

SUCCESS STORY OF PANAM IRRIGATION SCHEME IN THE FIELD OF PARTICIPATORY IRRIGATION MANAGEMENT

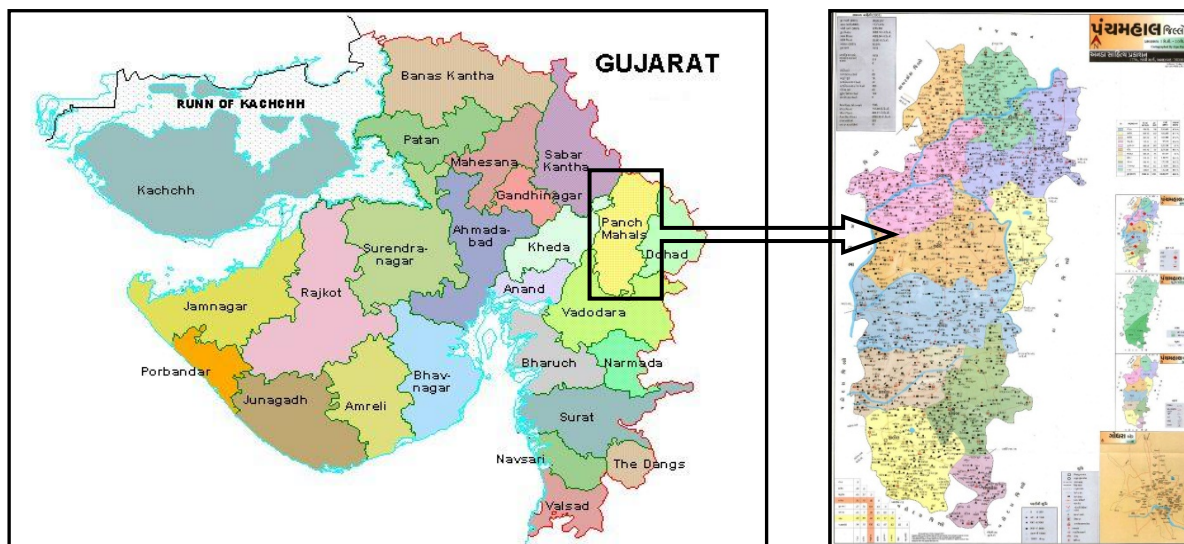
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When the Gujarat State is leaping towards the progress, the Panchmahal district is also making its noteworthy contribution in the field of Irrigation Management.



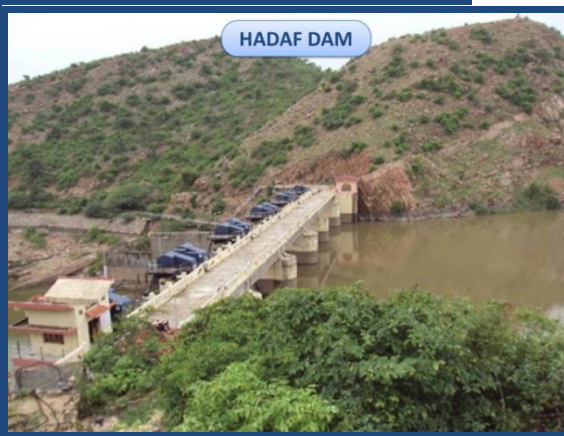
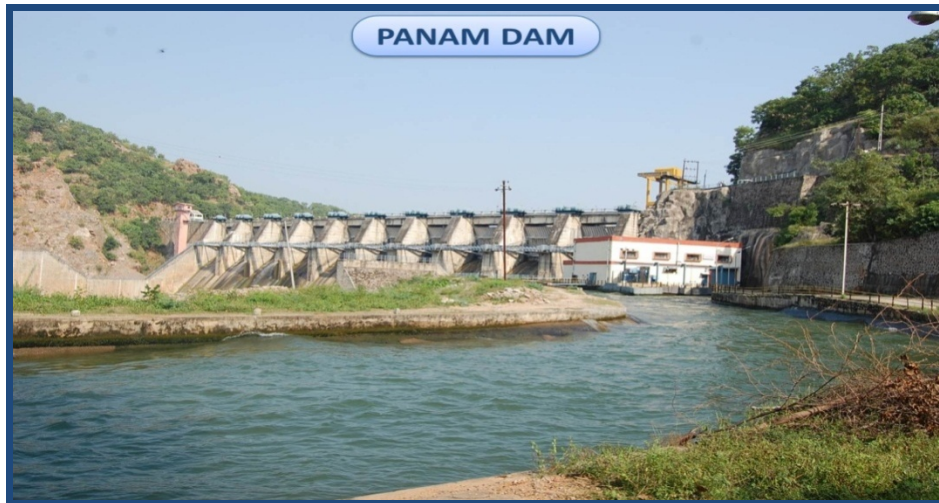
PREFACE:

The Panam Project Circle is situated at Godhra, Capital of Panchmahal district. Godhra is situated @ 160 km eastward from the state capital Gandhinagar, 130 km from Ahmedabad and 80 km from Vadodara.

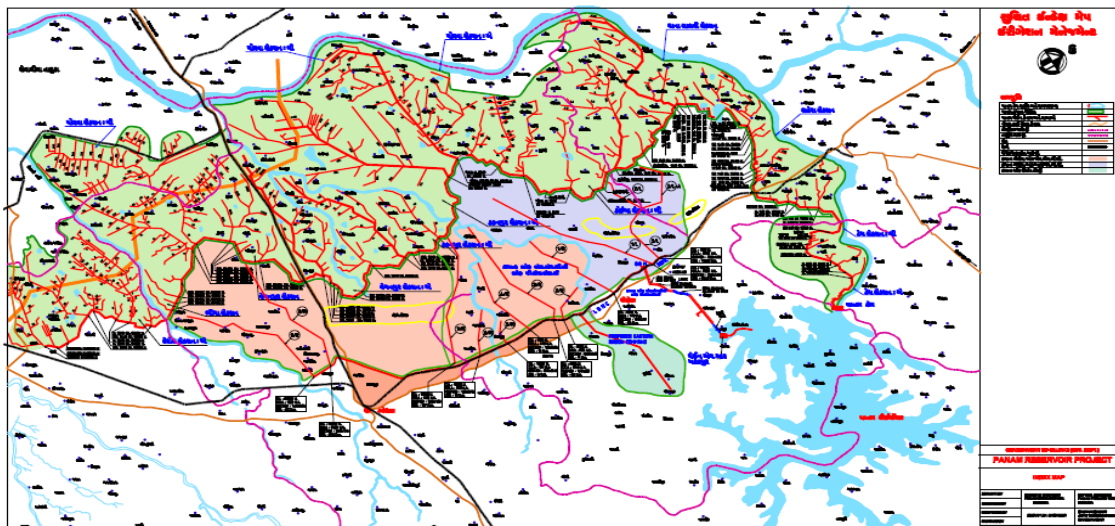
The circle has PANAM Project as the Major Irrigation Scheme, constructed on river Panam, a major tributary of Mahi River.

KARAD and HADAF are the other two Medium Irrigation Projects under its control. These three irrigation schemes serve the CCA of 36405 ha, 6190 ha & 5238 ha respectively. The beneficiaries in command area are comprised of economically backward, tribal, marginal farmers.

The water for irrigation has been supplied through PANAM Scheme since the year 1980, through KARAD since the year 1960 and through HADAF since the year 1985.



The Panam Main Canal has a discharging capacity of 741 cusecs. The length of Main Canal is 100 km. The distribution system having 38 Distributories / Minors / Direct Outlets forms a Network of total length of around 800 km. The area covered under irrigation is 36405 ha.



DIFFICULTIES FACED DURING IRRIGATION MANAGEMENT –CAUSES:

TOPOGRAPHY:

The Panam Main Canal is a Contour Canal. The canal in the initial reach passes through the hilly terrain up to 32 km. On one side of the canal, there are hills, while on the other side Panam river flows roughly parallel to the canal. In this area, the embankment height varies from 6 m to 18 m.

The canal running through this high banking area was frequently got damaged during Monsoon period due to slippage of rock debris, boulders etc. from the hills. The accumulated heavy debris in the forms of heaps not only obstructs the canal flow but also caused severe damages to canal Lining.



Due to these, severe difficulties were faced to make the canal run particularly in Kharif season whenever there is a delay in rainfall during the end of August or Early September Months.

PERENNIAL WATER SUPPLY FOR ALL 3 SEASONS:

The Panam Dam was constructed on Partnership Basis in the year 1973. The Major stakeholders in the Panam project with Govt. of Gujarat were Vadodara Municipal Corporation, Indian Petrochemicals Limited, Indian Oil Corporation and Gujarat State Fertilizers Corporation.

The partnership in the Panam Project was ended in 1998 due to dispute of delayed payment of Capital cost as well as Maintenance charges, interest thereof, levy of water charges for the consumption of water etc.

The saved water in the Panam reservoir had drawn the attention of local dignitaries, political leaders and on their demand, the water for irrigation had to be supplied for the hot weather season besides having no provision in the original planning of Panam Project.

CHANGE IN CROPPING PATTERN:

Gradually, with the passage of time, the farmers were used to get water for hot weather season and with support of local leaders, the users were succeeded to make the canal run for every Hot Weather Season.

This situation led to the release of irrigation water in canals for Kharif, Rabi & Hot weather seasons. Due to perennial irrigation, there found a Major Shift in crop cultivation pattern in the initial 60 km length of command area. Farmers started paddy cultivation for both Kharif & Hot weather seasons.

The paddy cultivation in hot weather raised the demand of water for growing seedlings in the months of January & February. This situation adversely affected the critical period for the wheat cultivation for the rest of command area. The huge demands of water in initial area create shortage of supply of water in the remaining area.

On the other hand, due to non maintenance of field channels by the farmers, the free flooding method of irrigation in the paddy farms practiced by the farmers resulted into a lot of wastage of water.

Due to over irrigation in the initial reach of command area, the problems like water logging started to appear. Agricultural lands were reported to be less fertile and less productive.



WEAR AND TEAR TO CANAL SYSTEM AND STRUCTURES DUE TO AGING EFFECTS:

The Canal Network was built during 1977 to 1980. Irrigation has been commenced since Kharif 1980. As the time passed, Panam Irrigation Canals encountered various problems like damages / settlements in the lining, heavy leakages due to structural deterioration of Aqueducts, Siphons, Pipe drains etc.



The efficient implementation of Long term Repairs, Maintenance, Remedial measures to canals could not be carried out due to perennial water supply in the canals.

Due to rare and tare of canals, the canal breaches and damages were became Chronic Problems. Occurrences of frequent canal breaches disrupted the Irrigation Schedule. Hence beneficiaries were used to take water from the canal by damaging the canals for their own interest.

As a result, the Tail Enders always experienced the shortage of supply. The farmers in the tail area could hardly tolerate the situation and often due to anger & dissatisfaction, they were used to willfully damage the canals.

ESSENTIAL MEASURES TAKEN FOR EFFECTIVE IRRIGATION MANAGEMENT:

As a strategic move to resolve the problems cited above, the Panam Project Circle sought the permission from the Government to close the Irrigation water supply for the hot weather during the year 2009, 2010 , 2011 and this year also.

During the non-supply of water for the hot weather, the canal remedial works were carried out in sequence under the Extension, Renovation and Modernisation (E.R.M.) of existing Irrigation scheme.

During the year 2009, the accumulated rock debris from different chainages was completely removed from the entire length of main canal between ch.0 to 32 km. Such removal of the debris and cleansing of canal activities were documented with photographs and videography and submitted to the Government with detailed report.

In the entire length of Panam Main Canal, the various structures like aqueducts, siphons, pipe drains etc. were repaired on priority basis with Guniting, Grouting, Jacketing, RCC work etc. options wherever applicable. Such remedial works are still being executed on priority basis every year to ensure release of enough irrigation water. As an impact as a whole, the entire canal has become able to carry design discharge.



Priorities were simultaneously given for improvement of service roads of main canal and Distributories. Thick Jungle, weeds, bushes being removed and earth work being carried out with help of Mechanical wing of the Department on Inspection Path and Service Road side of Main Canal between Ch. 70 to 100 km and at Important Distributories.

Asphalt Carpet is provided from 0 to 38 km of Main Canal. W.B.M. surface being provided from 38 to 100 km. of Main Canal and in entire length of 6 distributories.

The improvement in Service roads of main canal and distributories resulted in to improved Irrigation management.

All HR and CR have been recalibrated. Simplified Measuring Devices being reconstructed on Important Distributories and Minors.

A Control Room has been opened at Godhra for round the clock Irrigation Management. Gauge and Discharges of all important locations were recorded at every 2 hours. Night Patrolling in the whole command area was carried out during entire Ravi season.

F.I.R.s were filled against culprits damaging the canal. All such actions have created discipline in the command area.

CONTRIBUTION OF THE PARTICIPATORY IRRIGATION MANAGEMENT IN THE FIELD OF IRRIGATION MANAGEMENT:

The Participatory Irrigation Management (PIM) has played a significant role in the area of Irrigation Management.

Only Canal Remedial Measures could not be able to distribute Irrigation water to the Tail Enders. This could be happened only due to successful implementation of PIM in the command area.

Before the year 2007-2008, very little information as well as understanding was prevailing among the farmers and officers / staff members of Panam Project Circle regarding Participatory Irrigation Management.



But sequentially arranged Training programs, at different places of command area, organized Motivational Tours etc. by the diligent officers / trainers from the WALMI (Water and Land Management Institute), Anand, in coordination with the Nationally renowned NGO named Development Support Center (DSC), Ahmedabad has created remarkable awareness and enthusiasms in farmers and departmental officers to form Water Users' Associations. Some of them are mentioned below;

At Veganpur, one of the important village, situated at ch. 70 km of Panam Canal, one day workshop was conducted on 26-12-2009 in collaboration with WALMI- Anand and DSC- Ahmedabad.



At Bhima, situated at ch. 80 km, i.e. in tail area of Panam Command, one day seminar was organized on 17-2-2010 in collaboration with WALMI, Gandhinagar.



At Eral, one of the important village of Karad Project Command Area, one day Training program was held on 18-2-2010 in collaboration with WALMI, Gandhinagar.



At Kothamba, situated at ch. 40 km, i.e. in Initial reach of Panam command area, one day workshop was arranged on 14-5-2010 in collaboration with WALMI-Anand.



In the above workshops, the farmers and the field staff were given information pertaining to PIM, its benefits, concept, methodology etc. in a simplified manner by the experts from WALMI and DSC as well as from the members of the other similar cooperatives in the Gujarat State.



Incentives like Prize distribution to Best WUA as well as to the field staff also were given publically to encourage others. All such workshops were organised from Morning to Evening with Breakfasts, Lunch and Evening high tea.

Agricultural experts shared knowledge and Information about Crop Rotation, seed selection, applications of Fertilizers and Pesticides facts and myths about water requirements etc.

Experts from the Drip and Sprinkler Irrigation Companies gave Live Demonstrations at various locations in the field to motivate farmers for adaptation of the same.



On 28-3-2011, at Morva (Rena) village, i.e. in the middle reach of Panam Command area, one day workshop for women only was organised in collaboration with WALMI- Anand.



It was a grand success as large numbers of women members were remained present and participated actively. They had learnt various aspects of Participatory Irrigation Management in detail.

But PIM could not be implemented effectively by arranging Seminars, Workshops only. Serious and result oriented efforts are the key requirements.

For the efficient implementation of Participatory Irrigation Management, Officers / Staff of the Panam Project had taken up the Remedial works of minor canals in the Phased manner and completed the vulnerable remedial works of canal network in time.

The Minors to be handed over to the WUAs were jointly inspected and works were carried out by WUAs under Departmental Supervision.



Moreover, Priorities were given to supply water to WUAs. Sincere efforts were made to win the trust of farmers by delivering sufficient and timely discharge to the WUAs at any cost. Due to this core competence of the officers / staff of the Panam Project, number of WUAs could be formed.

Simultaneously, the WUAs have developed capability to distribute water successfully to their members on their own as well as to undertake canal maintenance and repairing works themselves.



One of the Most Important Feature of PIM is the successful implementation of “WaraBandhi” system (Rotational water supply–RWS).

The formation of WUAs and their successful management have resulted into improved brotherhood and harmony among the members which resolved many local disputes regarding the supply and distribution of irrigation water.

The members of WUAs voluntarily adopted the internal RWS system in the area. The farm holders take unanimous decisions to run Distributaries, Minors etc. to ensure efficient and proper distribution of water in time bound manner. Users create tendency to refrain from unauthorized use of water.

Due to this trend, the wastage of water is minimized and the area under irrigation has been enhanced.



In important Distributories, even 70% flow against the designed discharging capacity has become capable to deliver irrigation water to the tail area of the Distributory.

The saved quantity of water could be supplied to the 100 km long Panam Main Canal. The 37/ R Minor off taking from the 97th km of the Main Canal got timely and sufficient quantity of water for the first time for the wheat cultivation during Rabi-2010-11.



As a result, during the Rabi season 2010-11, the maximum irrigation of 16232 ha was recorded in the 30 years history of the Panam project which is 85 % of the irrigation potential.

During the current year 2011-12 Rabi season, the irrigation water could be supplied up to the 100 km length of Panam Main Canal and also in the last 38th distributory up to the Derol village in Kalol Block of the Panchmahals district. The beneficiary farmers expressed feelings of satisfaction for getting the irrigation water.

Integrated and coordinated efforts from the officers of Panam Project Circle and office bearers of the WUAs set an example in the field of PIM.

To view and assess the unforeseen success of the Participatory Irrigation Management, the officers and leading farmers from the Maharashtra, Andhra Pradesh, Madhya Pradesh, Rajasthan and Uttar Pradesh have visited the WUAs of the command area on 22-12-2010 i.e. during the irrigation period. They met the office bearers of the WUAs and discussed various aspects and parameters behind the success.



Afterwards, on 19-2-2011, approximately 46 Nos. of Class 1 / Class 2 Trainee officers from the Maharashtra Engineering Training Institute, Nasik have visited the various locations of Panam Canal Network and learnt about functioning of WUAs.



On 19-4-2011, a delegation comprising of Chief Engineers, Superintending Engineers and Executive Engineers (Approx. 14 Officers) of the Orissa Government have visited various WUAs of Panam Command.



On 21-1-2012, a delegation comprising of Chief Engineers, Superintending Engineers and Executive engineers (Approx. 12 Officers) of Tamilnadu Government have visited various WUAs of Panam Command.



Thus, remarkable success has been achieved through the Team Work of the Panam Project Circle's Staff and excellent Co-operation from the Water Users' Associations.

Jai Hind