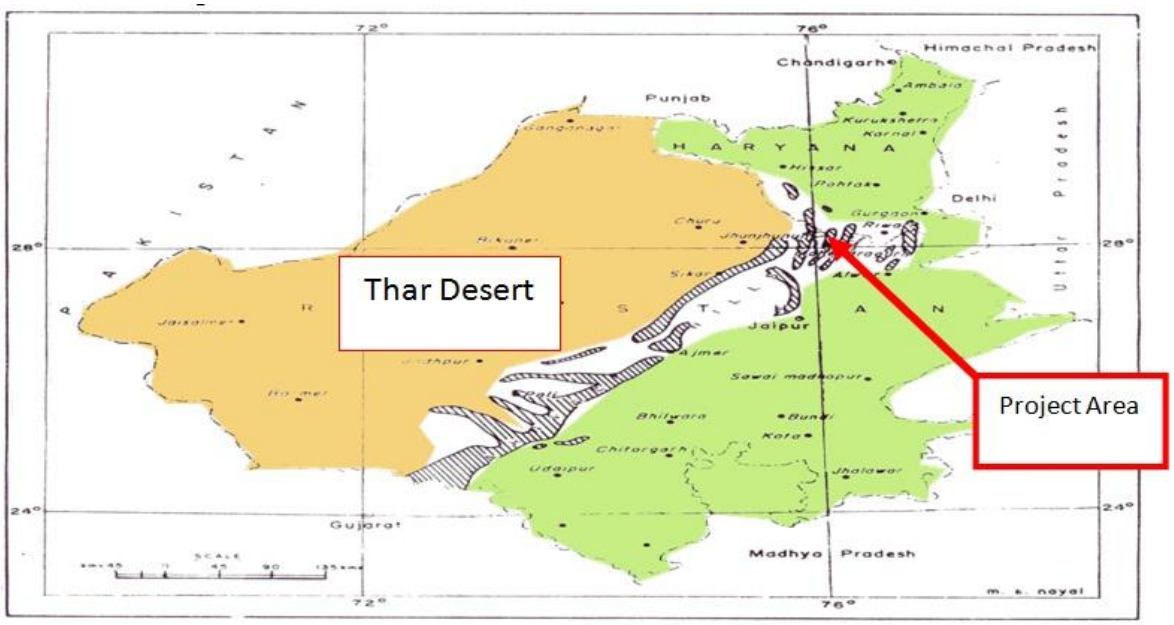
BASANT IN WILDERNESS – A CASE STUDY

RECENT ENVIRONMENTAL AND SOCIAL CHANGES IN NRM PROJECT AREA

Background: The Natural Resources Management Project supported by the SRF Ltd. operated in 35 villages of Tijara block of Alwar district of Rajasthan from 2006 to 2016. The project was implemented initially with the help of Pardan a reputed NGO and thereafter with Sir Syad Trust. The Society for Promotion and Conservation of Environment an NGO was placed on board since 2008 for evaluation, impact assessment and technical support. In this ten-year period, 206 earthen dams were constructed to harvest rain water from the barren Aravali hills for ground water recharge and flood moderation. 1850 hectares of privately owned waste lands were leveled under a cost sharing system. Around 3.5 lakh Aruneem plants were planted on field bunds of reclaimed lands. In addition fifty thousand fruit plants were raised in clusters. More than 200 Self Help Groups were formed under a poverty alleviation program for weaker sections and women empowerment was particularly focused. The project was closed in the present form in 2016. However, it was continued again from 2017 with support from SRF Foundation with main focus on Hydrological and Environment Studies in Villages Surrounding the SRF Plant.

Aravali Ecosystem: The Aravalis are one of the oldest mountain ranges spread across Rajasthan and terminate near New Delhi.



Aravali-hills and Project location

The ecological importance of Aravalis is that they have checked the movement of Thar Desert towards the North-East otherwise alluvial plains of UP including Delhi would have been full of sand dunes. The vegetation cover has gone due to excessive grazing and now these are almost barren hills (photo).

There is a belt of windblown low sandy hills all along the rocky Aravalis on the south western face varying in width from 2 to 5 km. These gullied wastelands are either owned by the Forest Department or are common village lands used for livestock grazing under a common access system prevailing since long. Low rainfall, sandy soils, water scarcity, women drudgery, deforestation and lack of fuel and fodder characterize the Aravali Ecosystem,

The livelihood of Muslim community inhibiting the area was based on pastoral economy and under intense grazing and fuel wood extraction pressure; the Aravalis and low sandy hills have been denuded of natural vegetable cover. Every blade of grass has been browsed by herds of cows and trees trimmed by goats. All Acacia trees are pollarded as soon as they reach the stage of poles.

Emergence of Water Crisis: Over the years, the pastoral based livelihood changed to settled agriculture and lands were gradually leveled near villages and mustard – bajra crops dominated the landscape. The bore-well technology arrived about 40 years back and large numbers of tube-wells were installed to extract limited ground water. The irrigated agriculture under low rainfall and no rivers and canals to recharge lowered the water table and no soon diesel engines were replaced by submersible motors. The chase of ground water continued and availability of water for irrigation decreased leading to questions on sustainability of agriculture in this drought prone area. The New Delhi peripheral area started expanding in last 30 years. The area of Tijara Block

touching Haryana came under the influence of industry and colonization which further aggravated the problem of ground water availability. The water crisis are becoming serious.

SRF Initiative: The Shri Ram Fibres (SRF) a leading chemical industry established their plant at village Jiwana near Bhiwadi located in the foot of Aravali hills (photo).

The SRF was committed to recharge ground water equal to double the amount of extraction by the plant. In order meet this requirement and also due to their philanthropist leaning, they selected 35 villages around the plant and started a Natural Resource Management Project under Corporate Social Responsibility Portfolio with the help of 'Pardan' a famous NGO. Under this program, in a period of 10 years, 206 earthen dams were constructed to harvest rainwater from Aravali Hills to recharge fast depleting ground water. The data collected by SPACE indicated that during the last 16 years, the ground water recharge by rain water harvesting was equal to the extraction by the plant.

There was large chunk of private uncultivated waste lands lying in the form of gullies and used as grazing grounds. Poor farmers could not afford to level these lands. Moreover, the flood water from the Aravalis was discharged through these gullies and could wash away the leveled lands. Due to this fear such lands were not brought under cultivation after leveling. The NRM project attempted to help such farmers. The fear of floods was eliminated by the construction of earthen dams across these gullies. 1850 ha privately owned barren and gullied lands were leveled by adopting a cost sharing model (Photo).

The construction of earthen dams not only started ground water recharge but also eliminated the damage of floods along the drainage lines. The farmers gradually started leveling the erstwhile barren gullies above and below the dams to convert them into terraces. The cash generated from 1850 ha land leveled earlier under cost sharing system prompted them to reclaim their written off lands located around the gullies. The construction of earthen dams at the top eliminated the chances of floods. The land hungry farmers leveled the gullies below and started raising wheat and mustard. In a span of 10 years, this wilderness was converted into an oasis of greenery. The mustard grown on large scale in the erstwhile barren and gullied area converted the landscape into a Basant in wastelands.

An Emerging Challenge

The ever increasing demand on ground water both by agriculture, industry and housing is leading to fast depletion of reserves and emerging as a challenge for sustainable agro-industriam development. Demand management is often stated as one possibility. The farmers are using sprinkler irrigation to use water most eficiently. Some of the farmers have started using drip irrigation for vegetable crops (Photo).

Energy Crisis

The fuel wood from the forest is fast decreasing. The average farm family is unable to spend on gas cylinders. The cow dung collection, preservation and judicious use appears the only alternative. The women are playing a key role in preservation of cow dung by making cow dung cakes to tide over the energy crisis (Photo).

The design and geometry of cow dung stacks and their scientific storage is an example of indigenous technical knowledge.

Dry fodder storage bin an example of local innovation.