now is for RWH to replenish the distributor buffer an exact quantity and section which he sells to the dealer which is reflected in his buffer penetration. The PWH role is to replenish the RWH an exact quantity and section as reflected in the RWH penetration. The mills are expected to produce sections in quantities which are getting pulled out from the plant warehouse. So the entire supply chain works on replenishing the next link and is driven by pull from the distributor and dealers.

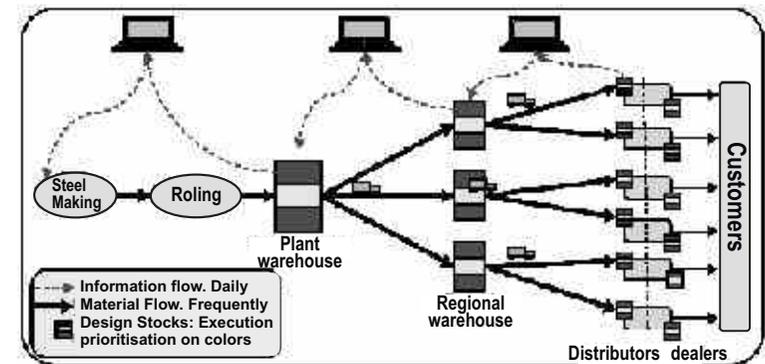


Fig 4.3.6.1.2-1 Operating Philosophy for Replenishment

- Continuous Monitoring of Buffers and Daily management** - The online availability of Section-wise data of consumption and stocks at every link including the distributors was an essential activity to understand how to phase the deliveries of each product to every location. In the absence of this data, customers were placing orders whose volumes and lead times

were factoring in the unreliability of the old supply chain system. Once the data infrastructure was established at these locations, the need for forecasting by the sales managers, distributors was eliminated. The channel partners and sales managers were delighted as their workloads reduced while the supply chain ran more efficiently with a significantly lower inventory.

- **Managing distributor stocks at low levels** - Replenishment system put in place by LP division enabled the distributors to keep low inventory (based on Buffer design of 7 days of stock) with increased sales. Their working capital has reduced significantly and while returns from the business (ROCE) have almost doubled.

OUTCOME AND IMPACT

Table 4.3.7-1

KPMs	FY05(A)	FY06(P)	FY06(A)	FY07 (P)	FY07(A)	FY08 (P)	FY08(E)
FA#1 : Set up Replenishment process with the Distributors							
Stock-outs at Distributors	25%	-	20%	10%	10%	5%	9%
No of Distributors covered	-	7	7	21	21	27	27
Data Compliance of distributors (days/mth)	15/30	25/30	20/30	25/30	25/30	25/30	25/30
FA#2 : Set up Replenishment process with the Dealers							
Stock-outs at Dealers	30%	-	30%	20%	15%	10%	8%
No of Dealers covered	-	-	-	45	45	1350	1400
Data Compliance of dealers (days/mth)	0/30	-	0/30	5/30	5/30	15/30	16/30

Effects: Table 4.3.7-1 shows the outcome and impact for the strategy.

LESSONS LEARNT

This initiative taught us many lessons :

- To increase the sales, availability of all the sections is an imperative. By making only few sections available may not necessarily lead to increase in sales.

- Differential pricing mechanism can be introduced to control the flow
- Monsoon has almost no impact on the TMT sales. This was a myth.
- High inventory is not necessary to increase the sales. This was another myth which lead to increase in inventory.
- For effective management of the supply chain, to enable increase in sales, material (inventory) needs to be pulled back and aggregated at (PWH) Plant Ware House.

FUTURE PLANS

- We limited our scope of this initiative only up to distributors. But the last link in the supply chain is the dealers and the end customers. LP currently has about 1600 dealers all across the country. As a next step we need to extend this design right to the dealers doorstep.
- The future plan is to bring the stock out down to 5% level. To carry forward and consolidate the effects, the distributors have been asked to plough-back the benefits accrued on growth of business.
- Tata Steel would also continue to aid the distributor with real-time marketing activities to create pull for the brand and increase the output.

Forging a bond Trichy Community Policing Experience

J.K. Tripathy

INTRODUCTION

Tiruchirappalli or Trichy City, spreads over 147 Square Kms with a population of around 7.5 lakhs. Its diversity of caste, creed and religion includes a sizeable Sri Lankan repatriate population.

Well-known for its ancient monuments, the city attracts a large number of domestic and international tourists. As this is an island of vibrant economic activities, the city attracts a migrant work force, from the neighbouring districts, in search of job. As these job opportunities are scarce, most of them end up living in appalling slums, which in turn are breeding grounds for criminals. With few options, they are driven to crimes, which used to keep the city's crime graph spiraling to dizzy heights.

This serene city which stood out as a beacon of communal amity, underwent a grim phase of communal disturbances from 1997 to 1999. This was a brutal period when Innocent lives were lost in bomb explosions in a train, a senior Hindu front leader was brutally murdered, a police officer was attacked with grenade and bombs were planted in the police establishment.

Mutual distrust divided the fabric of the community, a fact that was quickly exploited by criminal gangsters. In this vitiated atmosphere, the community lost confidence in law enforcement agencies, with the net result that they were denied all community support. This posed a serious challenge to the police force.

The task before the police was multifold :

- To instill sense of confidence amongst the citizens
- Gain their acceptance and confidence
- Get information on crimes and criminals and mobilize public support to prevent crimes so as to ultimately, improve the quality of life within the community.

The police organization set up in Trichy City is headed by a Commissioner of Police, assisted by two Deputy Commissioners with supportive ranks, overseeing 12 jurisdictional Police Stations, as the basic units. It has a strength of about 1800 police personnel, which tentatively works out to a Police : Public ratio of 1:414.

The traditional policing approach being primarily reactive on 'crime-based' intelligence was clearly inadequate to meet these challenges. In order to supplement the policing processes, wide ranging proactive strategies were initiated to face these new challenges to open up channels for more 'community-based' intelligence.

These initiatives, setting policing priorities and responses, based on people's perception of policing in preventing crimes and the fear of crimes, aimed at bringing about a synergistic effect, by partnering with the stakeholders like community, government agencies, elected representatives, NGOs, philanthropists and other service-oriented organizations. This partnership focused on identifying areas of concern and the interventions required for solutions, with active community participation, inspired by realization of "shared responsibility", towards prevention of crimes of all types.

These Community Policing initiatives, with the objective of improving the quality of life, are founded on the following premises:

- "Our democratic set up is sustained and strengthened by the observance of 'Rule of Law'.
- The Police, as a law enforcing agency, derives its legitimacy from the sanction enjoined upon it by the public, at large, in enforcing these laws.

- A healthy Police-Public relationship is a sine-quo-non to securing the desired measure of public involvement and cooperation in policing, in order to make it intrinsically more meaningful and acceptable to the society.
- Highest quality of professionalism, service, transparency, compassion, impartiality, integrity, respect for human dignity and commitment to public cause, alone can bridge the gap between police and public and restore public confidence.
- Improved public confidence leads to the realisation of 'Shared Responsibility', to work together for better quality of life in the society.”

Our strategy rested upon the foregoing democratic value-base. They were formulated, at macro and micro levels, addressing issues that are area-specific and target-group specific while taking into consideration the ethnic, cultural and socio-economic diversities in Trichy.

At macro level, addressing general policing issues, the strategies are :

- Beat Officers' System,
- Complaint/Suggestion Box System and
- Wide Area Network.

At the micro level, focusing on area and target-group specific issues, the strategies are :

- Helpline for Women in Distress and
- Slum Adoption Programme.

This comprehensive model encompassed the entire geographical canvas and the community covering complete range of socio-economic profile in this city.

These strategies were formulated after due consultation with fellow police personnel, incorporating their suggestions, which automatically oriented them with the desired attitudinal change, to adapt and own the initiatives. Police personnel and the community leaders were given due orientation.

Beat Officers' System

The Beat Officers' System, launched on the propitious Tamil New Year's Day of 1999, is the basic strategy, which aimed at reintegrating the police with the community, it belongs.

Contrary to the prevalent system, which requires different sets of police personnel to patrol a particular beat area, at different times and for different purposes; this system solely aimed at continuity of acquaintance between the beat personnel and the community.

Considering the crime scenario and policing requirements, the city was divided into 57 beat zones, with an approximate population of 12000 each. Each beat was manned by a dedicated set of 4 constables. They were called “Beat Officers”; thus, instilling pride in them and empowering them to take independent decisions, being responsible and responsive to public needs.

Unfortunately, our constabulary at the cutting edge level does not enjoy the recognition they deserve. Christening them “Officers” is an effort at empowering them, in recognition of their vast experience and optimum use of their potential. Being fully in-charge of their beat area and not being distracted for any other duty, they cannot plead ignorance about any crime or criminal in the area under their supervision.

The Beat Officers function from Police Assistance Centres (PACs). Crime prevention through public participation being the primary motto, they visited each house-hold, introduced themselves and developed acquaintance with the people living there. They compiled basic information on each house-hold/establishment, like the name, occupation, possession of vehicle, passport, licensed weapon, etc. These details are updated periodically and maintained in registers at beat level. (Now centralised data-base is being created at Police Control Room).

This process developed such familiarity between the Beat Officers and the community that, over a period of time, they knew each other by names. Thorough knowledge about the area and people living there enabled Beat Officers to isolate the suspects

from the vast majority of law-abiding citizens, who, often become victims of suspicion/ harassment by police, due to lack of proper knowledge about those public, they are required to serve and protect. The public, in turn, voluntarily participated in neighbourhood crime prevention.

These Beat Officers interacted with the Community Liaison Groups (CLGs), consisting of members from Resident Welfare Associations (RWAs), local Chambers of Commerce, Taxi/Auto-rickshaw Drivers' Associations, NGOs, Women Associations, Teachers, Advocates, Labour Unions, etc. Local issues were identified, discussed and consensual solutions were arrived at. Wherever matters pertained to a different department/agency, the concerned officials were also invited. Wherever communities were not found to be organised, Beat Officers took initiatives to form RWAs, to facilitate structured and meaningful interactions. These interactions facilitated identification of local problems and resolving them locally, with consensual solutions, with the help of the community, deterring any external influence.

With a view to remove the barriers and to gain goodwill, initially, the Beat Officers handled civic issues, be it fixing streetlights, getting drinking water supply in time or calling a mechanic for a senior citizen/lady, alone at home; thus, bringing services to the doorsteps of needy public and creating an atmosphere, conducive for anyone to confide any information with police.

Though appear to be civic issues, these services have crime prevention angle to them. Dark streets facilitate movement of criminals. Non-availability of drinking water, in time, can result in a road blockade, disrupting traffic and, sometimes, breakdown of public order, when the agitators turn violent.

The criminals operate, even posing as a mechanic/cable operator/electricity board staff, finding a senior citizen/lady, alone at home. It does not take much effort for the Beat Officers to create a pool of such service providers in each locality, where each one is identifiable and ensure safe and satisfactory service to the

community. Beat Officers undertook antecedent verification of the domestic helps, like servant, cook, driver, security guard, etc., employed by the community. They also educated the community on security precautions for neighbourhood crime prevention. Whenever anybody goes out of town, the Beat Officers are informed, who enter the details in the Locked House Register (now such information is being communicated through SMS also) and guard against any burglary.

Unlike the prevalent practice in marching beats, the itinerary of Beat Officers is not pre-fixed by the Station House Officer. The Beat Officers know better where to patrol at what time be it covering milk booths early morning, school areas, temple festivals, theatres releasing a new movie, isolated locked houses etc. They carry walkie-talkie sets. The superior officers can ascertain their location and meet them.

The Beat Officers attend to all regular duties in their respective beat areas bandobust duties, attending to any 100 call, serving summons, sending witnesses to courts, executing warrants, securing wanted accused, assisting in investigation/petition enquiries etc.

To begin with, the Police Assistance Centres (PACs) were functioning from thatched sheds built with public assistance. The first permanent structure, was built at Alwarthope by the muslim community, who had even resisted vehemently our initial attempt to put up a thatched shed on the outskirts of this hamlet, because of police action in flushing out some fundamentalists harboured there. However, the services of Beat Officers during a flood, in rescuing people and properties, moved them. They raised Rs.50,000/-, built this first concrete structure in the heart of the hamlet and invited the Beat Officers into their community.

The Hon'ble Chief Minister inaugurated one such Centre, while inaugurating a "Uzhavar Santhai" (Farmers' Market), which led to construction of permanent structures at 50 places, from the Local Area Development Funds of the MLAs and MPs. The strategy, thus, got institutionalised not only in terms of

infrastructure, but in the hearts of the communities as well.

This service has created a bond of mutual trust, facilitating free flow of information and forging a partnership between police and community. Sheer presence of Beat Officers on the streets prevented drunken-brawls, eve-teasing, activities of local rowdies etc., which, generally, go unreported to police stations. Familiarity and improved visibility instilled a sense of security in the community; and helped Beat Officers in isolating strangers and criminals, enlisting community participation in overall crime prevention. Empowerment of Beat Constables enabled them to act on various local issues, depending upon the ground realities.

Neighbourhood police presence, grass-root intelligence and public support with active participation helped police to nab wanted criminals, who remained unknown hitherto. By effectively intervening in inter and intra-group issues at local level, police succeeded in maintaining public order.

This system has gone a long way in extending the severely strained police resources. Continued presence and the services rendered by Beat Officers instilled sense of security, especially among the poor, women and senior citizens, who got quick solutions to their problems at their doorsteps.

This is the first step towards re-integration of police into the fabric of the community.

Complaint/Suggestion Box System

The complaint/suggestion box system, primarily aimed at enlisting participation of the poor and those, who want to maintain anonymity and yet participate in policing. Boxes were placed at different locations in the city, the letters were collected daily and acted upon quickly, thereby, encouraging such informants. A number of valuable information and suggestions were received through complaint boxes, though a few were found to be misleading and motivated.

This process facilitated free flow of information and access to public opinion. While freely expressing their views, the public also provided feed back on system evaluation, which enabled continuous refinement of the strategies. No doubt, this system

opened out channels for valuable community-based intelligence, which, otherwise, could not have been tapped, so easily, from anonymous sources.

Wide Area Network

For computerizing and networking all the police stations and officers, the Member of Parliament contributed Rs.30 lakhs from his Local Area Development Fund towards this project, which became operational in July 2000.

Being a tool to streamline administration, Wide Area Network (WAN) enabled filing of complaint at any terminal, thus, preventing any refusal or tossing of complaints on point of jurisdiction. It also aimed at providing information to the public on status of their complaints and arrested persons. This strategy provided a platform for people-friendly policing - vastly improving the service delivery. While streamlining departmental administration, it has taken police closer to the public and made its functioning more transparent, responsive and interactive. A number of information and suggestions are received through e-mail; thus, providing a platform to that echelon in the society, who can make effective use of technology, while participating in policing, to improve quality of life in the community.

Helpline for Women in Distress

The strategies at macro level, as already discussed above, basically address general issues to reach out to the community; whereas, the micro level strategies focus on target groups, like Women, who, in a mandominated Indian Society, are driven to silently tolerating all types of atrocities against them. The major concern areas for the women victims are harassment of different types - both at home and outside.

A helpline for such women in distress was launched on 15th August 2000, as per Government Orders, with a toll free connection 1020 (now 1091), installed in the Women Police Station, to attend to any distress call. The calls are received round-the-clock, only by women police teams, to make the victims feel comfortable in sharing their problems.

Immediately, on receiving a call, the team visits the spot and renders instant relief by organising short-stay homes, medical care, etc. to comfort the victims. With the objective to reunite the victim to its family, the helpline utilizes services of professional counselors, attached to the woman police station. Whenever such efforts do not yield the desired result, then criminal action is pursued.

Taking it beyond the parameters of the government order, the woman team identifies the root cause, for providing long term solutions, like providing free legal aid, giving support for education and vocational training. In addition, loans and finances are also organised and employment opportunities created, with a view to make these woman victims financially self reliant and deter them from being driven to crimes in desperation.

The helpline also facilitates de-addiction programmes for drunken husbands. Rehabilitation of woman criminals are also undertaken. All these activities are pursued with the support of NGOs, Woman Organisations, Social Welfare Department and connected Government Agencies, who constitute the Helpline Committee to monitor, coordinate and advise on the working of the helpline. It also has representation from woman advocates and students from woman colleges. In order to effectively reach out to this target group, the committee also visits atrocity-prone areas in mobile counselling van and creates awareness on woman's rights and rationale of the women helpline.

In nutshell, this forum has succeeded in addressing all victim-care issues by creating awareness and support mechanisms for empowerment of women in making them self-sufficient and self-confident, to lead a respectable life.

Slum Adoption Programme

This micro level strategy is founded on the premises - **“The criminals are not born, but society makes them”**. It is focused on addressing the basic issues of criminalization in the slums, which were found to be not effectively covered by the beat system.

A slum environment is characterized by unskilled labourers, with inadequate earnings, finding difficult to run large families. To make a living, they are forced to indulge in crimes, like robberies, drug trafficking, etc. The family head spends entire earning on him, leading the house wife into debt trap and even forcing them to commit crimes, like vending illicit liquor, drug peddling and even prostitution. Mother forces her children to work, to support the family; thus, depriving children from education and making them child labourers. The children, in such an environment, grow up as delinquents and potential criminals. Thus, the socio-economic conditions in slums provide ideal breeding ground for criminalization.

Considering the potential for criminalization and history of resistance and even attack on police, 12 slums were identified for adoption during January 2000. To gain access to these hostile areas, initially, efforts were taken to improve the living conditions by providing basic amenities, like water, sanitation, etc., with the help of NGOs and Govt. Agencies. Steps were taken to create awareness on health and hygiene and medical camps were organised. Efforts were taken for promoting general awareness on drugs and alcohol addiction, AIDS and domestic violence through street plays and documentaries.

This programme, apart from addressing basic issues to improve the conditions in the slums, for gaining their acceptance; also undertook specific steps, aimed at following target groups, to bring about the desired changes.

WOMEN & CHILDREN

Women and children were the first target groups, addressed on priority. Self Help Groups (SHGs) were formed and vocational trainings organised for the women. Loans and finances were extended, creating opportunity for their gainful employment, to make the slum women financially self-reliant and release them

from debt-trap. Once financially sound, the women sent their children to schools. Study materials were supplied and tuitions arranged for the children. Even policemen took classes, wherever teachers were not available.

Benefited by education, sports and extra-curricular activities, these children could look up towards a better future, than becoming a child labour, juvenile delinquent and potential criminal. Thus, the empowerment of slum women solved the problems of school drop-outs and child labour, thereby, tackling criminalization of women and children. This was the first step to arrest the process of criminalization in slums.

YOUTH

Being the toughest and most critical target group, the slum youth was encouraged and supported to continue education, with the help of service organizations and philanthropists.

Wherever there was no potential for the slum youth to pursue education, meaningful employment opportunities were created by organising job counselling and placing them with security agencies, run by retired police officers. With the help of NGOs and under various government schemes, vocational trainings were organised and bank loans arranged, facilitating their self-employment.

They were encouraged to participate in games and sports. Competitions were held between slum youth and police, thus, creating a bond of mutual trust and understanding. The slum youth was no longer looking at the police with suspicion and hatred.

CRIMINALS

Access into the slums and the positive changes in the environment cornered the ex-convicts to surface and voluntarily approach police, seeking rehabilitation. With a view to enable them to turn new leaf, counseling was provided, trainings organised and loans

and finances were arranged for them even the police (Beat Officers) stood guarantee for loans, enabling employment and self-employment of these ex-criminals, including those even involved murderers.

In addition to the individual cases of rehabilitation, even an entire community indulging in crimes turned a new leaf. In a hamlet called Kulapatti, the entire community was engaged in illegal brewing of country liquor and committing other crimes. We found it extremely difficult to access the hamlet, because of very narrow and poor road conditions. Any police move gave enough time for this community to escape and evade arrest. During emergencies, the people living here were also suffering to cover this 4 kms stretch of bad road. Sadly, once a pregnant lady had to deliver on the street, before she could be rushed to a hospital, which is beyond imagination in any present day urban scenario.

On our persuasion, they volunteered to stop all illegal activities, in lieu of a proper approached road. They were advised to prove good behaviour under 6 months' watch, which they complied. At the end of 6 months, we coordinated with the local civic body, NSS Students, NGOs and also involved the community in laying a proper road. Today, it is a corridor of bond between the police and the community of ex-criminals. The community has, thus, been mainstreamed to a better life. bringing in a sea change in their quality of life.

This programme has achieved access and integration of police into these closed communities, which is very vital from crime prevention view point.

In addition, this programme has also contributed to the improvement in the quality of life in the slums. Community Assets were created in these slums, particularly, community toilets, built by NGOs and maintained by women SHGs of those slums. Community Centres were constructed for conducting training classes for women and youth, for giving tuition to children and running adult literacy programmes. These centres run libraries and recreation facilities. All community functions and meetings are

held there. Environment was improved by involving the community in tree plantation; thus bringing in an overall change in the lives of slum dwellers.

In nutshell, this programme has acted as a catalyst, in addressing all basic issues, to prevent the process of criminalization and turning the slums from dens of criminals to pockets of hardworking and productive communities, holding their heads high.

MONITORING

These strategies were monitored both at the macro and micro levels through committees, periodical reviews and feedback, received through the built-in system mechanisms in each strategy. Assessment was done with the help of students from Department of Social Work and the results were very encouraging. In fact, slum adoption programme was taken up on the basis of a survey, highlighting the need for focused approach for this target area/group.

Research scholars and NGOs also conducted surveys on this project. One such study was done by Dr.S.Balasubramanian and Dr.V.Anandamurthy from the State Resource Centre, under the Union Ministry of Human Resources Development, who brought out their findings in a book in tamil “Kanivudan Kaavalargal” and then translated into english, under the title, “Compassionate Cops”.

A short film titled “Friendly Neighbourhood Cops” was made on this project by the Department of Administrative Reforms and Public Grievances, Government of India and circulated to all States.

REPLICABILITY

These strategies are easily replicable since they are affordable, aiming at optimizing the available resources. They are compatible to the local socio-cultural profiles. They are adaptable to the

existing systems and are acceptable to the communities because of people-friendly approach. They can be sustained because of sheer simplicity. These strategies can be tailored to suit the policing requirements of any area, without disturbing the prevalent structures and processes.

Further, if not the entire comprehensive model, certain components can be replicated and improved upon by innovative leaders. Such developments are but inevitable, keeping pace with changes in technology, socio-economic scenario and policing priorities; thus, would go to reinforce success of the strategies and philosophy of community policing, at large.

THE JOURNEY

Built on a strong platform of community participation in policing, these initiatives have stood the test of the time. Successive officers have, in fact, refined some of the initiatives, making use of the evolving technologies and considering the policing priorities. Now, a centralised data-base is being developed, on the details collected by the Beat Officers on the households and establishments, such as the names, occupations, vehicles owned, possession of Passports / licensed weapons, etc. This is going to replace the registers maintained at beat level and can be accessed easily by police stations, on-line and by all Beat Officers, over wireless. Such data-base may be useful to other agencies also. Similarly, any member of the public can now pass on any information/complaint through SMS. Public can also intimate about their temporary absence through SMS, instead of entering in Locked House Registers. Once the SMS is received, the control room server automatically forwards the message to the jurisdiction officers, who take immediate necessary action in the matter. The action taken on the information/complaint is intimated to the sender through SMS. This system is being widely used for passing on information relating to eve-teasing. This system protects identity of the informers/complainants.

CONCLUSION

These strategies, introduced during 1999-2001, have produced positive results- both tangible and intangible. The tangible results show substantial fall in reporting of crimes against human body, property, etc. The total reporting of crimes of all types have dropped from 11289, recorded during the year 1999 to 8005 during 2000, which have further dropped to 7750 during the subsequent year. Though there were remarkable fall in reporting of crimes, the city recorded four-fold increase in registration of cases under “crime against women” from 40 cases reported during the year 1999 to 160 cases registered during 2001, may be, due to the increased awareness through women helpline, introduced during August 2000, enabling the empowered women victims to come forward and seek justice. The most satisfying result has been absence of communal disturbance and an improvement in the police performance in terms of increase in the percentage of crime detection and recovery of stolen properties. Police performance in crime detection registered a steady increase from 78% recorded prior to 1999 to 86% achieved in the year 2000, which reached the peak at 95% in the year 2004. Similarly, the recovery of stolen properties rose from 41% prior to 1999 to 74% during 2000 and reached 90% during the year 2005. The year 2007 has registered 90% detection of crimes and 87% in recovery of stolen properties.

The intangible results are difficult to quantify. It has given police, an extension of its resources, reduced workload, enhanced job satisfaction, improved performance, transparency, empowerment and high morale. Above all, this process has reaffirmed public confidence in the law enforcement agency, bringing in partnership, a realisation of 'Shared Responsibility', leading to pro-active public participation in crime prevention. It has ushered in mutual trust, not only between police and public; but, to top it all, among the communities, leading to better understanding, in ensuring better quality of life.

The following are some of the recognitions, this project received, within the country and abroad :

- First Indian Police Project to receive “**International Community Policing Award**” for 2001, from the International Association of Chiefs of Police (**IACP**), Washington, during their 108th Annual Conference held at Toronto.
- “**Dr. Malcolm S. Adiseshiah Special Award**” for 2001, conferred by State Resource Centre, Chennai, under The Union Ministry of Human Resources Development.
- “**Innovation in Governance Gold Medal**” for 2002, presented by the Commonwealth Association of Public Administration and Management (CAPAM), at Glasgow.
- “**The Innovation for India Awards**” for 2006, conferred by the Innovation for India Award Foundation, headed by then Chairman and Director General, CSIR.
- “**The Prime Minister's Award for Excellence in Public Administration**” for 2006-07 by the Government of India.

J.K. Tripathy, IPS.,
Inspector General of Police,
Headquarters,
Tamilnadu

Quality Initiatives by NHPC

Vineet Diddi

THE CONTEXT

NHPC Ltd., a schedule 'A' Enterprise of the Govt. of India, was established in 1975. With an authorized share capital of Rs. 15,000 crores and an investment base of approximately Rs 25,400 crores, NHPC ranks as a premier organization in the country for development of hydro power. Accredited with ISO-9001:2000, ISO-14001:2004 & OHSAS-18001 certificates for its quality system, environment and occupational health and safety concerns, NHPC is a multi-disciplinary organization and has acquired sufficient expertise and state-of-the-art technology for investigation, planning, designing, executing and operation & maintenance of both large and small size hydro power projects. It has a strength of highly qualified and experienced professionals in design and engineering, geo-technical engineering, construction planning and construction management and operational and maintenance technology for execution of hydroelectric projects. The technical and engineering proficiency and experience of NHPC places it in a leading position in the field of hydro power development in India and neighboring countries.

In its existence of more than 32 years, NHPC has become a premier organization for the development of hydro power in India with the corporate vision of being “A world class, diversified and transnational organization for sustainable development of hydro

power and water resources with strong environment conscience”. It has executed 13 major projects in India with an installed capacity of 5175 MW on ownership basis including projects taken up in joint venture.

OPPORTUNITY/PROBLEM

In the early years of the formation of NHPC, quality assurance and inspection of products and ongoing construction works at hydro projects were carried out only on the basis of experience of the officers concerned without any standardized documented procedure. NHPC took a leap forward in the concept of quality management through its Quality System Approach by establishing “Inspection and Quality Assurance Division” at NHPC Corporate Office in the year 1985.

With the massive growth plan envisaged by NHPC it became necessary to adopt a management system which can standardize each and every process of NHPC. At the same time quality issues started taking prominent positions in the global market. To meet the challenge in market quality, cost, sticking to deadlines and customer satisfaction assumed important parameters. The only possible solution was to adopt a tested Quality Management system. 1998, witnessed to go for the quality certification transforming all activities as quality savvy and achieving greater customer satisfaction i.e. reliable, dependable and uninterrupted supply of electricity. The strength was charged and receptive top management.

AIM, GOAL(s) AND OBJECTIVES

The Aims/objectives to strive for Quality Management System were :

- development of vast hydro potential at speed with optimum cost through standardizing the construction monitoring and

operation & maintenance processes.

- generation of cheap and reliable power through hydroelectric projects.
- to maintain optimum gestation period for project development by reducing the processing time at various relevant functions.
- to improve employees' performance through motivation and training.

SETTING THE SCENE

So as to achieve the desired goals, the management opted to adhere to quality system through the specialized cell i.e. Quality Assurance Group, wherein a team constituted started with engaging a consultant to train the employees, documentation and facilitate the QMS implementation. A Quality team was structured by nominating a coordinator from each departments at corporate Office. The team was imparted requisite training with regard to quality awareness, documentation, legal awareness and inputs on auditing. This helped framing the standards, processes/procedures of respective units. Finally with the guidance of consultant, NHPC Corporate Office was granted certification for ISO-9001:1994 in 1998. This certificate was valid for three years. NHPC went for new version of ISO-9001 i.e. ISO-9001:2000 and granted certification which is continuing.

THE EXPERIENCE

Quality sensitivity is pivotal in meeting contemporary business challenges. This strive translated NHPC Ltd. to a quality corporate office and enhanced its market position. Though Initially this was an unpalatable experience to the employees, since all the activities needed standardization, its implementation helped NHPC to understand the crux of process approach with the realization of relevance of each activity to Quality.

OUTCOME AND IMPACT

Total Quality Management lead NHPC to understand the need of documentation for purchase of goods, construction materials and its services apart from “Quality Manual” (which is mandate requirement of ISO-9001). Accordingly an “Inspection Manual” which encompasses approved norms, standards, procedures, practices and guidelines pertaining to quality assurance and inspection for equipment was prepared and then implemented and a “ Model Quality Assurance Manual for site supervision of Civil Works” which provide the description of quality assurance procedures for site supervision to ensure the structure installed within the frame work of civil works meet the standards as stated in the Contract documents and also intended by the project designers. NHPC also prepared “Model Quality Assurance Plans” for all the equipments covered in different contract packages and all the construction materials being used at project sites are prepared on the basis of tests/ inspection clauses specified in technical specifications of international / national standards. The prime objective of bringing out this documentation was to establish a systematic and factual/ documented approach towards the quality material and equipment.

LESSONS LEARNT

Learning from the benefits, NHPC has planned to take Quality Management System certification to its O&M projects. At present nine O&M projects of NHPC are ISO-9001 certified. Training & HRD department of NHPC has also enlisted certain programmes in its annual training calendar e.g. Lead auditor courses, internal auditor courses, awareness courses etc.

It was also envisaged by the NHPC management that quality not only lies in providing quality product to the customer but a quality conscious organization must take care of the effects on

environment due to its different activities and should take care of the occupational health and safety of the employees . Corporate office also went for ISO-14001 and OHSAS-18001. Eight O&M projects of NHPC are ISO-14001 certified and they are on way to OHSAS certification .

Implementation helped streamline all the activities of corporate office as well as of projects. It boosted a team spirit among employees, evolving the sense of responsibility and inclusion.

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Initiatives of VHAI Experiences in Health, Development and Rehabilitation... The Journey has just Begun

Alok Mukhopadhyay

Reaching out to communities living in difficult areas through health and development programmes is ever challenging. This article deals with successful and sustainable strategies involving empowering of communities in remote corners of the country and in disaster situations. It is pointed out that through this process; one not only empowers the individuals, but also the society at large. These initiatives not only result in immediate improvement of health and development of immediate population concern, but also create an enabling climate for long term overall socio-political economic development to take place.

The Voluntary Health Association of India (VHAI) is one of the world's largest associations of voluntary organizations formed by a federation of 27 State Voluntary Health Associations in the country which are further linked to more than 4500 health and development institutions across the country and a network of more than 100,000 health workers. VHAI also works closely with a large number of associates and partner organisations in India and abroad. It has taken significant initiatives in development work at the grassroots level in remote India through comprehensive health and development projects known as KHOJ and Aparajita. Adding to this, VHAI has a force of over one hundred thousand village health workers who are the backbone of the rural health system in India.

For the past 38 years VHAI has been assiduously pursuing a vision of making health a reality for the people of India, with

priority for the less privileged millions. Its mission is to assist the initiatives in the voluntary sector to achieve this goal with the involvement and participation of people. The organizations primary objectives also encompass promotion and distribution of health services in India.

VHAI tries to achieve its goal through campaigns, policy research, advocacy, need-based training, media and parliament interventions, publications both audio visuals, dissemination of information and running of health and development projects in remote areas. VHAI works for people centred policies and their effective implementation. It sensitises the general public on important health and development issues for evolving a sustainable health movement in the country with due emphasis on its rich health and cultural heritage.

The KHOJ project is an initiative of the VHAI to bring about a holistic change in the lives of its beneficiaries by uplifting the socio economic and health status of its community. Its primary objective is to develop an enduring partnership between VHAI and the implementing organization, thereby strengthening the latter to effectively implement innovative, self sustaining community health and development programmes.

The Aparajita project in Andaman and Orissa is an initiative to provide relief and rehabilitation in areas affected by disasters and calamities and rebuild a better life for those who have been affected.

BACKGROUND

By the time India won Independence in 1947 after two centuries of colonial rule, socio-political and economic degeneration had reached a level where hunger and malnutrition were universal. Half the children died before the age of five, primary health care was non existence and nine tenth of the population illiterate. According to the National Planning Commissions Subcommittee on Health (1991), in 1942 :

- Out of every 1000 children born, 162 died before they were one year old.
- For every 1000 live births, 20 mothers lost their lives.
- Malaria accounted for 100 million cases every year, out of which 1 million died.

The ratio of health personnel to population is evident for the inadequacy of services those days :

- 1 doctor for 6000 people
- 1 nurse for 4300 people
- 1 midwife for 6000 people.

Given this backdrop, evolving a health plan for Independent India has a daunting task. Following recommendations of a high level committee headed by Colonel Sokhey, foundations of comprehensive rural health services through the concept of primary health care was laid. They also conceptualized a broad development approach to improve the health status of people of India, including a clear plan to combat communicable diseases, and the population programme. They also envisaged the close involvement of those trained in non western systems of medicine to develop services. Built on these foundations, significant developments and impressive growth in the infrastructure and personnel for health was required. In spite of improvement in the state of health in India, particularly in the dramatic decline in the mortality rate, the health scenario remains dismal, survival standards comparable to some of the poorest nations of Sub-Saharan Africa.

Given this overall situation and backdrop of Voluntary Health Association of India and the deep concern of the organization to find breakthrough in health status of the people living in remote and difficult areas from extremely low economic status, an innovative approach of tackling health and development issues, was evolved named KHOJ. Project Aparajita was conceptualized for communities in disaster situations.

THE KHOJ INITIATIVE

Khoj is a Hindi word which means "SEARCH". The philosophy of Khoj is to search for innovative methods and strategies to combat community health related problems in remote areas. It also aims to search for viable alternatives to existing health care development models being followed by the government and some voluntary organizations. Khoj puts this philosophy into practice by lending support to innovative projects by small voluntary organizations in neglected areas which can be replicated elsewhere in the country without any recurring requirements of heavy infrastructure or investment which besiege some of the larger projects. The objective of Khoj is to explore the untapped potential of the smaller projects that have been working towards the promotion of community health but have been hindered from attaining excellence either due to paucity of resources or capabilities.

VHAI emphasizes on sustainability as an essential feature of the project, to ensure that the health and development programme of Khoj have a lasting impact. To ensure sustainability, inputs are provided in the initial stages itself. Programmes are aimed to support community health or development interventions at grassroots level organizations by drawing upon the achievement of successful projects. Support of the government machinery is also sought, to arrive at a holistic programme of community health. Focusing on local needs, especially of the underprivileged sections, are an integral component of the project.

The focus has also been on utilizing the strengths of panchayats. This opened up an enormous potential of involving people and the elected village leaders, many of whom were women, in a process of transformation of the development scenario in the village leading to overall development.

The Khoj project brings about the holistic change in the lives of its beneficiaries by uplifting the socio-economic and health status

of vulnerable communities. Following various parameters, the pockets of intervention identified under the project KHOJ were ensured that they sufficiently represent social, economic, political, geographical and ethnic varieties of the country. Broadly these locations are in geographically difficult areas, remote mountains and desert areas inhabited by the indigenous people, where social and economic status is highly polarized and the overall feudal infrastructure is still not dismantled.

The experience of working in these areas will give the organization experiential learning to upscale similar activities in other vulnerable pockets of the country. One of the critical elements of the project was to identify local partners in the voluntary sector who may not have tremendous experience of working but are motivated and are also rooted in the local community.

At the beginning, three pilot projects were launched in July 1993 in geographically different areas of the country, followed by five more projects the following year. Nine projects were further initiated in 1996. All these projects are now self sustained. (The detailed lists of all the projects are given in annexure 1.)

In the current phase, the Khoj project is aimed at strengthening the network of SVHAs as well as the disaster management preparedness of Orissa Khoj project and a pilot urban health centered programme is operating in-

- Jammu and Kashmir VHA, Shehjar Khoj project
- Madhya Pradesh Voluntary Health Association
- Voluntary Health Association of Sikkim
- Khoj Katwa- West Bengal
- Aparajita, Orissa

Monitoring of all the Khoj projects is a participatory and an ongoing process in which VHAI, SVHA's, Project staff and village committees are involved. A detailed scrutiny of the activities, reports, records and intensive interactions with the community and peoples group is done. Based on the bottlenecks that are observed and the feedback received, the activities and action plan are modified.

An enduring partnership between VHAI and the implementing organization, has been built focusing on the primary objectives thereby strengthening the latter to effectively implement, innovative, self sustaining community health and development programmes.

Over the period of time a marked change has been seen in the areas of health, community development, community organization and environment in all the Khoj projects. However, all projects are at different stages of achievement due to their differences in time of initiation and considerable variations in local situations, geography, culture, political scenario, law and order situation. The three projects mentioned below reflect the initiatives of the implementing agency under the KHOJ project :

Peoples Action for National Integration in, U.P

Peoples Action for National Integration (PANI) worked in 66 most backward villages in Sohawal blocks of Faizabad district, suffering both from human neglect and natural calamities. People needed extra help but even routing basic government services were not available when the project began in 1996. Health awareness was negligible and superstition reigned. Hygiene and sanitation were in the poorest state. Untrained people conducted child deliveries under most unhygienic and appalling circumstances.

Under this backdrop PANI started its work, to mobilize, and involve the community to build up their capacity and sensitized the government, local leadership and Panchayats. PANI worked and brought all these fronts together and rich dividends were reaped by the project.

PANI achieved long term change in health, by initiating developmental issues like non formal education, income generation, agriculture and land development through a motivated cadre of trained community level workers, TBAs, built to ensure minimum level of curative, preventive and promotive health care services at village level. A small laboratory was set up to carry out general pathological tests, with referral services. Some of the major

achievements in health like diarrhea deaths dropped from 22 percent in 1996 to 3.29% in 2003. Similarly ARI incidence dropped from 21% 9.36%. Malaria and TB constituting morbidity of 0.23% and 0.17% are very under control. There have not been any deaths due to ANC coverage, children immunization level has risen from 10.4% in 1996 to 78% in 2003. As there are 104 trained TBA as against none in 1996, the number of child deliveries conducted by them and other trained personnel has risen from 7% in 1996 to 94% in 2003. The IMR has also reduced from 129 to 20 in just 8 years. The project has also ensured that Panchayat funds meant for village development be properly utilized. With the help of Panchayats, activities related to water and sanitation, construction of road and getting benefits to villagers under various government schemes like Pension for widows and handicapped, Balika Samridhhi Yojna, etc was ensured and finally to sustain the activities, community organizations were set up to enable people to solve their own problems and ensure livelihood options for the community.

The community today is well organized, aware and empowered and local leadership readily forthcoming to help. The villagers have crossed the formidable barrier of backwardness substantially and a better future awaits them. All the activities initiated under the project are sustained through the active participation of community organizations formed by the organization.

Manav Sewa Kendra in Varanasi, Uttar Pradesh

Manav Sewa Kendra located in the rocky infertile terrain of Uttar Pradesh covers 12 villages, an area which suffered from acute water shortage in summers and early monsoons. The area being tribal, the challenge involved bringing the community to the mainstream. The majority of people were unskilled workers, many families earned their livelihood from gathering *tendu*, tamarind and *mahua* leaves from nearby forests. Attaining sustainability was the main focus of the project. The project provided linkages with banks

for poor families to ensure financial support to their micro enterprises. Initiatives for skill building of TBA's along with financial support to carry out deliveries was provided for, all newborn children have been registered in immunization programmes. Due to the interventions under the project, the number of child deaths has been lowered. IMR has been reduced to 53 and the under five mortality is down to 85. Eradication of diarrhea deaths among the age group and under five years of age has been another significant achievement. A marked preference for delivery assisted by trained dais/nurses has been inculcated by the project, resulting in an increase in safe motherhood and the complete eradication of maternal deaths. The overall quality of life of the villagers has been enhanced, economic and living status among poor/deprived and under privileged communities has improved considerably. There has been 95% increase in school enrollment of children in the 6-14 age groups in standard 1-8. Empowerment of village level CBO's and groups like gram panchayats SHGs, DC and user groups has been successfully achieved. Skill development programmes have resulted in increased earnings from cattle rearing and small businesses. More houses and utilities have been made available to the poor and the elderly.

Malnutrition was a chronic problem in the area, as majority of the community had fewer livelihood options and women nutritional status was poor. The status has improved, thanks to efforts of the village staff and residents by initiating income generating activities, supplementary nutrition and mid-day meals for all 3-6 year old in 10 early childhood centres for 400 children. De-worming and quarterly health check ups of under five children.

Since the project is in its withdrawal phase the emphasis is on building the community capacity and maximum utilization of existing services, to make sustainability the main focus of the project. Community capacity in the area of economic and health improvement, has been effective among the village residents especially

Shehjar KHOJ by Jammu & Kashmir Voluntary Health Association

The Kashmir valley, a largely mountainous region has a majority of its population living in remote rural areas. The people have been facing hardships for the past 16 years due to the prevailing armed conflict in the State. The health infrastructure network had been destroyed and people suffered for want of health care. Most of the time, ailing people would not go for treatment but look for alternatives like vairs/hakims/quacks or religious healers. Most of the villagers ignored health care aspect. The project Shehjar Khoj to address the given issues was undertaken by the J & K VHA in Khan Saheb block, in consultation with the district administration in 2004.

Today the situation is steadily improving. The integrated health and development efforts by J&K VHA, while meeting health needs of the community also addressed the issue of chronic poverty and started appropriate economic activities and disaster management activities. The project has been able to build up a highly committed team of workers comprising a trained medical officer, health supervisors, village health workers, volunteers and TBA's. The active participation of doctors provide full support to the village residents and health workers for the benefit of the community. In all the villages health awareness meetings are being organized to generate awareness among villagers regarding hygiene and sanitation. A substantial success in this area has been achieved, 88% of child deliveries are conducted by physicians, the remaining 12% were attended by trained birth attendants. Health education sessions are organized for TBAs, SHG's and the community, issues relating to HIV/AIDS, ANC, Hepatitis, Immunization are covered during the session. The women SHGs faced the major challenge of opposition from male members of the community, however with the support of KHOJ workers, 20 self help groups have been initiated.

Leanings from the KHOJ Project

In this large, complex yet vibrant country health promotion is a

challenging task, but it also holds the key to dramatic change in the global health situation. Incidentally, the solution to these complex problems clearly exists in many innovative successful experiments within India itself:

Involvement of the larger civil society, including traditional healers, NGOs and private sector in the programmes can make significant difference in all aspects of health promotion. Till now proactive effort has not been made towards their larger involvement. In most part of the country, key to people's better health lies in larger areas of social and economic development. Therefore health professionals and activists need to take a more committed interest in these issues and KHOJ has been able to achieve the involvement of the civil society at large.

The existing governmental health structure is operating in an unimaginative manner, one that does not inspire confidence about their ability to cope up with current problems and future challenges. Reconstructing and revitalizing the sector is an urgent need. The social dimensions explored by KHOJ initiatives to meet health care service demands have taken a giant shape and many social activists have adopted similar strategies for rural development in remote areas.

The health and development initiatives under Khoj projects have been able to reach some of the most difficult areas of the country. The project has been able to put health in par with development and prove that sustainable effort is important to develop and build local human resources.

Khoj has been able to demonstrate that external charismatic leadership is not the only need to develop community projects; the local community people can successfully implement projects provided they are given proper financial and technical support.

CASE STUDY

Ms. Minakshi Swain 32 is the secretary of Maa Santoshi Self Help Group of Mangarajpur village in Kujang block of Jagatsinghpur

district. She has been playing very pro active role in implementing the Community Health and Development Project of Voluntary Health Association of India (VHAI) named "Aparajita" in Orissa. "Aparajita" is the relief, rehabilitation and long term development initiative of VHAI in post Super Cyclone period since 1999.

Minakshi has studied upto class 12th and had to discontinue her education despite her interest to continue further. Her father a poor farmer, was not able to support her education due to the poor financial condition. Her two brothers' education would have remained in-completed had money been spent on the completion of her formal education. Minakshi was forced to look after house hold chores and other work. But since the beginning she has been giving inspiration to other girls of the area to pursue their education, learn skills to earn their own income. Minakshi has one daughter and one son and is determined to give them good education. Her daughter studying in class 7th is keeping good merit. She is aiming to be a doctor and Minakshi is giving her encouragement to study further, thus setting an example for other girls to follow.

Minakshi laid foundation of her involvement in the village development work through the Self Help Group. She along with other twelve women members of the community have created a pressure group for effective implementation of local governance, monitoring the village development activities, plantation, improving sanitation condition etc. The Mid Day Meal Programme in the school has been taken up by Minakshi's SHG. Thus ensuring quality and quantity of food for students and suggesting others to follow the same guideline for Mid Day Meal preparation.

Minakshi is enterprising too and has been actively involved in the village development activities. As a process of empowerment she formed more than 20 self help groups while the community was in distress after a Super Cyclone. The groups started to save regularly, initiated income generating activities and got involved in various development activities in the village. After seeing the success, 44 SHGs were formed in the Panchayat. Minakshi took

leadership in mobilizing and developing these groups. These groups brought a lot of change in the village environment by working together. Plantation, setting up a hospital, construction of approach road to the hospital, managing Public Distribution System and Mid Day Meal etc were some of the activities taken up by these groups. Impressed with Minakhsi's leadership and group management skill, the bank showed interest for linkage with the group, and gave the group bank loan in two phases- In first phase they received Rs 25,000/- with Rs 10,000/- subsidy and in the IIInd, they received Rs 2,50,000/- with Rs 1,25,000/- subsidy. After knowing the procedure of bank linkage Minakhsi facilitated the process of linkage among many other groups by helping them to update their records, accounts, group functioning process and regularizing savings activities.

Minakhsi tried to link all the SHGs with some income generating activities. The groups are now involved in different activities such as agriculture, poultry, spices making, running of tent house etc. The women started to earn and supplement their family income. Besides these initiatives, puffed rice and snacks processing unit has been set up in Minakhsi's leadership which provides employment to 37 women from 3 self help groups. The activities in the unit are carried out as per the business plan that Minakhsi's group has worked out in consultation with VHAI. Within the 1st year this small enterprise was able to meet the break-even point. Now the group is making good profit. And each member is able to get their share of Rs 3,000 to Rs 3,500 monthly.

The groups utilized their savings not only for domestic expenses, but the members are now able to take care of education and health of their children and family. Through constant motivation, mobilization and assistance Minakhsi has made members of 11 groups of her village literate. There used to be large number of school drop outs among girl students. After Minakhsi's persuasion the rate of school drop out has come down considerably. Minakhsi's contribution for developing the health status of the

people in the panchayats is also remarkable. Sathya Sai Seva Trust has set up a hospital in the village. But it remained non-functional for days together as there was no approach road to it, Minakhsi convinced women members of her community and they built the road by contributing free labour and now the hospital is regularly serving the community. Her effort in complete immunization among children, antenatal and post natal care for pregnant women, promoting use of safe water and sanitation facilities within the community is also praise worthy.

Khoj has also demonstrated that approach to development projects need to be flexible, transparent and need based. It is possible to motivate the community provided the organization becomes part of the community. No community project can succeed through only external and outside control.

The activities undertaken under the project need to be according to the need and ability of the community to participate in the development work in order to succeed. Through the decentralized approach in the Khoj project, a plethora of possibilities have also opened up, such as a school teachers becoming motivators and health educators, local healers and TBAs becoming additional work force to strengthen the human recourse.

The local festivals or special occasions can be used as a platform to discuss, plan and implement programmes as well as educate the people, panchayats and groups and become active partners in implementing the programmes.

Based from the learning of the earlier Khoj projects, the current projects have included activities of community empowerment, self help and farmer groups have been formed and are being linked to banks and other financial institutions. Aggressive information dissemination initiatives are also being undertaken to inform the community about the government's right based programmes. These initiatives of the government are immensely useful to improve the socio-economic condition prevalent in the community and aid the organization fulfill the objectives comprehensively and ensures sustainability of the activities.

The Aparajita.....Disaster to Development, Innovations in Practice

Since its inception, VHAI has played an active role whenever disaster has struck, any part of the country, with active participation of State VHAs, civil society, panchayats and local community people. VHAI has successfully been involved in relief and long-term rehabilitation of earthquake victims, which devastated Kutch in January 2001, the tsunami in the Andaman and Nicobar Islands in 2004, as well as the super cyclone on Orissa's coast in October 1999. In all these areas, our involvement began with immediate relief in the form of medical support, providing food and shelter to vulnerable families. Besides relief, our rehabilitation and development work in these areas were unique and received wide spread appreciation, particularly with vulnerable groups like fisher folk, women and children, artisans and elderly persons. These programmes have received considerable support and appreciation from the Prime Minister's National Relief Fund and other national and international organizations. Our other experiences in the past include relief operations in the Bhopal gas tragedy in 1984, Maratha Earthquake in 1993, Uttarkashi earthquake and floods in U.P., Bihar Orissa and drought in Rajasthan. VHAI has also brought several publications on 'Disaster Management' and its experiences for ready reference, for those working in these areas.

What began as a response to the devastating cyclone in Orissa gave way to the creation of Project Aparajita, a natural outcome of VHAI's close association with people and their health and development issues. Aparajita was a response to the people's misery and helplessness caused by such devastating natural disasters.

Aparajita, Orissa

The State of Orissa has had a history of disasters. The cyclone that ravaged the coast of Orissa was one of the worst to affect the subcontinent in the century. The high wind speeds along with rain for 36 hours damaged infrastructure, flora and fauna, killed, orphaned and injured thousands of people. More than 15 million

people in 10 districts of Orissa were affected. Agriculture and industry in the region was ravaged. Around 10 lakh houses had been damaged rendering millions homeless. To add to the tragedy most of the pockets in the area even before the cyclone, were not accessible and lacked basic health care facilities in terms of reactive intervention. Thus even regular services such as health care, public distribution, communication and transportation were difficult to provide utilizing existing services. However this was an emergency situation and there was an urgent need to address different emerging problems of the community. VHAI response to the tragedy was instantaneous and spontaneous even though the organization did not have a disaster relief or mitigation in its mandate. VHAI to begin with, collected a substantial corpus and sent a senior colleague from Delhi along with disaster management experts in order to conduct and coordinate the relief activities from Bhubneswar. The immediate purpose was to launch an emergency medical and relief operations in the affected areas. The relief teams along with food, medicines, clothes, shelter material and utensils were sent to the affected areas; support was also garnered from doctors for relief operations.

VHAI also established links with the PMO, health ministers, home minister and social justice institutions to support the relief operations. The relief and rehabilitation initiative was named Aparajita or the invincible. Unlike many other short term relief and rehabilitation projects Aparajita demonstrated a successful long term disaster mitigation model based on the involvement of the affected communities through equitable socio-economic development. For most agencies working in the cyclone hit areas of Orissa, there was no difference between relief, rehabilitation and development. While the initial relief phase was marked with chaos, most agencies even six months down the line were distributing relief material no longer required by the community.

Aparajita Orissa dedicated itself to helping the people of Orissa's devastated coastal area precisely in three blocks of Erasma

in Jagatsinghpur, Mehakalpara in Kendra Para and Astarang in Puri and work for their overall socio economic development in the hopes of mitigating any future disasters that may affect the region and its people. Effective community participation is pre-conditioned to sustain disaster management programmes, as in emergency situations the pressure to act quickly increases the risk of implementing short term interventions without community participation fails to take long term development dynamics into account. VHAI was able to achieve the support of the community through their teams dedicated and sincere efforts.

After providing the basic relief services the teams stayed on in the affected areas to make assessment of the needs and to identify key partners for long term relief work. The various government relief agencies were also contacted and their help was taken during the process. After the initial assessment these teams touched base at Bhubneshwar to work out a long term plan. The super cyclone had made things worse in an already burdened area and the first three years were spent on repairing and rebuilding the immediate damages and getting people back to normalcy. Initially started in 15 gram panchayats, the success efforts ensured the work was expanded to 72 gram panchayats in three districts in June 2001. A number of programmes and projects started in this area. The focus and priorities vary but the lateral objectives of health, livelihood and disaster preparedness lie behind all activities and are foundation stone of the programmes, along with community participation.

Tragedy struck again in July 2001, the area was struck by yet another calamity. Floods inundated 21 districts and affected over eight million people. Another phase of relief work started with the government, NGO's and the communities themselves coordinating efforts effectively. Boats previously delivered by Aparajita proved to be of good use and epidemics could be successfully avoided due to the efforts of medical depots with trained health volunteers. The community because of the initiatives were far better prepared, well-equipped and informed. There were many losses and the

population was already at risk as repeated disaster had challenged the communities already low morale.

Aparajita now aims to shift the programme control and implementation to the people in the hope of ultimate sustainability. The process has started and conscious efforts are being made to incorporate not just the existing but also emerging needs in the projects long term vision. The initiatives of Aparajita were earlier occupied with meeting urgent needs, but through integration with increasing local capacities, vulnerabilities have been reduced to support sustainable development. The project is all set to go into the development stage that builds on people's strengths and tackles the causes of their vulnerability. It made a difference by delivering timely assistance, rebuilding self sufficiency, providing emergency health services, restoring livelihood options, addressing specific needs of most vulnerable groups, encouraging coordination and networking among affected families.

Aparajita commands respect through transparent implementation and sincerity in building community rapport. When taking a closer look at the project, the strategy clearly underlines the sustainable development of the affected community through strengthening the ability of the people and local structures to cope with potential future shocks. Seven years after the disaster a number of development programmes work in coordination with initial rehabilitation activities of the affected areas. The main objective is to build on the capacity of the most vulnerable and initiate a long term development process. After the initial phase of relief and rehabilitation, the project has concentrated on issues of social capital restoration and community based risk management, entrepreneurship, development self help groups, sustainable livelihood, reproductive health, child health issues especially among school children, education and awareness about HIV/AIDS and promotion of certified Indian medicine systems. Support has been provided to group of artisans, fisher folk, farmers, women and the adolescent to restore and strengthen their livelihood. Links have been established with the community based organizations,

panchayati raj institutions, on government organizations, banks, other financial institutions, export houses, state and national administration. This networking and collaboration spreads from grassroots level to national organizations and is an important prerequisite for sustainable development of Aparajita initiatives as it helps to strengthen a systematic, responsible exit policy.

CASE STUDY

Economic empowerment through, support to artisans

Maguni Behera(36) a potter by profession and member of the Sri Ganesh SHG formed due to the initiatives of Project Aparajita ,is earning 6000-7000 per month. “its incredible for me. With our traditional craftsmanship I managed to make Rs. 2000-2500 per month by selling utility products.” Maguni works in CFC and is paid accordingly to the pieces of the products he produces. The payment is made through bank drafts. Maguni who earlier could only manage to write his name, is now comfortable with the paper work required for executing the bulk orders he receives. He has attended many exhibitions and demonstration programmes on pottery, giving him good exposure. Maguni felt more was needed for investment purposes and his group was sanctioned a loan of Rs.60000.

Sustainable livelihood and entrepreneurship development through self help group initiatives

Hema Manjari Behera(45) belongs to a very family from Ameiala village ,Kendrapara district. Being part of the fisher folk community, she learnt about group cooperation from the beginning: the men would go out to fishing while the women would process and dry the fish for selling. When the boats and nets were damaged by the super cyclone, the male population couldn't go fishing and thereby women's work was also disturbed .It became difficult to meet the needs of the family. Hema Manjari and three of her friends went to Paradeep where bigger boats and travelers fished but were disappointed when the fishermen could only sell in

bulk. She then realized that they could increase their investment capacity. Hema Manjari discussed the matter in a community meeting organized by Aparajita and learnt that women of the village could be formed into SHGs and thus make larger investments .Hema Manjari managed to convince all the women and thus four SHGs were formed in the village. They collected the money amongst themselves and went to Paradeep to purchase two truckloads of fish. There was a massive activity of fish drying process and the women learnt the process of group enterprise. They underwent training for adding value to their products by processing them in a hygienic manner. They also went for a visit to the Integrated Coastal Management Institute at Kakinada.

Hema Manjari says “Our income was never enough to meet the basic needs of the family. We were not able to think about the education and health of our children, but today we are earning, have our own savings We care for our children and their future.”

Aparajita, Andaman

“An initiative for disaster preparedness and mitigation strategy among tsunami affected people of little Andamans and South Andamans”

Immediately after the unprecedented occurrence of the tsunami disaster on 26th December 2004, VHAI started its emergency relief operation. Within a week of the tragedy VHAI reached out in the remote island of Little Andaman by mobilizing relief teams, medicines and materials for the affected people. The team identified 2000 most vulnerable families and distributed plastic sheets, bed sheets, blankets, buckets, mugs, sarees, lungies, set of aluminum and steel utensils, dry rations, soaps, candles, match boxes, mosquito nets and hurricane lanterns. VHAI established seven play schools housed in large tents. These play schools have been supplied with reading materials, drawing books, notebooks, pencil, erasers, crayons, playing materials like cricket sets, footballs and volley balls, badminton set, indoor board games etc, biscuits and toffees. Additionally five generators were provided to different camps to provide electricity in the evening.

After this initial support it is felt that it was the right time to assist people to identify their capacities and restart their livelihood activities.

VHAI has always recognized the intrinsic connection between disaster and development. As experienced in Orissa and Gujarat, similarly, VHAI worked on long term rehabilitation and development, especially focusing on vulnerable groups and families such as Children, women headed households, orphans, physically challenged, seriously injured, and tribal families with very little means of livelihood. During this phase VHAI was flexible and conscious towards the emerging needs of the community, whilst keeping within the broad framework of long term rehabilitation and development. The main thrust during this phase was restoration of livelihood, infrastructure and strengthen the capacities of the affected communities and minimize their vulnerabilities for future emergencies.

While the relief work was taking place, a vulnerability mapping and a micro-level planning exercise was carried out to assess the medium and long term needs of the community. This exercise was done by our teams in Andaman and Nicobar islands, with active and close interactions of the affected communities following which, a detailed plan worked out. Accordingly the broad strategic intervention areas were drawn out. The main objectives of these interventions were to identify hidden strengths and potential opportunities among these vulnerable communities. The unheard voices of the most vulnerable were given priority by creating an atmosphere in which the disadvantaged could experience the re-emergence of their creativity and analyze their experience for social transformation.

VHAI also created a data base and an exhaustive information bank with its regular dissemination in the community. Vulnerability and hazard mapping for all the panchayats in the intervention area were prepared on a priority basis to facilitate the proposed planning process. The project promoted community ownership through village based micro planning process designed

for vulnerability reduction. This exercise was performed by a team of volunteers selected, and intensively oriented on the development of micro plan, vulnerability and hazard mapping. This plan will be approved by the gramsabha (committee of all citizens of the village having voting right) and will be available at the panchayat level for reference.

Consultation meetings with the PRI members was another vital activity undertaken in the area of work. Since the elected representatives are accepted by the community, they belong to the same geographical area and socio-economic background; they can identify themselves with vulnerable groups, and work with them, enabling people to understand and realize their problems and establish linkages for overall development of the area. In case of emergency they can also act as the local opinion leaders who will respond to the communities need. Consultations with PRI members give reorganization to the programme and also provide a clarity and transparency for proper implementation of the programme and secure greater involvement of the community in the programmes.

VHAI has also formed 15 SHGs in Little Andaman and 5 SHGs in South Andaman for improving the socio-economic condition of the community. There are also government run Anganwadi centers (Pre school education Centers) operational in these places. These members from SHGs and Anganwadi centers, impart training on disaster management and trauma counseling. Capacity building of these members will sustain the activities in the community and as prospective stake holders; they can also intensively participate in the entire process, make the process sustainable in the long run for the community and internalize the project.

There is also an increased recognition of poor households' need for protection against risk. Insurance reduces the vulnerability of house holds and increases their ability to take advantage of opportunities. Also, insurance reduces the impact of household losses that could exacerbate their poverty situation and push them into the vicious circle of poverty. Despite a large number of traditional insurers there is a gap in meeting the demand as the

products have high transaction cost, irregular income flow, difficult in controlling moral hazard and adverse selection. Furthermore, households have limited understanding of insurance and there is a bias against insurers. VHAI is working with more than 100 fishermen by providing net and boat, more than 150 families through Self Help Entrepreneurship development, 185 families with petty trade, 54 families for paddy cultivation and covering more than 5000 families with verities of rehabilitation activities. These families are particularly vulnerable in emergency situation. A sudden death in the family or loss of household materials jeopardizes the future of the entire family. The micro insurance programmes initiated will help to minimize the level of such insecurity.

Two emergency rescue shelters are also being built where people will find shelter in future emergencies. In addition there would be stock of food, water, first aid, in such houses. During normal times this house will be used as a community centre for workshops, trainings, cinema, performing wedding etc. A team of responsible and proactive people and PRI members will take up the responsibility of managing this shelter. The needs of women, children, elderly and physically challenged are also being addressed with sensitivity. To sum up this rescue houses would be such an arrangement which needs to be equipped and work under a specified system to meet the need at the time of disaster. Communicating the information relating to disaster preparedness at the right time to the right people is much more important than having the right and accurate information stored at any level. In the current situation people have access to television, radio and other electronic media. Therefore regular awareness programmes on community and individual level preparedness, health and general development are being aired and telecasted in a fixed time slot. Transmission of such programmes are reaching even to the remote corner and providing information to even illiterate masses, who can not read but understand what they see and listen.

The strategy for this intervention is to steadily build capacity at

the individual and community level for an effective preparedness and response plan. At the individual level through training and capacity building programmes the local volunteers will be trained and will act as the change agent in the area. The consultation meeting with the local elected representatives will focus on the programme in more systematic and sustainable manner. At the community level the focus is on strengthening the capacity of Self Help Groups and Anganwadi workers.

The past tsunami disasters and its aftermath have brought into sharp focus the fact if the community was not prepared to face a disaster, more so a disaster of such magnitude. Despite their known vulnerability, the community's own coping mechanisms appear to have gone into disuse. The interface and linkages of the community with local institutions, which would also assist the communities in transferring and absorbing, appropriate and relevant technologies, are to be developed and be used in times of need.

The initiatives of VHAI help reduce the future vulnerability of the individuals and the community, put in place much aware, motivated volunteer, sensitized PRI members, enthusiastic women SHGs to face the future emergencies. Each and every component of activities initiated under this project is not being haphazardly completed. The logical conclusion of all the activities will be ensured with proper linkage and networking. The comprehensive disaster management and preparedness plan will help the community and the out side agencies to start any future initiatives in a very focused and systematic manner. The rescue centers developed under this project will definitely be a community asset even after the project is concluded. It is also expected that the system put in place don't break down as the empowered group members, Anganwadi workers and volunteers will be in the community and continue their work as they own the community respect and confidence.

VHAI-Aparajita has long term commitment for development of the marginalized community of this area. Even though the project may come to an end, there will be a system for intensive

follow up and tying up loose ends. Beyond the project period Aparajita will try to ensure linking these communities with different networks and institutions. During the last four years, VHAI has experienced the resilience capability of vulnerable community and how they dealt with tragedy and shock with little support. In the entire success, one can clearly observe the importance of timely relief, rehabilitation and involvement of affected community in the entire process.

Key Learning from the Project Aparajita Orissa and Andaman

After four years of devastating cyclone tsunami, VHAI has made a difference by delivering timely assistance, rebuilding self sufficiency, providing emergency health care services, restoring viable livelihood options, addressing specific needs of most vulnerable groups encouraging coordination and networking among the affected families. When taking a closer look, the project underlines the fact that development is the key to disaster resilience. VHAI has demonstrated it through building local capacity, sustainable economic development and effective community participation.

The example set by Aparajita can possibly serve as a model for future initiatives in disaster in other settings, not only does the project address immediate relief needs, it also utilizes the skill and assets of affected residents resourcefully. Through trainings, health services, follow up with local authorities, artisan development initiatives, school health programmes, HIV/AIDS projects and self help groups. Aparajita works to reinforce every aspect of the community keeping in mind their overall strengths and abilities.

Promotion of disaster mitigation at low cost viable option, by utilizing preparedness measures as the most effective tool, destruction resulting from large scale disasters can be controlled to a certain extent. In the long run the affected communities must be seen as stakeholders and relief efforts must take on developmental targets. In this way, the initiatives of relief organization can work harmoniously with the people.

The key challenge faced was to empower the vulnerable, move relief and rehabilitation to a faster and sustainable development mode and involve the affected communities as stakeholders. Preparedness is most effective only when it is built into the process of local level development planning and implementation. And this is where Aparajita the innovative participatory experience can make the difference.

CONCLUSION

In this large, complex yet vibrant country like India, health promotion is a challenging task, given the size of the population. In the last six decades, we have followed a path of social transformation, unfortunately our development efforts have not been rooted in our traditional institutions and community initiatives, which exists in some form or the other throughout the country.

The two path breaking initiatives of VHAI, KHOJ and Aparajita have been giving focus on community knowledge and active participation in programmes to internalize and make the activities sustainable even after VHAI exits from the community, to other underdeveloped and remote areas.

Through the Khoj project, health and development initiatives have been able to reach some of the most remote areas of the country. Khoj has been able to put health central to development. Khoj through sustainable efforts has been able to build local human resources. Though the problems of poor health care, hunger and poverty seem never ending, there are viable solutions in the community. Khoj searched for these viable alternatives/solutions by lending support to innovative projects by small voluntary organizations in neglected areas. These organizations will remain where they are and work with the community effectively implementing innovative, self sustaining community health and development programmes even after the exit of VHAI from the area. Aparajita in its rehabilitation and development activities

involve stakeholders in all different phases of the programme and co-ordinate with local block and district level administration with programmes especially being strengthened as they remain with the community and are responsible for the development efforts and ensure continuous development of the region.

These are a few of the many micro examples in the Indian sub continent, which show the enormous potentiality of developing local level leadership provided they get the empathetic support from a congenial environment and creative technical input. These historic developments can play incredible role in social political and economic transformation of these areas. Very often it has been found that for these initiatives to grow steadily to their potential, they need continuous support and motivation. It is also important not to have preconceived solutions to all problems in the area. It is necessary to creatively respond to their needs which can address the local reality. We have to remember that there are no easy solutions to tackling problems which are decades old and are grounded in socio-economic reality.

VHAI following on the above strategies has been able to make valuable contribution towards the development of the people residing in the remotest corners of the country and those affected by disaster.

Alok Mukhopadhyay
Chief Executive
VHAI, New Delhi

Quality Circle Activities in BEML Limited

Juli Jayapaul

ABOUT THE ORGANISATION

BEML LIMITED, formerly called Bharat Earth Movers Limited, conferred with Mini-Ratna Status and under the administrative control of Ministry of Defence, is a multi-technology company offering high-quality products for diverse sectors of economy such as coal, mining, steel, limestone, power irrigation, construction, road building, aviation, defence, metro and railways. BEML is ranked as the largest and most profitable construction equipment company by construction world-NICMAR, 2007. It has emerged in the forefront of heavy engineering industry with a track record of growth and revenues for over four decades. For its innovating management practices the company has been awarded the Golden Peacock Innovation Management Award. BEML is also been rated as the fourth largest wealth creator in the country by Dalal Street magazine. It is a premier ISO 9001-2000 Company in India and Asia's second largest manufacturer of earthmoving equipment.

Over the years, BEML has demonstrated its engineering strengths and technical prowess by harnessing sophisticated technologies and erecting giant equipment like the multi-crore walking draglines and electric rope shovels for the coal sector. With a commitment to market-driven R & D, BEML has successfully rolled out over 30 value-added products. In keeping with the global technology trends, the company is setting up R & D centre of excellence for research in metro rail system in Bangalore. Besides,

its 300 million composite R & D centre houses laboratories in fluid power, material science, structural engineering and prototype shop.

The company's manufacturing facilities at Kolar Gold Fields, Mysore and Bangalore are certified under ISO 9001-2000 like CNC machines, hi-tech welding equipment, and flexible manufacturing systems to turn out cutting-edge technology products. Continuous modernization of shop floors with induction of state-of-the-art machinery enables BEML to deliver world-class products. BEML's corporate headquarters and central marketing division are at Bangalore. BEML has well established manufacturing systems with documented qualified process specifications, quality plans and facilities to ensure quality of critical activities like welding, machining, assembly & testing. The company owns captive foundry.

BEML has launched trading division with a view to maximize business through sale of components and engineering spares. With a aim to garner substantial business in the IT enables services, technology division has been launched which will offer e-services encompassing product design, process engineering, plant automation, enterprise management services and implementation of collaboration products engineering.

BEML's nationwide network of sales offices enables buyers with ready access to its wide range of products. BEML's full fledged service centers and parts depots offer total equipment care, maintenance contracts and rehabilitation services. The company's site engineers ensure higher availability of machines through prompt after-sales-services.

BEML has an expanding international presence in more than 45 countries spread worldwide. An export house with star exporter status, BEML has proven strengths in handling large-scale trading and counter trade has pushed the export of engineering goods as well as other equipment.

QUALITY IMPROVEMENT INTIATIVE IN BEML

Quality improvement is continual process in the organisation and

various methodologies like **Quality circle, 5-S Campaign, Six Sigma, Kaizen, TQM etc.** are active throughout the organisation.

Quality circle movement in the organization was started in early 1990s. More than 150 QCs are active and they have participated in different QC competitions at division level, state level, national level & international level and have been awarded with distinction, excellence awards and Gold medal.

One of the quality circle project is presented below :

OPPORTUNITY

At KGF.complex, skilled workforce of over 6000 turns out state-of-the-art bulldozers, hydraulic excavators, wheel dozers, rope shovels and walking draglines for the mining and construction industry.

In earth mover division of KGF complex, transmission and final drive assembly shop is manufacturing different capacities of transmissions and final drive for its various earth moving equipments.

The equipment dumper is observed to have more number of problems (26 Nos.) related to both customer and in-house problem.

The major problem was related to oil leakage in differential assembly and repetitive reworks during assembly and manufacturing stage.

AIM, GOAL(S) AND OBJECTIVES

Objectives

- quality improvement.
- process improvement.
- cost reduction on differential assembly on dumper.

Goals

- elimination of differential oil leakage at customer site.
- elimination of bolt fouling problem on companion flange radius, there by elimination of rework and rejection during assembly.

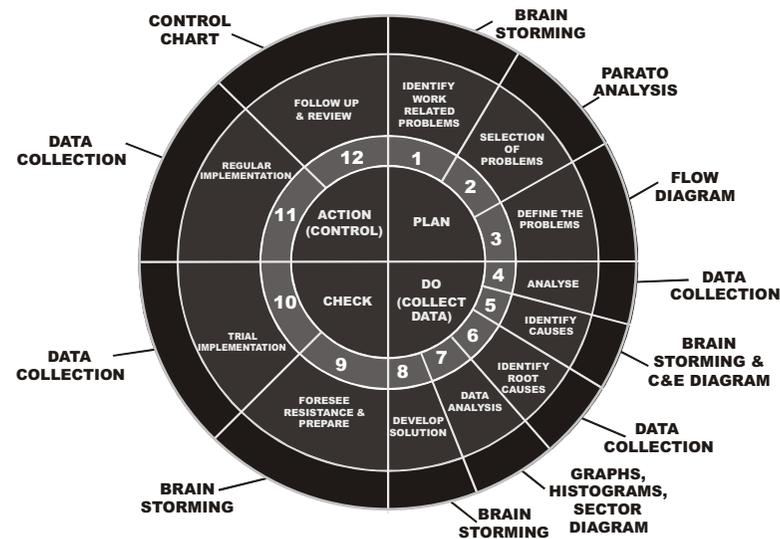
SETTING THE SCENE

The task of solving the above problem was taken up by the quality circle team 'WHEEL' comprising of 6 members.

APPROACH

PDCA diagram (shown below) and 12 steps of problem solving technique with appropriate QC tools adopted by the QC team

PDCA DIAGRAM AND 12 STEPS



STEP-1

Problem identification

Problems identified through brain storming. No. of problems identified- 60

The equipment dumper is observed to have more number of problems (26 Nos.) related to both customer and in-house problem. Hence this has been selected for further analysis

STEP-2

Selection of the Problem:-

Criteria for selection:-

- Through (QC Tools)
- Stratification

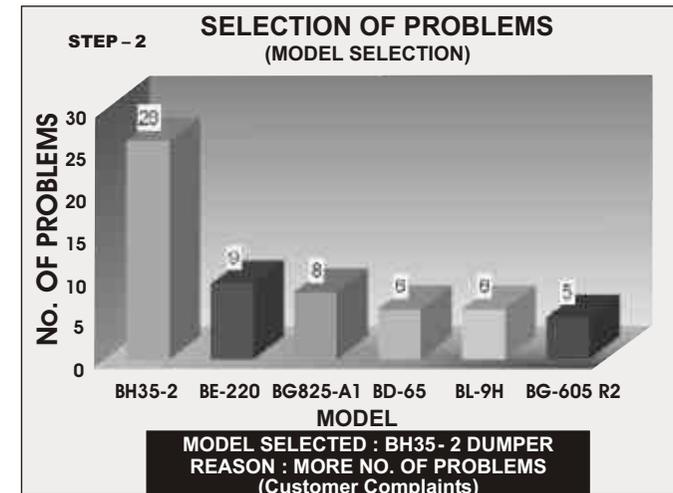


Fig-1

STEP-2 SELECTION OF PROBLEMS (CATEGORIZATION OF PROBLEMS)			
SL NO.	NATURE OF PROBLEMS	No. OF PROBLEMS	CATEGORY
01	DIFFERENTIAL OIL LEAKAGE AT FIELD	15	A
02	BOLT FOULING ON COMPANION FLANGE RADIUS DURING ASSEMBLY	07	A
03	DIFFERENTIAL BEARING FAILURE AT FIELD	01	B
04	DIFFERENTIAL OIL LEAKAGE DURING EQUIPMENT TESTING	01	A
05	DIFFERENTIAL OIL LEAKAGE DURING ASSEMBLY STAGE	01	A
06	DIFFERENTIAL NOISE DURING TESTING	01	C
TOTAL NUMBER OF PROBLEMS IN BH 35 - 2 DUMPER = 26			
Category A - Problems that can be solved by QCs with minimum involvement of other departments. Category B - Problems that can be solved by QCs but requires involvement of other departments. Category C - Problems that can be solved by QCs but requires Management approval.			

Table -1

STEP-2 SELECTION OF PROBLEMS PARETO ANALYSIS

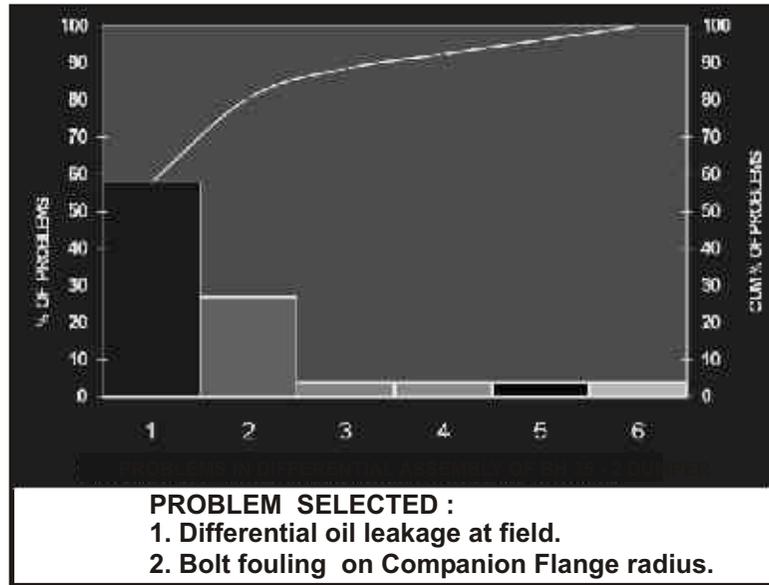


Fig-2

- ABC analysis
- Pareto analysis

The vital problems selected are:-

- differential oil leakage at field
- bolt fouling on companion flange radius. (Ref. Fig-1, Table-1 & Fig-2)

STEP-3

Definition of Problem :-

Fig 3 Assembly flow diagram indicating the location of problems.
 Fig 4 Brief description of problems and effects.
 Fig5 View of rear axle of BH35-2 dumper with differential assembly.
 Chart 1 Gantt Chart showing Plan of action for 12 steps.

STEP - 3 DEFINITION OF THE PROBLEM

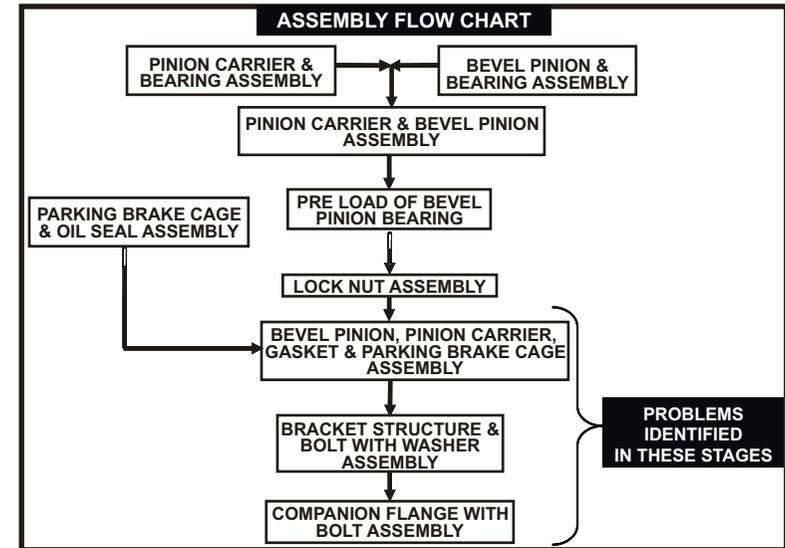


Fig 3

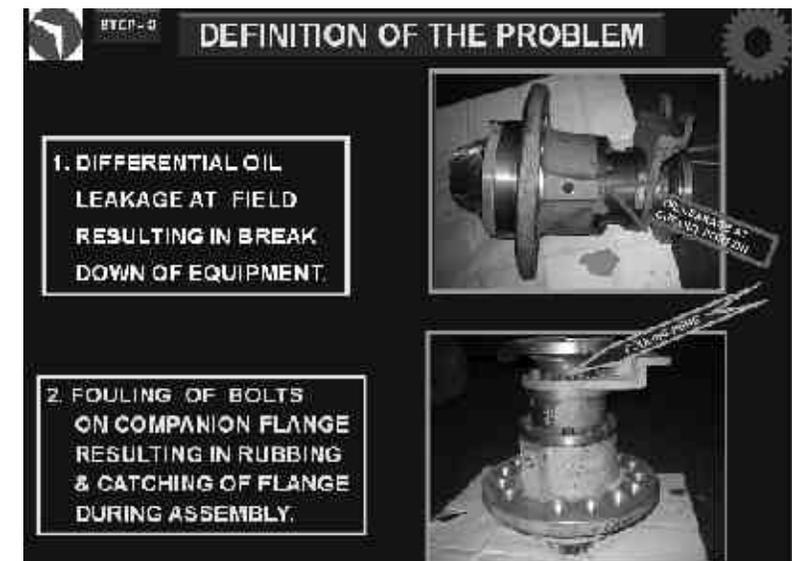


Fig 4

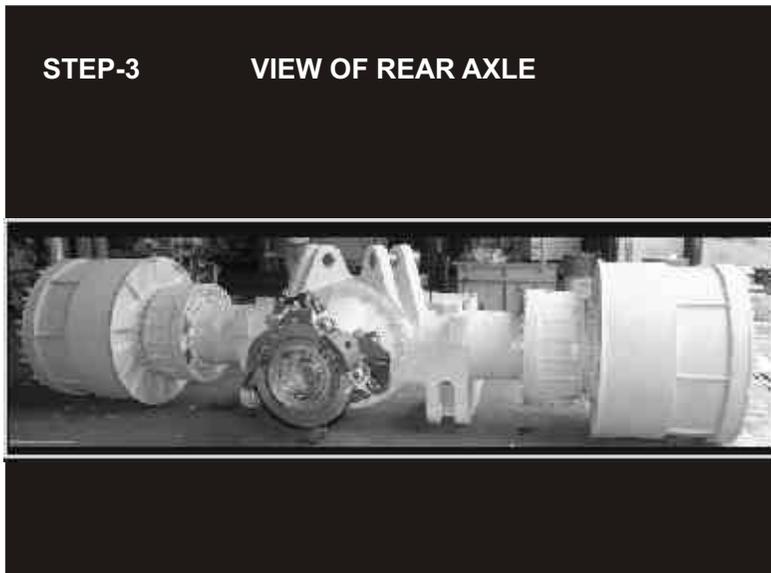


Fig 5

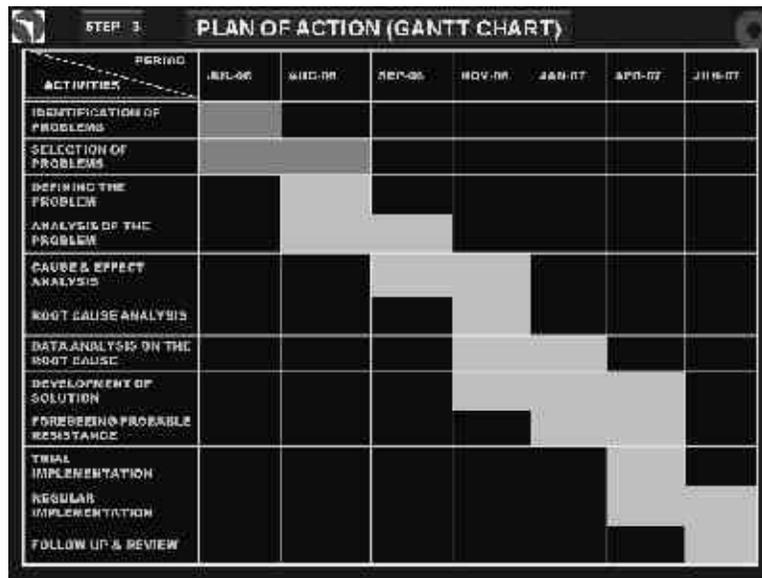


Chart 1 Gantt Chart

STEP-4

Analysis of the Problem :- The problems of field complaint and rework of assembly have been analysed through **4W & 1H analysis** method with data collection & analysis.-

WHAT is the problem?

- differential oil leakage
- bolt fouling at companion flange.

WHERE is the problem?

- oil leakage between pinion carrier and parking brake cage.
- Fouling at companion flange radius.

WHEN problem occurred?

- during working of equipment at field.
- during assembly of companion flange on bracket assembly.

WHO is affected?

- customer at field.
- mechanics during assembly.

HOW problem noticed?

- through customer complaints
- complaints from mechanics.

STEP-4

Data Analysis :- data on each problem was collected and analysed through bar charts. (Refer Fig 6 & 7)

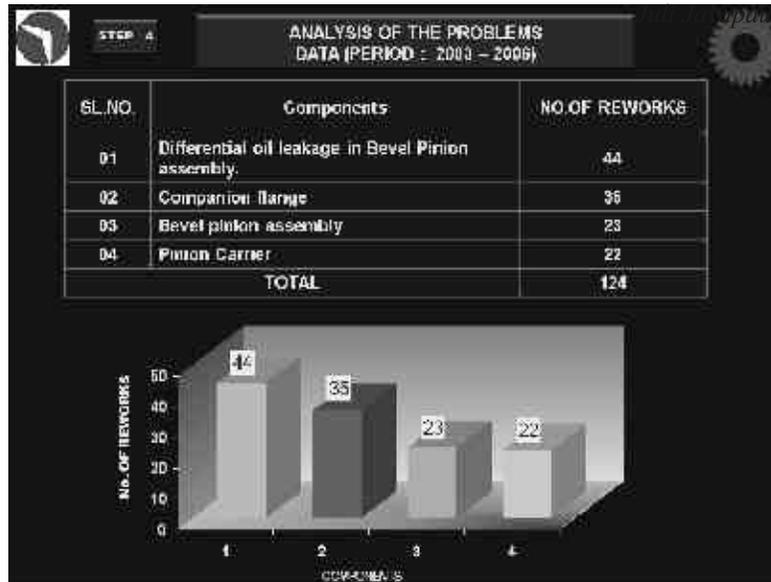


Fig-6

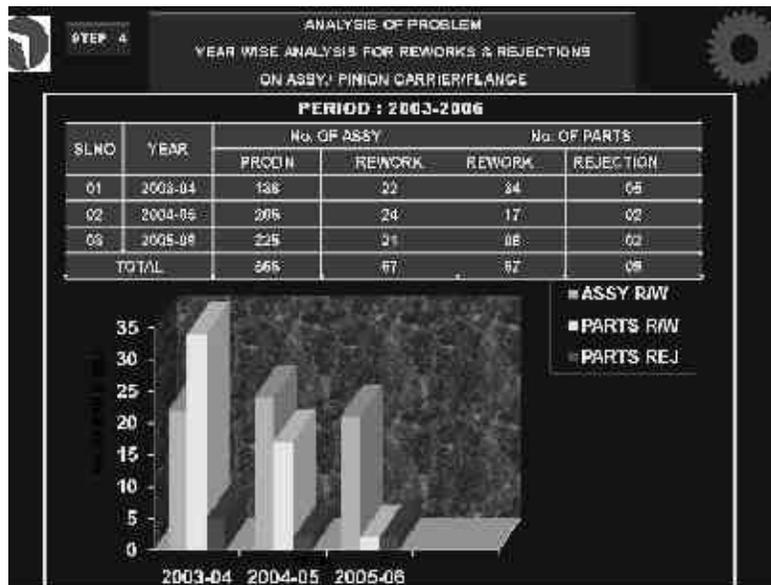


Fig-7

STEP-5

Identification of causes :- Members of the QC team through Brain Storming, identified and listed the probable causes, classified them as major and sub probable causes and represented them through a Cause & Effect diagram for the above problems.

Fig 8 Cause & Effect Diagram indicating all major and sub probable causes leading to oil leakage and bolt fouling problem.

Table 3 Validation of probable causes by audit checking.

Fig 9 C&E diagram indicating valid, most probable causes for oil leakage.

Fig 10 C&E diagram indicating valid, most probable causes for bolt fouling

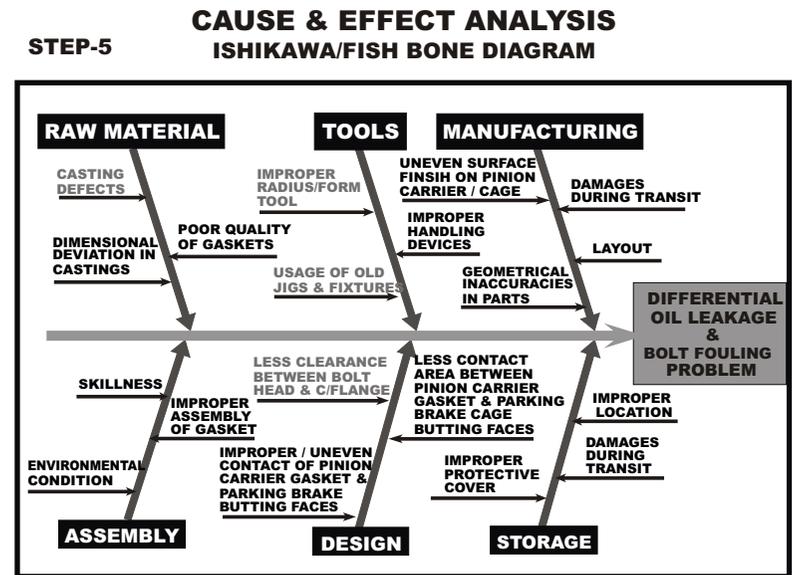


Fig 8

STEP - 5 VALIDATION OF PROBABLE CAUSES

SL NO	PROBABLE CAUSE	SPECIFICATION	ACTUAL	VALID	NOT VALID
01	CASTING DEFECTS	FREE FROM DEFECTS	OK		✓
02	DIMENSIONAL DEVIATION IN CASTINGS	NOT ALLOWED	NOT OK	✓	
03	POOR QUALITY OF GASKETS	NOT ALLOWED	OK		✓
04	IMPROPER RADIUS / FORM TOOL	NOT ALLOWED	OK		✓
05	USAGE OF OLD JIGS & FIXTURES	NOT ALLOWED	NOT USED		✓
06	IMPROPER HANDLING DEVICES	NOT ALLOWED	PROPER		✓
07	UNEVEN SURFACE FINISH ON PINION CARRIER / CAGE	Ra3.2µm	OK		✓
08	LAYOUT	CORRECT	CORRECT		✓
09	GEOMETRICAL INACCURACIES IN PARTS	NOT ALLOWED	OK		✓
10	LESS CLEARANCE BETWEEN BOLT HEAD & C/FLANGE	1-2 mm	< 0.5 mm	✓	
11	SKILNESS	REQUIRED	PRESENT		✓
12	IMPROPER ASSEMBLY OF GASKET	NOT ALLOWED	OK		✓
13	LESS CONTACT AREA BETWEEN PINION CARRIER GASKET & PARKING BRAKE CAGE BUTTING FACES	100% Contact	< 80 % Contact	✓	
14	ENVIRONMENTAL CONDITIONS DURING ASSEMBLY	CLEAN	CLEAN		✓
15	IMPROPER / UNEVEN CONTACT OF PINION CARRIER GASKET & PARKING BRAKE BUTTING FACES	UNIFORM CONTACT	NOT OK	✓	
16	IMPROPER PROTECTIVE COVER	NOT ALLOWED	PROPER		✓
17	IMPROPER LOCATION OF GASKET WHILE STORAGE	NOT ALLOWED	CORRECT LOCATION		✓
18	DAMAGES TO PART DURING TRANSIT	NOT ALLOWED	NO DAMAGES		✓

Table-3

STEP - 5 CAUSE & EFFECT ANALYSIS IDENTIFICATION OF MOST PROBABLE CAUSES

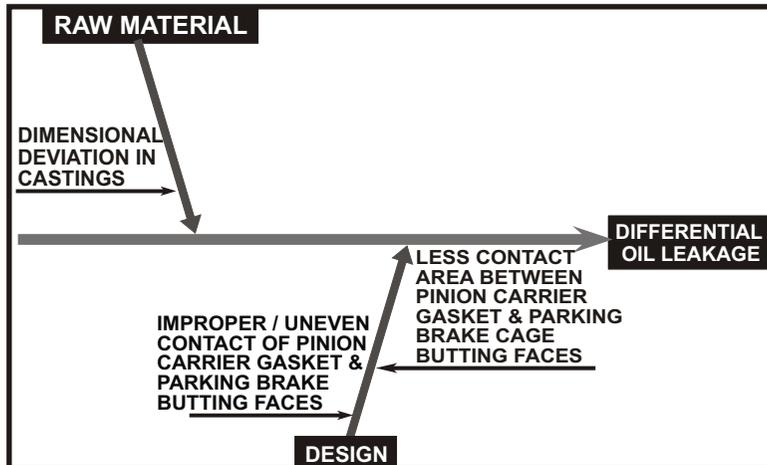


Fig 9

STEP - 5 CAUSE & EFFECT ANALYSIS IDENTIFICATION OF MOST PROBABLE CAUSES

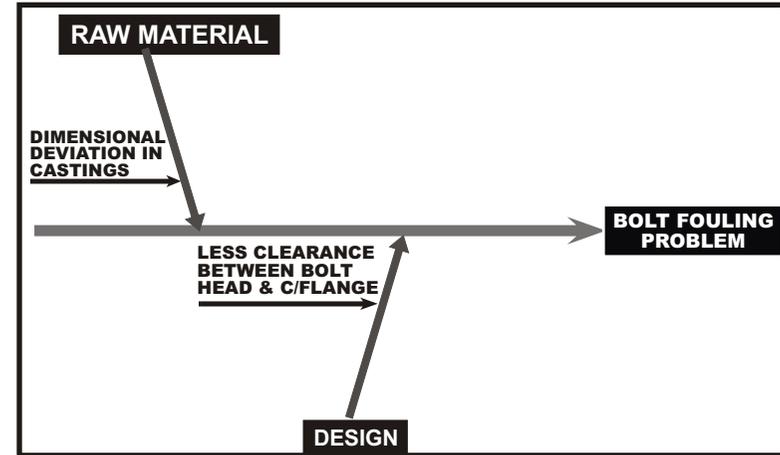
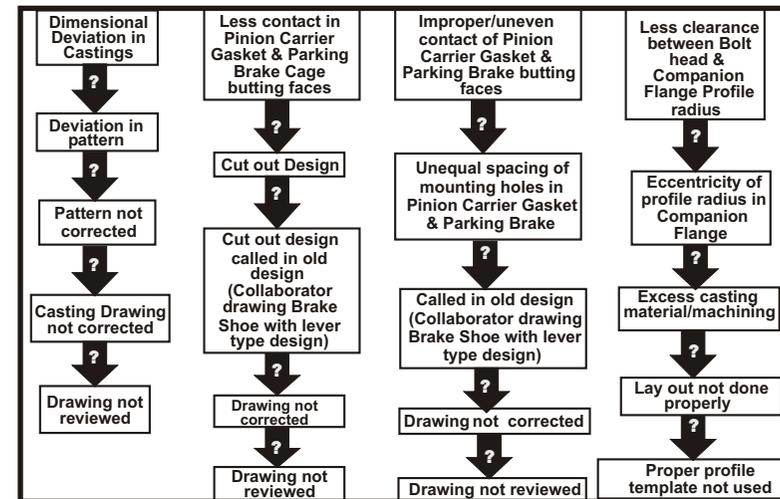


Fig 10

STEP-6

Identification of root causes :- WHY-WHY analysis method was adopted.

STEP - 6 ROOT CAUSE ANALYSIS (WHY WHY ANALYSIS)



STEP-7

Data Analysis on Root cause :- Validation of root causes.

Observation :

- even after rework as per old drawing the problem of leakage and bolt fouling persisted.
- the inference drawing not received and profile template not used are the root causes.

DATA ANALYSIS ON ROOT CAUSE

(DATA COLLECTION - REWORK)

STEP - 7

SI No.	DESCRIPTION	DIM AS PER DRAWING	ACTUALS	QTY. INSPECTED	REWORKED
01	PINION CARRIER CUT-OUT DIMENSION	8+/-1mm	3 TO 4mm	85	35
02	PARKING BRAKE CAGE CUT-OUT WIDTH	5+/-0.5mm	3 TO 4mm	50	25
03	COMPANION FLANGE	PROFILE RADIUS R50	45 TO 55mm	40	22
04	GASKET CUT-OUT WIDTH	4+/-0.5mm	2 TO 3.1mm	70	15
TOTAL		--	--	--	97

Observation :

Even after rework as per old drawing the problem of differential oil leakage and bolt fouling persisted
 The inference Drawing not Reviewed & Profile template not used are the Root Causes.

STEP-8

Development of Solution through Brain Storming :-

Problem Details :-

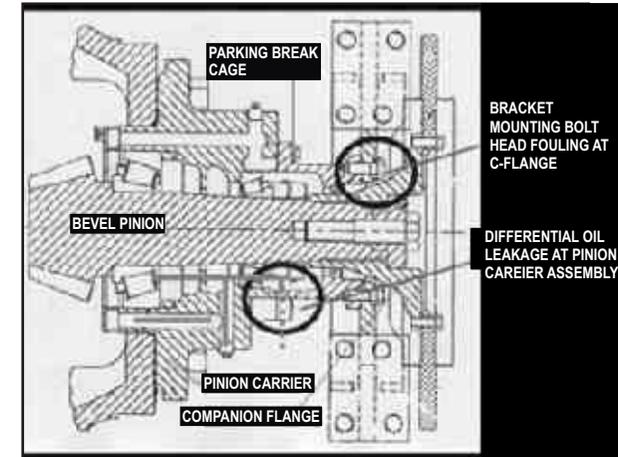


Fig 10 - Sectional view of Differential assembly



Fig 11- (A) Oil leakage at cut-out portion



Fig 12 - (B) Bolt fouling at flange radius

(A) Developing Solutions for elimination of oil leakage :- The QC team after thorough brain storming suggested different modifications as shown in the figures.

Fig 13 Modified the gasket from cut-out to rounded design for full contact.
 Fig 14 Modified gasket has been tried on assembly but could not succeed due to the presence of cut-out in pinion carrier.

Fig 15 Cut out wall thickness was increased by welding and machining for maximum contact.

Fig 16 Gasket sealant applied to avoid air gap between mating parts.

Fig 17 & 18 Cut out design of pinion carrier modified to rounded design in line with the gasket modification.

- the modifications shown in Fig 14, 15 and 16 are temporary solutions hence not considered.
- the modifications shown in Fig 13 & 18 are permanent solutions hence considered and implemented.

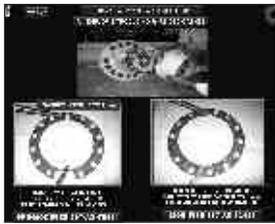


Fig 13-
Modification of Gasket



Fig 14-
Rounded Gasket introduced



Fig 15-
Cut-out wall thickness increased



Fig 16-
Application of Gasket Sealant



Fig 17-
Pre-Modified Pinion Carrier



Fig 18 -
Modified Pinion Carrier

(B) Developing solution for bolt fouling at profile radius of Companion Flange:

Fig 19 Bracket & parking brake cage fastened by bolts without washers.

Fig 20 & 21 Pre modified-with cut out in parking brake cage. Modified to rounded design in line with pinion carrier to avoid oil leakage and also further modified by integration of the bracket to eliminate bracket mounting bolts and avoid bolt fouling at radius of companion flange.

Fig 22 Fully modified and integrated parking brake cage with bracket.

Fig 23 Companion flange machined at profile radius to avoid bolts fouling.

Fig 24 Machining totally eliminated by introduction of as cast profile.



Fig 19



Fig 20



Fig 21



Fig 22



Fig 23



Fig 24

(C) Time bound action plan & responsibility :- In order to develop the solutions a time bound action plan charted out and responsibility to each member has been assigned as shown in the table below:-

Sl No	SUGGESTED IDEAS	STUDY / ACTION	RESPONSIBILITY	PROBABLE COMPLETION DATE
Q1	INTRODUCTION OF ROUNDING BASKET AGAINST CUT OUT BASKET.	EXISTING BASKET WITH ASSEMBLY DRAWING STUDIED. NOT POSSIBLE DUE TO PROJECTION OF BASKET.	JULI JAYAPAU RAGAVENDRASWAMY VINCENT ASLAN PASHA	NOV 2006
Q2	INTRODUCTION OF LOCKETS / LIQUID WASKET SEALANT AT PINION CARRIER CASE & BASKET MATE'S SURFACE.	STUDIED & FOUND THAT SINCE IT IS A TEMPORARY SOLUTION, NOT ACCEPTABLE.	SILVASH DEAR S. BARNESH S.V. DEVARAKMATH	DEC 2006
Q3	WELDING NETWORK ON PINION CARRIER & CASE	-STUDIED & OBSERVED THAT WELDING & MACHINING NETWORK ON PINION CARRIER -DIFFICULTY IN WELDING ON CASE DUE TO SG IRON MATERIAL.	UPENDRA JULI JAYAPAU RAGAVENDRASWAMY	DEC 2006 TO JAN 2007
Q4	USING OF EXISTING BOLTS WITHOUT WASHER TO ACHIEVE MORE GAP.	DRAWING STUDIED AND FOUND THAT IMPROVED SEATING OF BOLT.	S. RAJESH SILVASH DEAR S.V. DEVARAKMATH	JAN 2007
Q5	REJECTION OF AS CAST CUT OUT PORTION AND REMOVAL OF UNNECESSARY DESIGN ON P. CARRIER & CASE WITH BASKET.	DRAWING STUDIED IN DETAIL ON CARRIER, CASE, BASKET & ASSEMBLY DRAWING. POSSIBLE.	JULI JAYAPAU ASLAN PASHA S. RAJESH R. ALL QC MEMBERS	FEB-MAR 2007
Q6	-INTRODUCTION OF INTEGRATED THE BRACKET AND HARDEN SHAKE CASE BY ELIMINATION OF BOLTS & WASHERS TO AVOID PROBLEMS OF COMPANION FLANGE. -REJECTION OF PROFILE RADIOS OF RSB WITH 20 DEG. IN COMPANION FLANGE.	DRAWING STUDIED IN DETAIL ON COMPANION FLANGE BRACKET, CASE, BOLT & ASSEMBLY DRAWING. POSSIBLE.	JULI JAYAPAU & ALL QC MEMBERS.	MAR-APRIL 2007

STEP-9

Foreseeing Probable resistance :-

Anticipated resistance:-

- for review of drawings.
- due to reduction in job card timing :-
 - in assembly shop from mechanics.
 - in manufacturing shop from operators.

The above resistances have been overcome due to the following benefits :-

- easy manufacturing process.
- easy assembly method.
- reduced mechanic / operator fatigue.
- reduction in rework of assembly and its parts.

- increase in production.
- elimination of customer complaints.

No further resistance anticipated in implementation of the modification.

STEP-10

Trail Implementation:- modified differential assembly (differential bevel pinion assembly) fitted on equipment no. 515 on trial basis.

(period april 2007)

- equipment successfully crossed 2589 hrs. at field without any problem.
- no complaints from field, assembly and manufacturing shops reported.
- comparison before and after modification is in Fig 25 & 26

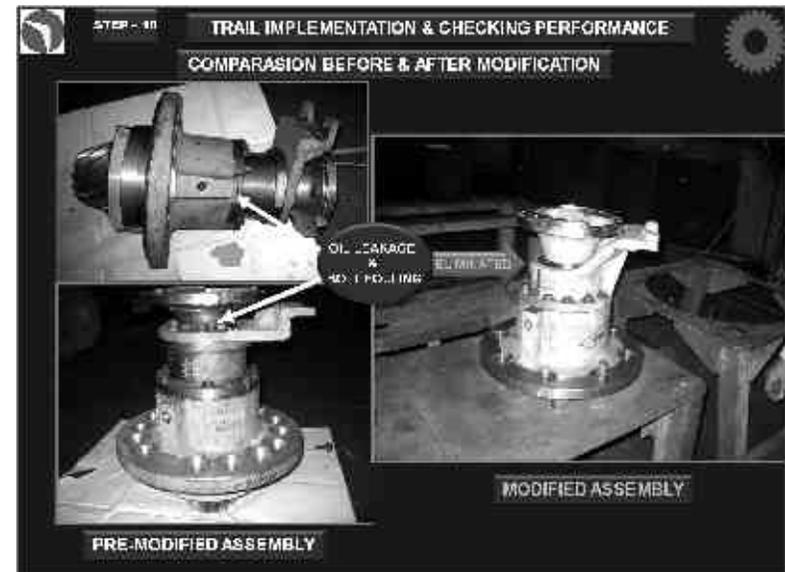


Fig 25

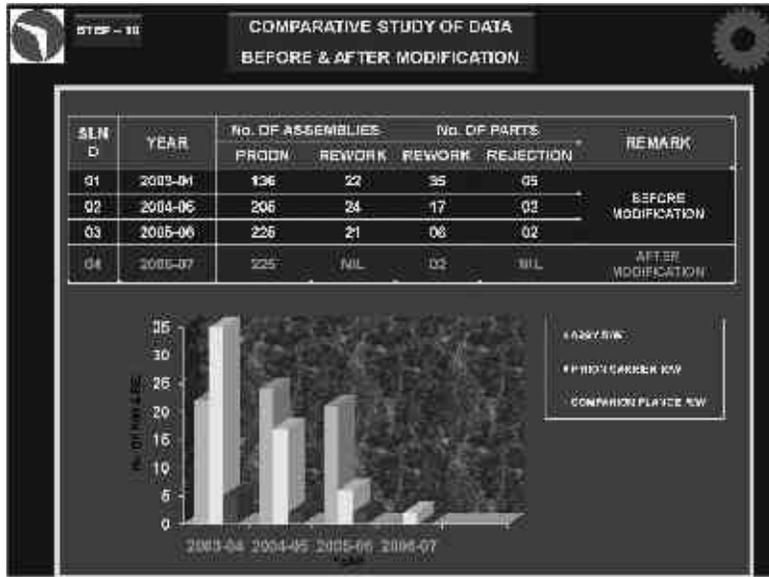


Fig 26

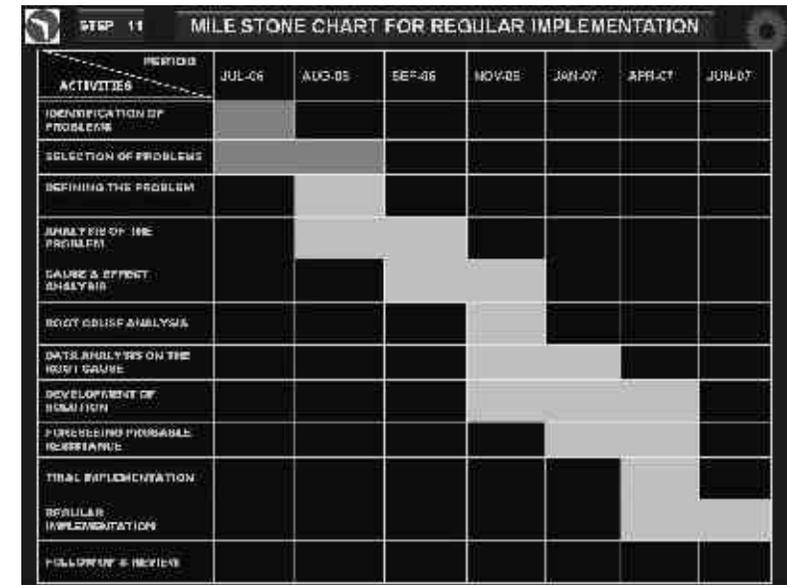


Chart 2

STEP-11

Regular implementation :-

- A) Mile stone chart Chart-2 shows mile stone chart for regular implementation.
- B) Data Comparison before and after improvements regularised the modified design and implemented
 - 121 equipments fitted with modified assembly.
 - nil rework / rejection on assembly and its parts.
 - all the above equipments are working satisfactorily and no complaint reported from field. (Fig 27)

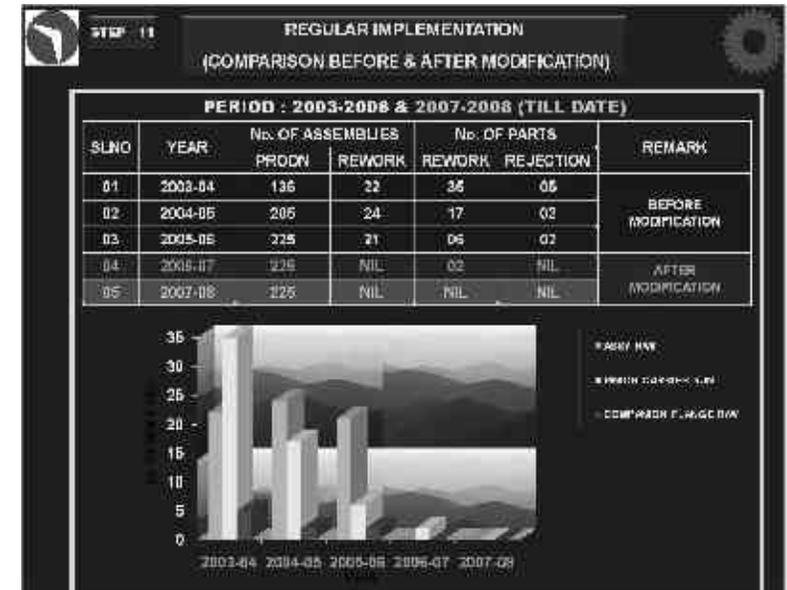


Fig 27

STEP-12

Follow-up and Review :- follow-up and review of differential assembly and its parts after modification

- incorporated the modifications in component, assembly drawings and process sheets revised / amended accordingly.
- no assembly and manufacturing problems (reworks/rejection) reported.
- no complaint from customer at field.
- mile stone chart after completion of project is shown in Chart-3.



Chart 3

THE EXPERIENCE

The organisation as well as QC team members gained knowledge and experience to analyse any type of problem and find solution by

following PDCA cycle and 12 steps of problem solving technique with appropriate QC tools.

Hence organisation encouraged employees and officers to form QC teams through which, day to day problems that may occur in their work area can be solved.

OUTCOME AND IMPACT

The results achieved are extremely favourable and realistic in terms of improvement in quality of product and customer satisfaction besides continuous cost savings to the tune of Rs 10 lakhs per annum. The outcomes of the QC activity resulting in tangible and intangible gains are as under.

Tangible benefits :-

- losses incurred due to rework and rejection of assembly and parts **Rs. 12.2 lakhs.**
- total savings due to modifications in parts **Rs. 18.2 lakhs.**
- savings per assembly **Rs. 8086/-**

Intangible benefits :-

- elimination of consequential damages to the other parts during assembly stages
- reduced unnecessary movement of parts from shop to shop.
- easy assembly / disassembly at shop floor.
- easy serviceability at field.
- improved product quality.
- improved customer satisfaction since a **“satisfied customer is a best advertiser”**.

The results achieved by developing solutions to the problems identified, influenced the area of activity chosen by way of elimination of repetitive reworks / rejection of the differential assembly and its parts. This has resulted in increase in production and quality of the product.

LESSONS LEARNT

The following lessons were learnt -
Whenever a problem is noticed :-

DO's

- study the problem in detail carefully.
- collect data and analyse
- conduct Brain Storming discussions and find alternate solutions.
- conduct trails and find the optimal solutions and implement the same.
- use QC tools wherever necessary.
- try to be patient.

DON'T's

- never attempt to find a big solution in hurry requiring drastic changes.
- do not expect fast results which are temporary.
- do not discourage people from giving ideas
- do not use un- realistic data for analysis.
- do not use irrelevant QC tools which may give wrong signals.
- do not force people to find alternate ways.

FUTURE PLANS

The future plan of the QC team WHEEL is quality and process improvement on differential assembly of BH-40 dumper to eliminate repeated rework and rejection of the rear axle.

The lessons learnt while finding solutions to the problems of differential assembly of BH35-2 dumper will definitely be useful for finding the solutions to the problems of differential assembly of BH-40 dumper and other products. The same technique will be used for finding the solutions which are permanent and reliable

INTERNATIONAL ACCOLADE

QC team '**WHEEL**' presented the above presentation in **ICQCC-2008** (International Convention on Quality Control Circles-2008) held at 'Dhaka, Bangladesh' organized by 'Bangladesh Society for Total Quality Management' (BSTQM) and won "**EXCELLENT AWARD**" with top score of **95.3%**.

Juli Jayapaul
Senior Manager Quality
Earth Movers Division
BEML, K.G.F. Complex
Karnataka

Vardhman's Journey Towards Excellence

B. B. Peer

Vardhman, a household name in northern India, has carved out a niche for itself in the textile industry. Setup in 1962 by Late Lala Rattan Chand ji Oswal, father of the present chairman and managing director, Shri S.P. Oswal, its portfolio includes manufacturing of yarns, fabrics, sewing threads, fibre and steel.

Head-quartered in Ludhiana, the group started its journey with an installed capacity of 14000 spindles in 1965. Over the years the group has expanded its spinning capacities besides adding new businesses and is, now, one of the largest textile conglomerates in the country with a turnover of about Rs. 2700 crores (2007-08). It has diversified into yarn processing, weaving, sewing thread, fabric processing, acrylic fiber manufacturing and into special/alloy steels. Today, about 23,000 people are the organization's human capital, it's most important asset.

As of 2007-08, it has 19 manufacturing locations, spread across 5 states, with an installed capacity of 7.25 lakhs spindles expandable to 8.5 lakhs by the year 2009-10; 3408 rotors; 810 air jet looms expandable to 900 by the year 2009-10; 33 tons per day processing facility for sewing thread; 63.5 metric tons per day yarns & fiber dyeing capacity; 82 million meters / annum fabric processing facilities; 18000 tons per annum production capacity for acrylic fiber and 1,00,000 tons per annum of steel capacity.

In addition to the domestic market, the company also has a strong presence in countries like Japan, Hong Kong, Korea, UK and EU. It is earning laurels by exporting yarn and fabrics of

international quality to several countries in the West, Africa and the Far East, earning valuable foreign currency for the country. Vardhman is the first organization among the textile industries to receive the ISO 9001 / ISO 14000 quality awards in India.

MAJOR HIGHLIGHTS OF THE GROUP

- Largest Spinning capacity in the country.
- Largest exporter of cotton yarn from the country.
- Exporting to high quality conscious countries like Japan, Korea, Hong Kong, Italy, Germany, UK, etc.
- Largest consumer of acrylic fiber in India.
- Number two sewing thread manufacturer in India.
- First textile company to obtain ISO 9000 certification.

PRE-INITIATIVE STATUS OF THE AREA

- More efforts required by workers for far more complex work.
- More retrieval time was required.
- More overtime requirements.
- Less productivity
- More Breakdowns
- Low Efficiency of man, machine & material

REASONS FOR TAKING THE DECISION TO START A QUALITY INITIATIVE

- To improve productivity, efficiency and to identify and eliminate losses. This includes analyzing processes and procedures towards increased office automation.
- Non Value Activities / loopholes in the process
- Housekeeping was below par & sustainability was difficult.
- Involvement of all people in support functions for focusing on better plant performance.

- Reduction in overall costs including inventory carrying cost.
- Better utilization of work area.
- Reduced repetitive work.
- Multi-Skilling in support areas.

PERSONS INVOLVED IN THE DECISION MAKING PROCESS

The concept of 5S could not be started without the support of top management. So, all the top officials were involved in the decision-making process to implement 5S.

After adopting the 5S concept, all the employees such as top management, managers, middle management and shop floor operators were involved in the implementation process.

The initiative was to improve the total productivity of the organization and to be among the best. This was undertaken by involving all the employees including the workers to solve the problems faced during the work processes so that work can be done in a more efficient way and overall efficiency can be improved through the elimination of NVA'S. Its main objectives identified were: productivity improvement, process improvement, cost reduction, profit enhancement and new learning, development of attitude and mindset amongst task-performers.

The concept of 5S was adopted to achieve more efficiency, less retrieval time, standardization of work and easy work flow.

The pre-initiative activities for 5S began with engaging a consultant. From the very beginning of the implementation of 5S the consultant was engaged to guide and facilitate as to how to go through the process. The CII Consultant was visiting our unit from the beginning of the implementation.

The 5S was implemented by following a step to step approach. The first step was training as it is vital and needs serious attention. All the employees involved in the 5S implementation were given training on 3S tools by the internal faculty. The training was carried out across the workers to senior management.

The training medium included: printed material like magazines, booklets, banners etc. in Hindi, English and Punjabi languages, audio / visual aids, 5S success stories of different industries, organizing training programs by experienced persons, visualization by displays, 3 S story boards, photographs of before and after and organizing vivid events based on 5S like quizzes, slogans, poems and poster competitions.

5'S' methodology focuses on :

- S (Seiri) SORTING: get rid of unwanted material / items;
- S (Seiton) ORGANISE: specific place for specific item with specific quantity and usage of Sign boards and labels for all items;
- S (Seiso) SHINE & SWEEP: what to clean and the scope of activity was decided and the cleaning schedule with the responsibilities was made.
- S(Seiketsu) STANDARDISE: standards were set, abnormalities displayed and visual indicators and controls put in place;
- S(Shitsuke) SUSTAIN: efforts made to sustain the improvements and PDCA (Plan, Do, Check, Act) Cycle was adopted.

The implementation of 5S is done through step by step approach by dividing the mill into small areas, identifying the area leaders and providing 5'S' training to all. Initially, resistance was felt. People perceived it as burden and waste. Some expressed that they face no significant problem with existing function, the productivity being up to the mark. Popular feeling was that 5S can not stride to any miracle. Few, reacted “Why should a senior manager of the department act as 5S leader ?” or “Why to clean when it gets dirty again?” or “Who the hell they are to order me what I must do or otherwise ?”

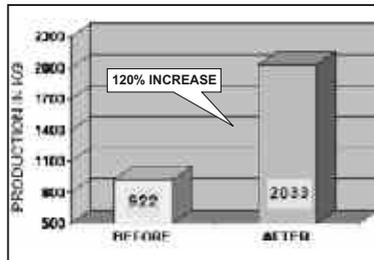
Gradually with the passage of time everyone realized that it is an extremely simple activity which does not load extra burden and rather helps in improving productivity by cutting the unwanted waste. Now, everyone has assimilated 5'S'as an integral daily

routine. The mind set got changed and employees focused on the systematization resulting in a big leap in overall efficiency.

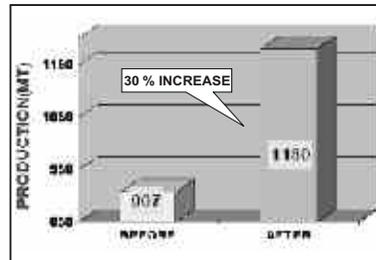
The ultimate outcome is evident in the beneficial results which include a reduced inventory levels in all parts of the supply chain; drastic reduction in retrieval time for spares and records, the number of files; overhead costs (to include cost of non-production/non capital equipment) improvement in productivity of people in support functions; reduction in breakdown of office equipment; less customer complaints due to logistics; reduction in expenses due to emergency dispatches/purchases, reduced manpower, a clean and pleasant work environment.

GAIN : Following gains came through 5S and TPM Pillar implementation on initial stage.

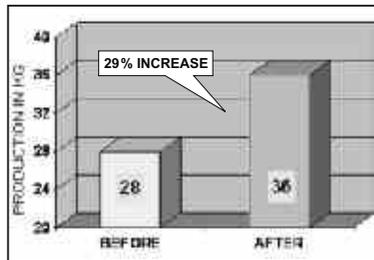
SEYDEL M/C PRODUCTION (KG/DAY)



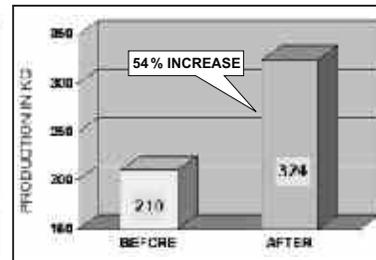
PRODUCTION OF BRIGHT BAR SHOP (IN MT/Month)



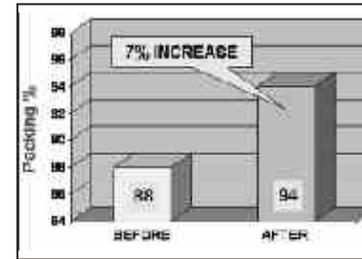
CARDING PRODUCTION (KG/HR)



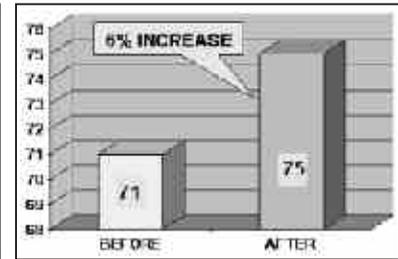
PRINTING M/C PRODUCTION (KG/DAY)



PACKING PERCENTAGE OF FINISHED FABRIC



REALIZATION OF COMBED YARN (%)



DO's FOR 5S IMPLEMENTATION

- Make cleaning schedule and take proper follow-up.
- Follow standard procedure of 5 S implementation.
- Set targets.
- Elaborate the problems.
- Make things visual.
- Use audit sheet audit & repeat audit.
- Encourage people recognize and reward.
- Continuous training.

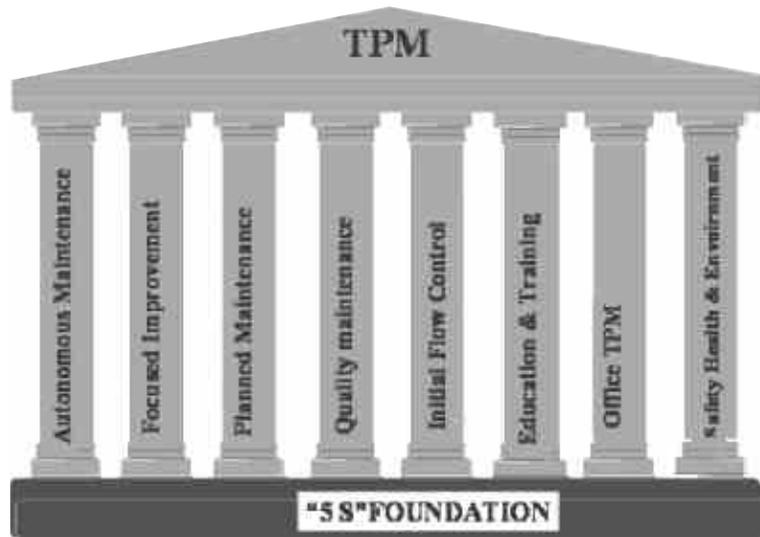
DON'T s FOR 5S IMPLEMENTATION

- 5S should not be implemented in a haste.
- No working area should be spared from 5S.
- Employees should not be dictated to adopt 5S but they need to be encouraged, motivated and facilitated to be a part of the team.
- Once started 5 'S' should be ingrained in minds as a vital function and must get continuous energy by the top.
- No scope left for any disconnect between rank employees and top management.

Our future plan is to implement the 5S as a base of TPM. We are striving to sustain 5S through focusing on eight pillars of TPM

which include Jishu Hozen, Kobestu Kaizen, Planned Maintenance, Education and Training, Quality Maintenance, Safety, Health and Environment, Office TPM and Initial Flow Contro .

TPM PILLARS



B.B. Peer
Senior Vice President (Technical)
Vardhman Spinning and General Mills
Chandigarh Road, Ludhiana

Village Inquiry in Sanctuary Area - Protecting tribal interests

Kiran Kulkarni

This is an inquiry into the claims of forest dwellers in view establishment of Forest Projects in the form of Protected Areas like Sanctuaries, National Parks, is basically a duty of Inquiry Officer appointed by the State Govt. under Wild Life (Protection) Act, 1972. It was the 'Collector' who was entrusted with this responsibility under Indian Forest Act, 1927. 'Collector' is an Institution that still is entrusted Inquiry work for a Protected Area.

If such inquiry work is entrusted to an officer who is part of the institution called 'Collector', he/she should take this as an opportunity to officially intervene in the domain of tribal life to lead the process towards just and fair situation for the stakeholders who are mainly tribal. The inquiry process can be converted into quality initiative leading to a major contribution towards tribal welfare. The inquiry officer is solely responsible for his/her report/ findings and recommendations. Thus, his/her insight plays a critical role in the inquiry process.

The aim of the inquiry procedure is to settle claims but the aim of the approach advocated in the article is to settle claims in a just and people centric manner. It is primarily an approach and method confined to the framework of law converting the inquiry into a quality initiative and thereby gaining experiences and lessons.

The inquiry process carried out on the lines suggested shall

* (Author's doctoral research topic: analytical study of administrative and legal aspects of resettlement process with reference to tribals residing within forest area of Melghat, dist. Amravati)

turn out as a *Good Practice*. It is intended as a writer and trainer to disseminate the contents in the form of training module.

Forest conservation is one of the prime ways to curb the environmental degradation. Birth of a sanctuary involves administrative, legal, social processes etc. Various central as well as state enactments are attracted. Before the advent of British, local customs played an important role in controlling the usage of forest. Western rulers tried to control the forests with exploitative intent.

The first enactment in this connection was Forest Act of 1865. It had provisions for regulation of forest exploitation, management and preservation which dealt with the people's rights over lands under forest cover and regulated the collection of forest produce by people. This statute was applicable only to the government forests. The Forest Act of 1878 classified the govt. forests in A, B and C classes. Government control got facilitated by the concept of forest offences with prescribed punishments. The Indian Forest Act, 1927 tried to codify all the practices of the forest department. It contained provisions for forest preservation, promotion of forest produce, collection of government revenues from forest area. Along with forest management, it prescribed guidelines for exposure of forest resources to industrial and commercial exploitation. There was also a provision for taking over the management of private forests.

National Forests Policy of 1952 states that the claims of communities living in and around forests are subsidiary to national interests. Forest dwellers living in the environs of the forests were discouraged from them. This indicated that the government was viewing forests with preservation angle while wanting to exploit it for construction of roads, irrigation, hydro-electric projects, industries and other projects in national interest. This policy was in synchrony with the socialistic model of development which India adopted as a new independent nation. In 1955, the subject of forests was included in the Provincial List. In 1976, 42nd amendment to the Constitution was passed by which subject of forest was transferred from State List to the Concurrent List. It resulted into

curtailing state level powers and increasing center's power over the forest. The Forests (Conservation) Act, 1980 prohibited State Government from allowing any non-forestry use of forest land without prior approval of the central govt. This provision has proved as a major instrument of central control over forests.

National Forest Policy, 1988 considered increasing demand for forest produce and emphasized new strategy of forest conservation. The definition of conservation broadened to include preservation, maintenance, sustainable utilization, restoration and enhancement of the natural environment. The aim was to ensure environmental stability and ecological balance keeping direct economic benefit at subsidiary level in forest management. Environment Protection Act, 1986 deals only with air, water and land pollution and treatment of hazardous substances ignoring forest use and afforestation. To achieve desired pace of afforestation, people's participation through movement with the initiative from government as well as NGOs needs to be strengthened. These statutes and policies prohibited deforestation while afforestation could not happen at desired pace.

Creation of sanctuaries is seen as an effective measure in forest conservation. Compliance of legal formalities is expected during inquiry process of the villages in sanctuary areas. The principal enactment in this connection is Wild Life (Protection) Act, 1972. The State Govt scrutinises the proposal of creating a sanctuary and then issues the notification to that effect under S. 18 of the Wild Life (Protection) Act. It is not expected that reserved forest area be notified for inquiry under S. 18. The area other than reserved forest is notified and inquiry thereof is done by settlement officer i.e. in charge revenue officer of that area. Further, territorial waters also cannot be notified as sanctuary under S. 18. It indicates, since reserved forest is considered a deemed sanctuary and notified under S.20 of Indian Forest Act, 1927, there is no need to notify it again under S. 18 of Wild Life (Protection) Act, 1972.

Reserved Forest is declared under S.20 of Indian Forest Act, 1927. Procedures as set out in Chapter 2 of the Act are :

- notification under S.4 declaring government decision to constitute particular land as reserved forest.
- proclamation by forest resettlement officer in local vernacular language under S. 6 explaining consequences and inviting claims
- inquiry under S.7
- commutation of rights admitted under S.16
- provision for appeal under S. 17 to 19
- declaring Reserved Forest under S.20 of Indian Forest Act, 1927

Most of the population affected is tribal, who are ignorant, illiterate and unorganised. They could not claim their rights that should have been given under Section 7 of the Indian Forest Act at the time of declaring reserved forest. However, they are still enjoying the benefits of the rights that are removed on paper while declaring reserved forest. This creates a complex situation in a field which needs to be dealt with caution at the time of inquiry of villages in sanctuary area.

Usually, the Collector does not undertake inquiry himself and delegates the task to his immediate subordinate officer, who holds charge of the concerned area. Unfortunately there is no provision for training and guidance to these officers. The inquiry is to be done about rights of any person. It is regarding existence, nature and extent of right.

From the date of S. 18 notification, the status of land regarding rights just freezes on the date of notification. Status quo is expected to be maintained as far as accrual of rights go. The exceptions are succession and testamentary. Hence no private transactions are permitted in the notified area and no fresh rights can be conferred after the notification. It is essential that the villagers affected are informed about restrictions on accrual of rights over the land from the date of notification. Such communication is necessarily to be done in local dialect.

The inquiry under clause 22(a) is about the claims preferred before the inquiry officer. It is expected to be done in a formal way.

But, for the inquiry under clause 22(b) about the existence of any right not claimed, it is not necessary to follow the same procedure. For 22(b), it will be a summary inquiry on field. There is no procedure as such prescribed for summary inquiry. Hence, the inquiry officer should evolve his own methods to arrive at just and fair conclusion to decide about existence, nature and extent of rights as also the amount and particulars of compensation, if any. Some possible methods to hold an effective, just and realistic summary inquiry can be enumerated as below:

- **Gram Sabha :** It is advisable to hold Gram Sabha to verify the existence, nature and extent of the unclaimed rights. It will be consistent to the provisions of PESA (Provisions of Panchayat (Extention To Scheduled Areas) Act, 1996). Section 4 of the PESA Act provides for extensive powers to Gram Sabha. Especially, when we talk about determining rights (community as well as individual) over the natural resources around the village, the consent of Gram Sabha provides authenticity and social sanctity to the inquiry process in addition to legality.
- **Spot inspection :** It helps in assessing the exact situation on field. Validity of claims can be examined in a better way through spot visit along-with concerned parties. Cross questioning always helps in digging out the reality. Such spot inspection immediately before Gram Sabha gives holistic picture.
- **Formal and informal feedbacks :** This helps in locating the issues to focus upon the field in summary inquiry. The sources of informal feedbacks could be village level functionaries, common man, retired government functionaries from that area, local politicians, social-workers etc.

Against this background, provisions under S. 24 need to be understood. According to Section 24 of Wild Life (Protection) Act, 1972, there is provision for consent of villagers to the compensation offered by the Inquiry Officer. If agreed, there was no need to adopt land acquisition proceedings as provided in section 25. Otherwise, the land acquisition proceeding starts from section 9 onwards under the Land Acquisition Act.

S. 24 reads as under:

24. Acquisition of rights -

- In the case of a claim to a right in or over any land referred to in S. 19, the Collector shall pass an order admitting or rejecting the same in whole or in part.
- If such claim is admitted in or in part, the Collector may either-
 - ▶ Exclude such land from the limits of the proposed sanctuary, or
 - ▶ proceed to acquire such land or rights, except where by an agreement between the owner of such land or holder of rights and the Government, the owner or holder of such rights has agreed to surrender his rights to the Government, in or over such land, and on payment of such compensation, as is provided in the Land Acquisition Act, 1894.
 - ▶ Allow, in consultation with Chief Wild Life Warden, the continuation of any right of any person in or over any land within the limits of the sanctuary

The purview of S. 24 starts when the inquiry procedure reaches a decision making stage. The decision of the inquiry officer may be either of two types.

- Rejecting the claims
- Admitting the claims (in part or fully)

Whereas rejection of the claim can be on the ground of non existence of the right claimed, the inquiry officer should verify the existence of the right correctly. It is necessary for him to understand whether the right is on paper or in practice. Due opportunity must be given to the claimant to prove his claim. Inquiry officer should record proper justification for rejecting the claim. The Inquiry Officer should not only rely upon the evidences produced by the claimant, but take into account also the holistic picture of the village, needs and practices of the villagers, livelihood pattern etc.

Community rights are to be scrutinized before rejection as in case of resettlement, those rights are expected to be provided at the relocation site in addition to civic amenities as per Section 10 (4) of

Maharashtra Project Affected Persons Rehabilitation Act, 1999. Community rights are to be identified and admitted so as to facilitate the villagers (especially tribal) to live at relocation site according to their culture and traditions. Resettlement does not at all mean to compel the tribal to abandon their culture and traditions. On the contrary, they should be supported to preserve and to practice as per their culture and traditions at relocation site also. Rejection of claims on rights (particularly community rights) should not amount to compulsory cultural loss to them.

In case of a decision where resettlement is not proposed, it has to be seen that villagers should be able to live satisfactory life in economic, cultural and social terms. In such case, rejection of the claims is to be done with due consideration to their livelihood needs. As they are allowed to live within the forest area and not being resettled, their livelihood needs must to be satisfied.

Admitting the claim fully or partially has three possible offshoots :

- Excluding the concerned land from the limits of the proposed sanctuary.
- Compensating the claims admitted to include concerned land within the limits of the proposed sanctuary.
- Allowing the continuation of any right of any person in or over any land within the limits of the sanctuary, in consultation with Chief Wild Life Warden.

If the concerned land is excluded from the limits of the proposed sanctuary, the Inquiry Officer has to strike a balance between the objectives of creating the sanctuary on one hand and welfare of the people and cost considerations on the other. In other words, cost benefit ratio in social, cultural and financial terms on one hand and preserving ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wild life or its environment on the other. For this exercise, he has to consult and coordinate with local forest officials and staff. Few guidelines for deciding whether villages are to be shifted or not, are listed below:

- Make list of species of wild life, flora and fauna along with tentative quantity.
- Consider if there are unique species of wild life, flora and fauna prevalent around the village. It is necessary to consider those species also which cannot be recreated or difficult to preserve with human interference.
- Check whether existence of village is hurdle to movements of wild life. Particularly, whether wild life is getting corridor ways. If they could not get such corridors because of existence of the human habitation, the habitation has to be shifted.
- Make a list of the private rights (including community and property rights) in and over the area of the village.
- Try to quantify those rights by giving weightage according to necessity and benefits thereof.
- Check whether there are some rights which cannot be provided elsewhere (outside sanctuary limits or around the relocation site).
- Calculate rough cost of acquisition of those rights and resettlement expenses.
- Consider if there is unique social and cultural system prevalent in the village that cannot be recreated.
- Consider the geographical and topographical location of the village. The villages on the fringes of the proposed sanctuary area can be retained if some restrictions are imposed.
- Try to find out the extent of effects of rights and practices of the villagers on wild life, flora and fauna in the area. Sometimes, it is possible that the rights and practices of the villagers help in conserving wild life, flora and fauna around the village. Factually, forest is conserved due to existence of these villagers. Otherwise in other areas, forest is already extinguished.
- Consider the nature of rights and practices to decide whether villages are detrimental to existence, growth or conservation of wild life, flora and fauna. For this, categorisation of rights and practices will help.

Taking into the account above, a broad opinion needs to be developed while deciding about necessity to shift the village.

Forest (Conservation) Act, 1980 - Rules & Guidelines (as amended on October 25, 1992) published by the Government of India, Ministry Of Environment & Forests mention some parameters for evaluation of loss of forests. Those parameters can be useful to take decisions. These parameters are to be quantified and expressed in monetary terms. They are designed in relation to calculating loss of forest due to project development, but that can be used to some extent for projection of the loss due to the decision of excluding certain land from sanctuary area. The parameters are :

- Loss of value of timber, fuel wood and minor forest produce on an annual basis, including loss of man-hours per annum of people who derived livelihood and wages from the harvest of these commodities.
- Loss of animal husbandry productivity, including loss of fodder.
- Cost of human resettlement.
- Loss of public facilities and administrative infrastructure (Roads, buildings, schools, dispensaries, electric lines, railways etc) on forest land, or which would require forest land if these facilities were diverted due to the project.
- Environmental losses: (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance).
- Suffering to oustees.

Though technical judgment would be primarily applied in determining the losses, as a thumb rule the environmental value of one hectare of fully stocked forest (density 1.0) would be taken as Rs. 126.74 lakhs to accrue over a period of 50 years .The value will reduce with, for example, if density is 0.4, the value will work out at Rs.50.696 lakhs. So if a project which requires disforestation of one hectare of forest of density 0.4 gives monetary returns worth over Rs. 50.696 lakhs over a period of 50 years, may be considered to give a positive cost benefit ratio. The figure of assumed

environmental value will change if there is an increase in bank rate; the change will be proportional to percentage increase in the bank rate.

The social cost of rehabilitation of an oustee (in addition to the cost likely to be incurred in providing residence, occupation and social services to him) be worked out as 1.5 times of what he should have earned in two years had he been not shifted.

A rough projection can be worked out with the help of these parameters if the village is not shifted what would be the loss of the forest.

In Maharashtra, the 1986 Resettlement Act was replaced with the Maharashtra Project Affected Persons Rehabilitation Act, 1999. There is inclusion of 'sanctuary' in the definition of 'project' which practically meant that the Rehabilitation Act, 1999 is now applicable to sanctuaries also. Hence, sanctuary is now being considered as a project under the Rehabilitation Act and accordingly, the work of resettlement is to be done.

Forest (Conservation) Act, 1980 - Rules & Guidelines (as amended on October 25, 1992) published by the Government Of India, Ministry Of Environment & Forests prescribes parameters for evaluation of benefit, notwithstanding loss of Forests. The projects, for which those parameters are prescribed, are irrigation, hydel power, roads, railway etc. It is possible to evaluate sanctuary project through the parameters listed below:

- Increase in productivity attributable to the specific project.
- Benefits to economy.
- No. of population benefited.
- Employment potential.
- Cost of acquisition of facility on non forest land wherever feasible.
- Loss of (a) agriculture & (b) animal husbandry production due to diversion of forest land.
- Cost of rehabilitating the displaced persons as different from compensatory amounts given for displacement.

A rough projection can be worked out with the help of these

parameters if the village is shifted what would be the gain at the front of forest conservation.

This discussion may prove useful to the authorities, NGOs working for tribal and villagers themselves while taking a decision about shifting of the village outside the sanctuary area.

While compensating the claims admitted to include concerned land within the limits of the proposed sanctuary, the inquiry officer should list down the claims admitted. For this, he needs to prepare lists of claims according to category. The categories could be as follows:

- Claims regarding property rights on constructions
- Claims regarding property rights on land (residential, agricultural and other)
- Claims regarding other individual rights
- Claims regarding community or group rights
- Unclaimed rights

A register with the following columns may be prepared for ready reference :

- Category of claims
- Nature of right
- Admitted fully or partly (extent, if admitted partly)
- Compensation claimed
- Valuation for admitted part
- Remarks

The valuation is to be done in the same way as is done in Land Acquisition Cases. Once the valuation part is over as per directives under Land Acquisition Act, the villager can be offered compensation package for his interests in the land to be acquired. If he agrees to that, no land acquisition procedure under Land Acquisition Act needs to be adopted. But if he disagrees, then under section 25 of Wild Life (Protection) Act, the land acquisition procedure from section 9 onwards of the Land Acquisition Act, will be started. A letter from Govt. of India, Ministry of Rural Areas & Employment, Dept. of Rural Development, D.O. Letter No. Leq.12011/32/5/98-LRD Dt. 11.11.1998 specifically narrates the

procedure to be followed for acquisition of land in schedule V areas.

A reference to the relevant provisions of the Land Acquisition Act will help. S. 9(1) of Land Acquisition Act reads as under....

9. Notice to persons interested

- The Collector shall then cause public notice to be given at convenient places on or near the land to be taken, stating that the Govt. intends to take possession of the land, and that claims to compensation for all interests in such land may be made to him.

The crux of the provision points to the fact that a person having any interest in the land under acquisition, must be compensated for all his interests. Some of these are:

- Claims regarding property rights on land (agricultural and non-agricultural) Valuation methods to determine the rate of land-
 - ▶ Ready-reckoner
 - ▶ Sale-purchase method
 - ▶ Income capitalization method.
 - ▶ Hypothetical layout method (for land having N.A. potential)

(It is important to note that the method which gives comparatively maximum rates, should be accepted)

For Agricultural land, basically rate for non irrigated land is fixed by adopting the above mentioned methods. The non-irrigated land rate is multiplied by 1.5 to determine seasonally irrigated land rates and by 2 to determine irrigated land rates. Rate for waste land or uncultivable (*potkharab*) land is normally fixed i.e. Rs. 1,500/- per Hectare.

(Land valuation is to be obtained from Town Planning Dept.)

Land valuation is calculated subject to provisions of State enactments. (as in Maharashtra, Class II occupant is given 90% of land value, etc.) While considering sale purchase transactions, it is expected to consider transactions of similar

lands in vicinity. Since there exist restrictions on transfer of land of tribals and class II occupants under State enactments (like M.L.R.C. in Maharashtra), it is mandatory that the transactions considered are truly representing fair market value. To do fair valuation, the transactions out of TSP area and of non tribals may be considered. The State Government should issue guidelines to this effect preventing tribals landing into loss. Other methods such as ready reckoner and income capitalization are also finally rest on those factors which got affected by TSP area and restrictions on transfer of tribal land. Hypothetical layout method (for land having N.A. potential) is largely not applicable to lands surrounded by forest and hence bears minimum relevance..

- Claims regarding property rights on constructions Items and Govt. Agency for valuation:
 - ▶ Construction of any type (Public Works Deptt.)
 - ▶ Fencing of any type (Public Works Deptt.)
 - ▶ Drainage lines constructed (Public Works Deptt.)
 - ▶ Bunds (Soil Conservation Deptt.)
 - ▶ Well (Public Works Deptt.)
- Claims regarding other individual rights Items and Govt. Agency for valuation:
 - ▶ Scheduled Trees (Forest Deptt.)
 - ▶ Fruit bearing Trees (Horticulture - Agriculture Deptt.)
 - ▶ Pipeline - unmovable (Public Works Deptt.)
 - ▶ Drip irrigation unit (Agriculture Deptt.)
 - ▶ Sprinkler system (Agriculture Deptt.)

Further, as per S. 23 (1A) of Land Acquisition Act, in addition to the market value of the land, an amount of 12% per annum on market value, is to be accorded for the period commencing from the date of publication of the notification under S. 4(1) up to the date of award or the date of taking possession of the land, whichever is earlier. Also, as per S. 23 (2) of Land Acquisition Act, in addition to the market value of the land, 30% amount on such market value is

to be accorded in consideration of the compulsory nature of the acquisition. In case of sanctuaries, the land acquisition procedure starts from S. 9. Hence, the date of notification under S.18 of The Wild Life (Protection) Act, 1972, is to be taken as reference date.

Allowing the continuation of any right of any person in or over any land within the limits of the sanctuary, in consultation with chief wild life warden is an option that is exercisable only with written consent. It is to be adopted only for those cases where shifting of villagers is not worth . It is advisable that an inquiry officer should inquire about the rights in and over the land notified as well as the rights of the villagers in and over the reserved forest around the village. He should determine the existence, nature and extent of the rights. Normally, though reserved forest area does not bear rights of the villagers, it is necessary to see whether there is continuing practices under the rights that are abolished while declaring reserved forest. Such enquiry in and over the village land as well as in and over the reserved forest area around, is necessary because....

- Livelihood of those villagers (especially tribal) may depend upon those practices under the rights that are abolished on paper but continue in practice.
- It is necessary to calculate ,what the villagers going to lose in resettlement process.
- What sorts of amenities and facilities be given to the villagers on relocating them.

If shifting is final, the inquiry officer should mention the villagers' rights and concessions ,which they enjoy in and over village as well as reserved area land since there happens a considerable time lag between the decision and actual shifting .

Rejection of claims on rights (particularly community rights) by the inquiry officer, should not lead to permanent cultural damage to tribals. Admitting the claim may bear possible offshoots:

- Excluding the concerned land from the limits of the proposed sanctuary,
- Compensating the claims admitted to include concerned land

within the limits of the proposed sanctuary,

- Allowing the continuation of any right of any person in or over any land within the limits of the sanctuary, in consultation with chief wild life warden.

The Inquiry Officer has to strike balance between the objectives of creating the sanctuary and welfare of the people and cost considerations. An holistic view is prerequisite to deciding necessity of shifting of a village. A rough projection may be worked out with the help of certain parameters if the village is not shifted about the loss of the forest and if shifted, about the gain at forest conservation. Once the valuation part is over under Land Acquisition Act, the villager may be offered compensation package. If he agrees , no land acquisition procedure needs to be adopted. It is expected that the person having any interest in the land, be compensated . Normally, reserved forest area does not allow rights of the villagers, it is relevant to examine, is there continuing practices under the rights that are abolished while declaring reserved forest.

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