Pradhan Mantri Krishi Sinchayee Yojana





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Pradhan Mantri Krishi Sinchayee Yojana

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) envisions improved agriculture production and better utilization of resources to enhance income of farmers in the country. It aims to achieve convergence of investments in irrigation at the field level, enhance the physical access of water on the farm, expand cultivable area under assured irrigation, enhance the adoption of precision-irrigation and other water saving technologies etc.

The focus areas, with regards to implementation of PMKSY, are listed below.

- Preparing a comprehensive 'District Irrigation plan'
- Increasing irrigation potential
- Increasing coverage under micro irrigation
- Creating of Water Users Associations / Watershed Committees
- Constructing Water Harvesting Structures constructed in the district
- Adopting innovative methods in implementation of scheme
- Enhancing transparency and accountability in implementation of the scheme

Executive Summary

Anantapur, Andhra Pradesh (PMKSY)

Background/ Initiatives Undertaken

- Gram Panchayat Irrigation plans were prepared through Water Gap Analysis for all 1003 Gram Panchayats and these were integrated into a Comprehensive District irrigation plan
- **100% Geo tagging of all structures** has been done using satellite imagery
- Conducted elections for 365 defunct Water Users Associations (WUA) and involved them in identification/execution of works and water regulation
- Innovative android app was used to monitor real time progress of farm ponds
- Extensive trainings were conducted for various stakeholders which included state level workshops and micro trainings covering 97,947 farmers
- Drones were used extensively to monitor progress of works
- Extensive awareness campaigns were undertaken involving public representatives and cultural troupes
- Overall, an expenditure of Rs. 2006.72 crores was incurred during the consideration period

Key Achievements/ Impact

- Irrigation potential increased by **15,783 Ha**, with increase in coverage under micro-irrigation by **39,801 Ha**.
- 51,825 water harvesting structures were created in the district
- Developed new ayacut (area served by an irrigation project) of 91,621 Ha and stabilized 1,33,230 Ha.
- Excavated 73,228 farm ponds under MGNREGS
- Almost every farmer has adopted micro irrigation in their fields
- 1,41,975 farmers benefitted with an average increase of 31.8% in their annual incomes



Anantapur, Andhra Pradesh

Background

Anantapur district falls in the rain shadow region of the Western Ghats and is one of the lowest rainfall receiving districts in the country (553 mm per annum). Failure of rains and prolonged dry spells have led to frequent droughts thereby allowing an increase in farmer migrations and suicides.

Approach Adopted

A comprehensive District Irrigation Plan (DIP) was made focusing on "Drought Proofing" instead of "Drought Relief". The main components adopted by the district administration include completion of Handri Neeva Sujala Sravanti (HNSS) lift irrigation project, modernization of Tungabhadra High level Canal (HLC) system, construction of new water harvesting structures, development of cascade of tanks through large scale excavation of farm ponds and innovative use of rain guns.

In order to maximize water use efficiency, the defunct Water Users Associations (WUA) were revived. In addition, capacity of tanks was increased through large scale desiltation covering 964 tanks, works for re-gradation of feeder channels was completed and repairs to existing check dams through 5,590 works was completed. 40225 Ha. of new area was covered under drip/ sprinkler micro irrigation on 90% subsidy. Further, 11298 Ha. of mulching was also implemented.

Handri Neeva Sujala Sravanti Project





'Panta Sanjivani' was implemented to provide protective irrigation to the rain fed groundnut crop during dry spells. Under this, detailed resource maps have been prepared for each village and farm ponds have been excavated for every 10 Ha. of groundnut area for rain water harvesting.

An Android App based on traffic lights technology was developed to effectively implement the dry spell mitigation. The existing water resources along with geo tagging were also mapped in the app to suggest the nearest water source on a real time basis. Another android app with geo fencing and photo feature was used to monitor the excavation of farm ponds. Drones have been used to monitor the execution and evaluation of works related to HNSS lift irrigation scheme.

Convergence with other Schemes

Amalgamating both PMKSY watersheds and MGNREGS, a total of 95,463 water related works were executed. A record number of 73,228 farm ponds have been manually excavated in the district under MGNREGS.

Awareness Generation

State level workshops were conducted on various aspects of irrigation including latest technologies in micro irrigation for approx. 40,000 farmers. Separate divisional level workshops have also been conducted for the WUAs. Special training classes have been conducted at each mandal covering all sarpanches and other public representatives to take up water conservation measures.

Four cultural troupes have been engaged continuously for three months to educate farmers on water conservation in the village. Special video films have been prepared regarding benefits of farm ponds and such video films have been displayed in all 1003 Gram Panchayats in the district.

Awareness Generation



The regional horticulture training institute at Anantapur has organized 72 training programmes covering 3600 farmers. Further, 212 farmers were sent on an exposure visit. Voice messages were sent to the farmers on agronomic practices.

Impact

The key outcomes of the initiative are highlighted below:

- Irrigation potential increased by 15,783 Ha, with increase in coverage under micro-irrigation by 39,801 Ha.
- 51,825 water harvesting structures were created in the district
- Developed new ayacut (area served by an irrigation project) of 91,621 Ha and stabilized 1,33,230 Ha.
- Excavated 73,228 farm ponds under MGNREGS
- Almost every farmer has adopted micro irrigation in their fields
- 1,41,975 farmers benefitted with an average increase of 31.8% in their annual incomes
- Farmers have shifted from low value rain fed crops to high value crops like banana, musk
- 4,160 farmers have availed cashless facility and got drip systems installed.

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Executive Summary

Banaskantha, Gujarat (PMKSY)

Background/ Initiatives Undertaken

- 224 Repair, Renovation and Restoration (RRR) and Extension, Renovation and Modernization (ERM) activities were carried out for all priority projects
- Moisture conservation was done over 4200 Ha. of land
- New micro irrigation systems were adopted in 85000 Ha. land
- Through convergence of funds from various schemes a total of 650 structures and 80 solar pumps were built
- Innovative ideas and technology were used Pre and post satellite images, GPS based monitoring, Geo fencing of Drip Irrigation land and Public-Private partnerships engaging farmers
- **50 new cold storages and 2 castor oil units** have been set up as part of agro-industrial units
- Agronomic advisory was provided on daily basis through SMS
- The target set for Banaskantha was Rs. 2200 Cr out of which Rs. 700 Cr has been utilized under PMKSY scheme
- The allotment of funds was done **component wise, department** wise and area wise

Key Achievements/ Impact

- Irrigation potential increased by **534 Ha**, with increase in coverage under micro-irrigation by **58,177 Ha**.
- 33 new water structures were created under the scheme
- The water table has improved by 20 ft. around the structures
- Increase in **gross agricultural area: 65,000 Ha,** including 2,500 Ha of unused land which was brought under agriculture
- Increased **production of 3,00,000 tones.** Increased area for fodder has also helped in improved milk production
- There has been a change in cropping pattern Cereals to Groundnut / Potato/ Horticulture crops



Banaskantha, Gujarat

Background

Banaskantha district's climate is mostly sub-tropical monsoon type. This Northern Gujarat district has two major rivers - Banas & Saraswati. The major tributaries in the region are Sipu, Balaram, Arjuni, Umardashi. The district also has 2 Major dams, Dantiwada & Sipu, 1 Medium dam (Mukteshwar) and 41 minor dams.

Approach Adopted

The district has developed an Agriculture Contingency Plan and a comprehensive District Irrigation Plan (DIP) to ensure convergence of all programmes/activities for water conservation. Requirement of water for domestic use, crop, irrigation, livestock, industrial purpose has been calculated separately. Detailed year-wise strategic action plan for irrigation of the district has been prepared department-wise and funds have been earmarked.

Renovation, Restoration and Repairing (RRR) of old canal structure during off season was done to minimize loss of water. Regular contact with farmers and user groups/ mandlis was established to assess their demands, time of release of water, frequency, etc. Under the Extension Renovation & Modernisation (ERM) and RRR activities, works of repairing of various canals including SS spreading canal, SSN canal, interlinking of tanks have been undertaken.

Awareness Generation



Micro Irrigation (MI) was given more thrust as it was cost effective and its maintenance was easier. A special purpose vehicle company viz. Gujarat Green Revolution Ltd. was formed to undertake this MI work on a large scale. Through MI system, loss of water is minimized.

To maximize use of existing resources of water, the administration undertook activities such as creating new water sources, enhancing potential of traditional water bodies (desilting, deepening of ponds etc.), augmenting distribution network by construction of link canals, promoting moisture conservation and controlling run off water (check dams, high bunds), etc.

CCTV cameras were fitted at dams to monitor water level from remote places. Surveillance and broadcasting system were installed. Satellite imaging for monitoring purpose and SMS based tracking system were introduced. Geo fencing of drip irrigation land was done.A state-of-art IT application, C-MIMS, has been put in place to process the MIS Application. Farmers can track stage-wise movement of their application and details of claimed Government assistance. Effective IT mechanism is in place to prevent duplication of subsidy disbursement.

Convergence with other Schemes

Convergence with MGNREGS in farm pond deepening, land development/levelling activities was done.

Awareness Generation

Promotional activities were done through audio visual and print media such as TV, radio, newspapers and advertisements. Farmers actively participated in regional/ agricultural events like Vibrant Gujarat Summit, Agritech Asia, Krishi Mahotsavs. Success stories of MIS beneficiaries were documented and promoted. A bi-monthly magazine called "Jal Jivan" was published.

Activities aimed at capacity building of farmers included exposure visits, Krishi Melas, shows, dramas, exhibitions, awareness campaigns, animation films, Participatory Irrigation Management (PIM), etc.

Success Stories





Impact

The key outcomes of the initiative are highlighted below:

- Irrigation potential increased by 534 Ha, with increase in coverage under micro-irrigation by 58,177 Ha.
- 33 new water structures were created under the scheme
- The water table has improved by 20 ft. around the structures
- Increase in gross agricultural area: 65,000 Ha, including 2,500 Ha of unused land which was brought under agriculture
- Increased production of 3,00,000 tones. Increased area for fodder has also helped in improved milk production
- There has been a change in cropping pattern Cereals to Groundnut / Potato/ Horticulture crops

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Executive Summary

Champawat, Uttarakhand (PMKSY)

Background/Initiatives Undertaken

- 141.73 lakhs were spent during the period of consideration
- 59 Irrigation Tanks, 230 Roof Water Harvesting Tank and 65 Chaal-khaal have been constructed
- 1 Drip Irrigation work has been completed under the scheme and 4 are under progress
- 17 Sprinklers were established for 85 farmers which increased
 34.32 ha of agricultural land

Key Achievements/ Impact

- Irrigation potential increased by **121.25 Ha**
- 3,953 water harvesting structures were created in the district
- 4 to 5% increase in Agricultural & Horticultural has been recorded
- Increase in water level of natural water resources has been recorded which has helped reduce the drinking water problem
- The scheme has directly benefited **1100 village families**



Champawat, Uttarakhand

Background

Champawat is predominantly a hill district which lies in southern east part of the Uttarakhand State.

Approach Adopted

As part of the implementation and preparation of District Irrigation Plan (DIP), a survey was conducted to identify land for implementation of micro irrigation. In this regard, several meetings were also held between representatives of line departments viz. Agriculture, Irrigation, Minor Irrigation, Horticulture, Forestry, etc.

Water harvesting structures and moisture conservation structure viz. gully control, check dam, roof water harvesting tank, water recharging pits, etc. were constructed. Also, for the purpose of maintaining moisture content in soil, grass was planted, cement check dams (CCDs) and crate wire check dams were constructed.

To check soil erosion, water recharging pits were constructed. Highdensity polyethylene (HDPE) pipes were used to ensure water, which is obtained from nearby water resources, is conserved efficiently. Precision irrigation technologies such as mini sprinkler, portable sprinkler, drip irrigation, plastic mulching, etc. were adopted. 230 small ponds and 64 "chaal khaals" were taken up. 65 irrigation tanks were also constructed which augmented the irrigation facility. 2200 meters of irrigation canals were also constructed.





Awareness Generation

A number of outreach and training programmes have been organized at block and district level. Krishi Goshthi were held in many villages in order to educate and train farmers. Field tours for farmers were organized to sensitize them about the scheme and provide knowledge on technological interventions in irrigation. NGOs and social workers spread awareness about the scheme and related benefits of better soil and water practices. Krishi Raths were also used during Krishi mela to create awareness about the scheme

Impact

The key outcomes of the initiative are highlighted below:

- Irrigation potential increased by 121.25 Ha
- 3,953 water harvesting structures were created in the district
- 4 to 5% increase in Agricultural & Horticultural has been recorded
- Increase in water level of natural water resources has been recorded which has helped reduce the drinking water problem
- The scheme has directly benefited 1100 village families
- Ginger production has increased over the past years, this is attributed to promotion of ginger and turmeric seeds under the scheme.

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Executive Summary

Chittoor, Andhra Pradesh (PMKSY)

Background/ Initiatives Undertaken

- Renovation of traditional water bodies and promotion of crop diversification and alternative livelihoods through convergence of different schemes was done
- Through AIBP long pending major irrigation project, Handri Neeva Sujala Sravanti (HNSS) was completed with state funding to meet critical irrigation and drinking water needs
- Under Har Khet Ko Pani comprehensive RRR of all components in the chain of Tanks was done through special training to newly formed 610 WUAs/1383 CBOs. This became state program – "Neeru Pragathi"
- Under More Crop per Drop, borewell mapping was done and online application procedure was simplified through geo-tagging of assets.
- Under PMKSY, highest priority is given to Water Harvesting structures and SMC works under NREGA
- Fodder is produced in tank beds and fields with borewells, through supply of subsidized fodder seeds, grown in eastern regions and supplied to western region. The fodder security plan of district has been adopted as State Fodder Policy

Key Achievements/ Impact

- Irrigation potential increased by **5,023 Ha**, with increase in coverage under micro-irrigation by **28,324 Ha**.
- 45,362 water harvesting structures were created in the district
- Rise in Water table from 32.37 m to 10.15 m
- Increase in area under Mulching with drips 6000 Ha : 2500 Ha (subsidy), 3500 Ha farmers (own) themselves, resulted in 60% water saving over traditional methods
- Introduction of Loop Irrigation 5217 Ha for Mango and Subsurface Drip – 275 Ha for Sugarcane (First time in the District)



Chittoor, Andhra Pradesh

Background

Chittoor District is one of the dry districts in Andhra Pradesh, and faces scarcity of water resources with actual annual rainfall largely being below the state average of 933 mm. PMSKY has given direction and momentum to various efforts to address water scarcity through alternate interventions.

Approach Adopted

District has prepared a comprehensive District Irrigation Plan (DIP) duly considering the rainfall status, ground water availability, surface storage capacity of existing irrigation structures, cropping pattern, etc. In order to maximize water use efficiency, efforts were made to harness the surface water runoff by desilting of tanks, strengthening of bunds, renovation of sluices & surplus weirs and managing water bodies through water user associations. This pioneering effort was recognized by the State Government as well, and has been adopted as a state level program under "Neeru-Pragati".

10,500 Ha of area was diverted to Horticulture crops from Agriculture and 1775 Ha of Agricultural crops were diverted to Sericulture of which 85% was brought under drip irrigation.

New farming techniques such as application of Gypsum and Micronutrients to groundnut reduced water consumption. "Navadhanya Iu" (Poly Cropping System) in 62,000 Ha by 30,288 farmers was practiced for efficient management of water.

Awareness Generation





Individual (219 nos.) and community farm ponds (6 nos.) were executed under Mission for Integrated Development of Horticulture (MIDH) with an objective to store water during lean season and using it during cropping season. Subsidies for Mulching and Poly houses were given to farmers under MIDH. Further, horticulture, sericulture & animal husbandry activities like fodder production (Pasugrasa Kshetramulu), silage making, construction of water troughs, ram lamb units, dairy units and backyard poultry unit were promoted.

A Janmabhoomi Maa Vooru Committee has been entrusted the task of monitoring PMKSY implementation. Water User Associations collect Water Tax @ Rs. 200 per acre and are made accountable for the upkeep of the water body and creating awareness to the farmers.

Convergence with other Schemes

All convergence works in the district were directed towards creation of farm ponds and field bunds under MGNREGS.

Awareness Generation

The district worked towards generating awareness through workshops and distribution of training material. 205 awareness programmes covering 4200 farmers on micro irrigation (MI), 4 Mega workshops each with 2000 stakeholder members on various components of PMKSY were organized. Trainings were imparted to 25,000 farmers on micro irrigation techniques and management of water in Horticulture Crops.

5000 magazines with best photographs on water conservation structures and information on latest technologies on drought mitigation and water management techniques were prepared by Agricultural Technology Management Agency (ATMA). 5 Prachara Rathams campaigned in 24 ground water over-exploited mandals creating awareness for 1,00,000 farmers.

Innovations





1,40,000 pamphlets were distributed on farm ponds and other water conservative measures by District Water Management Agency (DWMA) under MGNREGS. Photo exhibitions and Kala Jathas were organized in 507 habitations covering 50,700 farmers under PMKSY water shed. Village level irrigation plans (1363 Numbers) were prepared by involving community. "Gram Jaladarshini" was done to create awareness on water resources and their conservation.

Impact

The district has worked to increase district land coverage under micro irrigation in Agriculture (especially groundnut and sugarcane), Horticulture, and Sericulture sectors, which has resulted in saving of 13.12 TMC water and consequently in productivity improvement up to 25%.

The key outcomes of the initiative are highlighted below:

- Irrigation potential increased by 5,023 Ha, with increase in coverage under micro-irrigation by 28,324 Ha.
- 45,362 water harvesting structures were created in the district
- Rise in Water table from 32.37 m to 10.15 m
- Increase in area under Mulching with drips 6000 Ha : 2500 Ha (subsidy), 3500 Ha farmers (own) themselves, resulted in 60% water saving over traditional methods
- Introduction of Loop Irrigation 5217 Ha for Mango and Subsurface Drip – 275 Ha for Sugarcane (First time in the District)

Key Contact:

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Executive Summary

Kullu, Himachal Pradesh (PMKSY)

Background/ Initiatives Undertaken

- 903 farmers were provided HDPE pipes for irrigation, covering an area of 122 ha.
- 2 community water storage tanks were repaired and 16 farmers were benefitted by 2 ha. of land under irrigation
- 12 numbers of Kuhals (FIS) have been completed and 325 ha of CCA (Culturable Command Area) has been created, though no special budget was available for the schemes
- Sprinkler and Drip irrigation systems have been installed in the fields.
- 69 Water User Associations/ Krishak Vikaas Sangh and 18 watershed committees have been formed
- Farmers are trained on irrigation and information on latest technology to be adopted
- Initiatives for convergence with Rashtriya Krishi Vikas Yojana, National Food Security Mission, National Mission for Sustainable Agriculture and MNREGA have been undertaken
- The increased irrigation potential was added to existing 6,760
 Culturable Command Area (CCA) in district

Key Achievements/ Impact

- Irrigation potential increased by **519 Ha**, with increase in coverage under micro-irrigation by **1,108 Ha**.
- **240** water harvesting structures were created in the district, which includes farm ponds, irrigation kuhals, irrigation tanks, check dams, percolation tanks etc.
- This resulted in crop diversification by way of **shift to cash crops** from traditional cereal crops and introduction of **high density varieties** (e.g. Spur varieties in apples)
- Shift from flood irrigation to **micro irrigation** assured better irrigation (More Crop Per Drop)
- Increased production of Rs. 15 cr. in vegetables and Rs. 35 cr. in fruits observed from the year 2014-15 to 2015-16 in the district
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Kullu, Himachal Pradesh

Background

In Kullu, Agriculture, Horticulture, Irrigation Public Health and Rural Development departments are involved in the implementation of the scheme.

Approach Adopted

A comprehensive District Irrigation Plan (DIP) has been prepared. As part of preparation of DIP, officers from various departments visited remote areas and interacted with potential beneficiaries which helped them ascertain the actual requirements of irrigation in such areas.

As part of the implementation of Pradhan Mantri Krishi Sinchayee Yojana in the district, the following initiatives have been undertaken:

- 903 farmers have been provided High-density polyethylene (HDPE) pipes, which cover an area of 122 hectares
- 240 water harvesting structures were created in the district, which includes farm ponds, irrigation kuhals, irrigation tanks, check dams, percolation tanks, etc.
- 43 sprinkler irrigation systems were installed in an area of 59 hectares
- 66 drip irrigation systems have also been installed covering an area of 110 hectares

Irrigation Facilities



- 10 check dams,11 percolation tanks, 6 farm ponds and 70 other structures like kuhals, bowdies, roof top water harvesting structures with a capacity of 4.30 lakhs liters have been constructed
- Plantation of 31,500 horticulture and forest plants has been done in an area of 90 hectares
- 69 Water User Associations/ Krishi Vikas Sangh and 18 Watershed committees have been formed in the district.

Awareness Generation

Camps for stakeholders such as beneficiaries, Panchayati Raj representatives, etc. were held at village, panchayat, block and district level. This was done to make them aware about the various components of the scheme and methods of implementation. Kisan Goshtis/ Melas and exhibitions were organized for farmers and other stakeholders. Krishi Vigyan Kendra facilitated interactions between farmers and scientists to address irrigation related queries. Publicity was done by broadcasting through local channels and newspapers

15 training/ capacity camps have been held and 2066 participants have been trained. Training camps are organized by the agriculture and horticulture department in the remote areas of the district.

Impact

The key outcomes of the initiative are highlighted below:

- Irrigation potential increased by 519 Ha, with increase in coverage under micro-irrigation by 1,108 Ha.
- Improvement in soil structure resulted in farmers shifting to cash crops from traditional cereal crops and growing high density varieties (e.g. Spur varieties in apples)
- Shift from flood irrigation to micro irrigation assured better irrigation (More Crop Per Drop)
- Increased production of Rs. 15 cr. in vegetables and Rs. 35 cr. in fruits observed from the year 2014-15 to 2015-16 in the district

HNSS Project



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Executive Summary

Kurnool, Andhra Pradesh (PMKSY)

Background/ Initiatives Undertaken

- To provide irrigation to additional area and stabilizing the existing ayacut (area served by an irrigation project), schemes like Muchumarri LI scheme, Guru Raghavendra Project (GRP) LI scheme, Siddapuram LI scheme, Distributary system under Handri Neeva Sujala Sravanti (HNSS) have been converged with AIBP and State funds
- Jungle clearance was taken, Desiltation was done and Check dams, Dugout ponds, and Percolation Tanks were constructed which helped in percolation of 17.42 tmc of water

Key Achievements/ Impact

- Irrigation potential increased by **128,197 Ha**, with increase in coverage under micro-irrigation by **18,008 Ha**.
- 44,246 water harvesting structures were created in the district
- 2870 Soil Moisture Conservation (SMC) structures have been constructed under PMKSY and MGNREGS
- Of the total **86,185 sanctioned Farm Ponds**, 74,236 have been grounded and 32,728 have been completed
- Through Farm Ponds, irrigation has reached to one lakh acres in drought prone mandals which has helped in percolation of 3.46 tmc of water
- Through cascade of tanks along with feeder channels, 15000 kms of streams and 2000 Kuntas/ Tanks have been connected
- Ground water table has increased for nearly 1 Lakh acre of land



Kurnool, Andhra Pradesh

Background

Kurnool District is located in drought prone Rayalaseema region of Andhra Pradesh, where there is regular phenomena of deficit rainfall. There are two irrigation systems covering 1/3rd of cultivable area (i.e., 9.00 Lakh Ha.) in the District. These are Tungabhadra system and Srisailam reservoir system. 2/3rd of cultivable area depends on rains. The ground water table has depleted in recent times and crop failures have frequently occurred.

Approach Adopted

District has prepared District Irrigation Plan (DIP) with an outlay of Rs. 6775.59 crore for 5 years. Considering, the district is a drought prone area, there is need to use the existing sources of water from Krishna river, Tungabhadra river and their tributaries as well as harnessing the rain water.

District has taken efforts for completion of projects such as Muchumarri Lift irrigation, Siddapuram Lift irrigation, completion of distribution system under Handri-Neeva Sujala Sravanthi (HNSS) canal to irrigate newly 1 lakh acres in backward, drought prone villages. Apart from it, the administration has taken up innovative initiatives like construction of farm ponds, rejuvenation of age old water bodies like stream, kuntas and construction of check dams, dugout ponds, percolation tanks etc. District has provided 2,500 oil engines to farmers to provide irrigation to the fields.

Awareness Generation





Construction of 989 kuntas along with streams, 4,312 check dams, 11,600 dugout ponds, 915 percolation tanks was completed. Geo tagging of all assets is being taken up and uploaded in Bhuwan Portal of Govt. of India.

Awareness Generation

Pamphlets were distributed on community oriented and individual oriented permissible works. Posters on season bound priority items were displayed in the villages at prominent places. Print and electronic media was used for disseminating information and good practices.

District level, Division level, Mandal level and Gram Panchayat level orientation programmes were conducted regularly. Prachara Ratham (Publicity Vans) are positioned in the colonies/wards for creation of awareness through songs, lectures and announcements. Kalajathas and stage shows are also organized in prominent places. Farmers are motivated during Janmabhoomi programme and through exposure visits to neighboring villages/ Mandals

Training programs on water management and maintenance of accounts are conducted for farmers committee. Further, training programs on irrigation and agriculture activities are being conducted for beneficiary committee. Trainings are being imparted to the Lascars and Operators of the schemes for proper operation and maintenance of Lift Irrigation Schemes.

Impact

The key outcomes of the initiative are highlighted below:

- Irrigation potential increased by 128,197 Ha, with increase in coverage under micro-irrigation by 18,008 Ha.
- 44,246 water harvesting structures were created in the district
- 2870 Soil Moisture Conservation (SMC) structures have been constructed under PMKSY and MGNREGS





- Of the total 86,185 sanctioned Farm Ponds, 74,236 have been grounded and 32,728 have been completed
- Through Farm Ponds, irrigation has reached to one lakh acres in drought prone mandals which has helped in percolation of 3.46 tmc of water
- Through cascade of tanks along with feeder channels, 15000 kms of streams and 2000 Kuntas/ Tanks have been connected
- Ground water table has increased for nearly 1 Lakh acre of land

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Executive Summary

Pune, Maharashtra (PMKSY)

Background/ Initiatives Undertaken

- 1169 works of desiltation costing Rs. 35 crore, contributed by locals, have been completed
- **3051 Vanrai Bandhara have been constructed** with help of 4.80 lakh students and 15900 teachers
- 3370532 plants, 1548 kg seed and 180145 stumps have been planted through people participation
- 39731 plants, 54248 stumps, 51218 agave seedlings and 252 Kg grass seeds used for stabilization of bank of structures to check the silting in storages

Key Achievements/ Impact

- Irrigation potential increased by **60,541 Ha**, with increase in coverage under micro-irrigation by **4,595 Ha**.
- **3,099** water harvesting structures were created in the district
- On an average 2 to 3 meters rise in water table has been achieved
- Sown area has increased by 19%, from 706448 Ha to 850615 Ha
- Increase in major crop productivity Soybean 18 %, Rabbi Jowar 21%, Bajra 21%, Wheat 11%
- Horticulture area has increased from 30375 Ha to 34705 Ha, an increase of 14%
- Area under fodder crop has increased from 53309 Ha to 63876 Ha, an increase of 20%
- Milch animal population has increased from 4.56 lakhs to 5.15 lakhs (13%) and milk production has increased from 16.54 to 19.35 lakh litre per day (11%)
- **450 metric ton additional fish** production has been achieved in newly created water storage structure
- By deposition of desilted material, 2300 Ha land has been made fertile



Pune, Maharashtra

Background

In Pune district, 52% area falls under scarcity zone. District comes under Bhima sub-basin of Krishna Basin and has 9 major dams of capacity 2.67 BCM, 7 Medium Dam projects of 0.27 BCM, and 212 minor irrigation dam projects of storage capacity 0.39 BCM.

Approach Adopted

The district prepared the District Irrigation Plan (DIP) with thorough baseline survey of villages and watersheds. The plan is built on efficient water use of existing system through lining of canals, closed pipeline system, Micro Irrigation and Repair, Renovation and Restoration (RRR).

4,570 old water storage structures were taken for Repair, Restoration and Rejuvenation (RRR) to increase water storage capacity. To recharge the ground water, area treatment activities like compartment bunding, Continuous Countered Trenches (CCT), Deep CCT, Terracing etc. have been taken up over an area of 25,800 ha.

Resource mapping is done by shivarpheri with villagers. 1169 works of de-siltation costing Rs. 35.60 crores was taken up through people's participation and during campaign period 3051 vanrai bandhara have been constructed.



Convergence with other Schemes

Convergence of all the State and District plan schemes has helped the District to achieve 30% of target by December 2016. Approximately Rs.62 crore of fund was generated through CSR and public contribution.

Awareness Generation

District has executed various awareness programs like discipline for water use (Jal Vapar Shista), farmer's field school, strengthening and capacity building of watershed committee, etc. to educate stakeholders on efficient water use. More than 400 such awareness camps have been organized in decentralized manner during campaign period. The district has ensured participation of community right from planning stage till execution stage by arranging Shiwar pheri, involvement of Gram Sabha and actual work execution.

Impact

The key outcomes of the initiative are highlighted below:

- Irrigation potential increased by 60,541 Ha, with increase in coverage under micro-irrigation by 4,595 Ha.
- 3,099 water harvesting structures were created in the district
- On an average 2 to 3 meters rise in water table has been achieved
- Sown area has increased by 19%, from 706448 Ha to 850615 Ha
- Increase in major crop productivity Soybean 18 %, Rabbi Jowar 21%, Bajra 21%, Wheat 11%
- Horticulture area has increased from 30375 Ha to 34705 Ha, an increase of 14%
- Area under fodder crop has increased from 53309 Ha to 63876 Ha, an increase of 20%
- Milch animal population has increased from 4.56 lakhs to 5.15 lakhs (13%) and milk production has increased from 16.54 to 19.35 lakh litre per day (11%)
- 450 metric ton additional fish production has been achieved in newly created water storage structure
- By deposition of desilted material, 2300 Ha land has been made fertile





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Executive Summary

Saiha, Mizoram (PMKSY)

Background/ Initiatives Undertaken

- Convergence of funds was undertaken under Accelerated Irrigation Benefits Programme (AIBP), Integrated Watershed Management Programme (IWMP), MNREGA, Border Area Development Programme (BADP), Background Regions Grant Fund (BRGF)
- Knowledge and Human resources of Agriculture Department, Horticulture Department, Rural Development Department and Krishi Vigyan Kendra were leveraged for implementation of the programme
- Bench, Contour Terracing and Check dams were constructed for water conservation to contain run off
- Drip Irrigation was implemented for horticulture crops
- Community & individual water tanks, reservoirs and solar pump were constructed at village Tokalo
- Training was provided to farmers, members of Self Help Groups
 and watershed development team
- 2 SHGs comprising of about 30 families in village trained to take up cultivation and processing of Turmeric. First produce is 30 MT with ready for marketing packaging being done

Key Achievements/ Impact

- Irrigation potential increased by **7,400 Ha**, with increase in coverage under micro-irrigation by **28 Ha**.
- 124 water harvesting structures were created in the district
- Turmeric cultivation and processing at Tisopi has helped in taking turmeric from field to retail market
- In Siata and Neotala villages strawberry cultivation is a commercial success
- Pisciculture promoted under the scheme by building fish ponds for beneficiaries has led to **adequate fish supply in market**



Saiha, Mizoram

Background

Saiha district is situated in the north-eastern state of Mizoram. It is the Headquarters of the Mara Autonomous District Council, one of the three autonomous district councils within Mizoram.

Approach Adopted

A detailed document on "Irrigation Plan" to provide irrigation facilities to the farmers has been prepared. The "Irrigation Plan" includes district water profile, water availability, water requirement and strategic action plan for irrigation. The potential horticulture area is 0.86 lakhs hectares of the total area of 1.99 lakhs hectares in the district.

As part of the implementation of Pradhan Mantri Krishi Sinchayee Yojana in the district, the following initiatives have been undertaken:

- 75 individual water tanks, 2 check dams, 2 water reservoir, a turmeric pack house, strawberry terrace, rainwater harvesting structure, etc. were set up.
- Solar water pumping system has been installed, gravitational pipelines were set up and percolation tank was constructed.
- Contour trenching was also constructed as it is one of the most important techniques to control soil erosion.
- A processing plant for turmeric has been created which has drying yard, slicer machine, pulveriser, grinder and packing machine.

Implementation





 Support in terms of providing saplings, fertilizers, etc. has been provided. Efforts have been undertaken towards greenhouse construction, construction of drip irrigation pipelines, use of mulch films, digging of water ponds.

Convergence with other Schemes

The scheme is being implemented in convergence with other existing schemes like MGNREGS, Border Area Development Fund (BADP) and Backward Region Grant Fund (BRGF).

Awareness Generation

Awareness programmes have been conducted once a quarter for Self Help Groups (SHGs) and beneficiaries. Training programmes have been conducted for Watershed committee members and Watershed development team to upgrade their technical skills for watershed conservation. During the training programme, farmers are awarded for good implementation of the initiative..

Training on processing of turmeric was facilitated for women of SHGs. Also, training on drip irrigation and fertigation was facilitated for farmers

Impact

The key outcomes of the initiative are highlighted below:

- Irrigation potential increased by 7,400 Ha, with increase in coverage under micro-irrigation by 28 Ha.
- 124 water harvesting structures were created in the district
- Turmeric cultivation and processing at Tisopi has helped in taking turmeric from field to retail market
- In Siata and Neotala villages strawberry cultivation is a commercial success
- Pisciculture promoted under the scheme by building fish ponds for beneficiaries has led to adequate fish supply in market

Watershed Development works



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