

A Pond Renovation Experience: Village Dewatwal

Block-Ludhiana I, District-Ludhiana



Introduction:

Disposal of waste water in the rural areas in village ponds is a major public health problem. Stagnant waste water smells bad and also acts as breeding place for mosquitoes resulting in spread of many serious diseases. Proper disposal and also reuse of waste water helps in combating diseases as well as water scarcity. Govt. of Punjab is highly concerned about cleaning of ponds.

In district Ludhiana, some work on cleaning of ponds has been taken up on pilot basis. Remodeling of 8 number ponds have been completed in Ludhiana district on basis of technology recommended by Govt. of India and Unicef in chapter 7 of booklet titled as "Solid and Liquid Waste Management in Rural areas". This experiment on pilot basis has been successful.

1. Back Ground

- Village was facing stagnation of drains and choked ponds which are in dire need of pond renovation of the area more than 6 Acre which was such a nuisance that in rainy season householders use to run away from the outskirts to the inner places
- Water Supply Scheme was commissioned in Dec. 2010 and is successfully running in the Village under IDA project @70 LPCD. The various IEC and Capacity Building activities have been successfully carried in the Village and resulted in proper awareness of people. It has rendered the Gram Panchyat Water Supply & Sanitation Committee and community very pro- active and expressed demand for the pond renovation and shown eagerness to participate in the pond renovation work. The Chairman of the GPWSC Dewatwal S.Lakhvir Singh and GPWSC Secretary, S.Saudagar Singh took the lead to motivate all the committee members and the villagers for the whole-hearted approach towards this project. With the co-ordination of the DWSS, Ludhiana the GPWSC motivated the collection of the beneficiary share and collected Rs.1.25.
- This village got approved from District Water Supply Mission constituted under TSC project.

Village Dewatwal of Block Ludhiana-I is situated on Ludhiana - Ferozepur road 15 Km away from Ludhiana. Present population of village Dewatwal is estimated to be 2458 Persons, General Population (1721 Persons) and Schedule Cast population (737 Persons)

2. Constructional Activities

First the existing pond was drained out in near by vacant land , and then the emptied pond was de-silted . It was then divided into four compartments through earthen embankments. The village drain is led into the first compartment. The overflow goes in to second compartment and then to the third and the fourth tank.

It is seen that the suspended solids settle to bottom of the first tank. Settled water goes in to the second tank(Facultative pond) & then to 3rd and fourth Pond(Maturation pond) .This way ground water gets recharged effectively .



The renovated pond have following components :

I. Screen

Screen is provided for preventing Plastic Bags and other non-biodegradable materials

II. Anaerobic cum Sedimentation tank :

The area of this Tank is 0.8 acre. The depth of water in the Pond is kept 10 feet for the sedimentation of suspended solids and decomposition of organic matter under anaerobic conditions and BOD /COD will be reduced .The surface area of the tank shall be equal to approx 15% area of the existing pond area and having 5 days detention time.

III Facultative Pond :

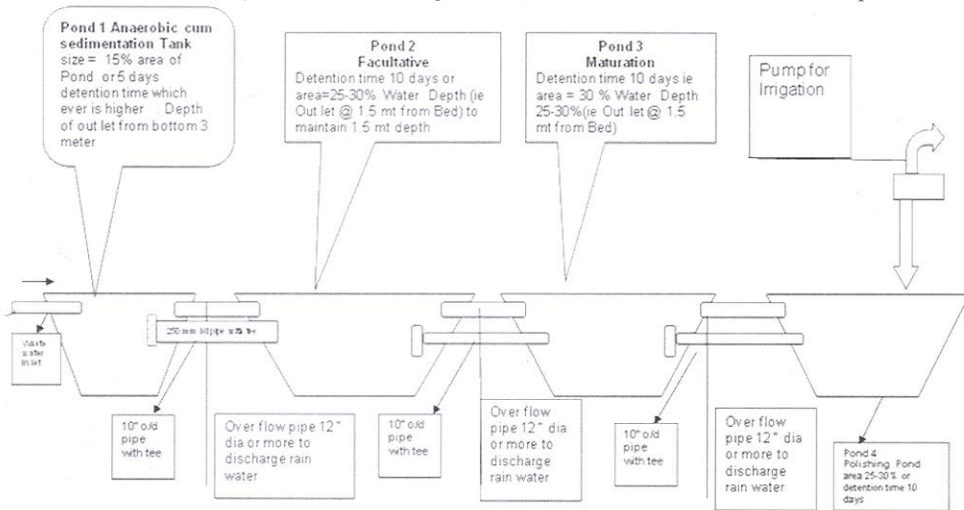
The area of this pond is 0.8 acre and In this tank over flow of anaerobic pond is being discharged and BOD shall reduce under aerobic conditions . Depth of water is kept 1.5 meter. The outlet of this tank is fixed at ht of 1.5 mt from the bed of tank to ensure that water depth shall not exceed 1.5 meter. Its area is 25% of the existing pond area .

III. Maturation / Polishing Pond : (2 numbers)

The area of this Tank is 0.8 acre and In this tank over flow of Facultative pond is being discharged where pathogen load if any shall be reduced . Depth of water is kept 1.5 meter. The out let of this tank is fixed at ht of 1.5 mt from the bed of tank to ensure that water depth shall not exceed 1.5 meter. Its area should be 25% of the existing pond area.

IV. Outflow

Normally in addition to evaporation , treated water is absorbed in the pond.



3 **Constructional guidelines used for embankments :**

- Slope of the embankments is kept stable with slope of 1 vertical to 1.5 horizontal.
- Top surface of the embankments is around 2.5 meter due to big area of pond
- Embankment is properly compacted to make it stable .
- PVC pipe used of 6 kg/cm² pressure rating .
- Over flow pipe used RCC pipe NP2 grade
- **Grass is planted on the top of embankments and slopes to protect against erosion during rains or otherwise .**
- Pucca floor is provided below inlet pipe in all the ponds to avoid soil erosion in the pond .



4. **Landscaping.** Ornamental Trees are planted around the pond to convert the pond into a park

EXPENDITURE ON THE WORK

Total expenditure on pond renovation work at Dewatwal was Rs. 20 lacs. Rs. 5 lacs were received under TSC head, Rs.4.0 lacs were received from sustainability, Rs.9.75 lacs were from NREGA Scheme and Rs.1.25 was the beneficiary share collected from the village for the scheme. So, we can make that by spending little amount of money, we can solve the waste water drainage problem in the village and harvest waste and rain water for recharging to stop the depleting ground water level.



BENEFIT TO THE VILLAGE

- The foul smells have been over and the pond area has been converted to the park type recreation area and given aesthetic beauty to the village.
- The village pond is a place of recreation and rain water harvest & recharge structure.



CONCLUSION

This technique has worked wonders for the village sanitation and is a new milestones for the coming times. It is believed that GOP is leaving no stone unturned to bring success to this technology in the entire state of Punjab. This technology if adopted in all the 12000 villages of Punjab then we can harvest 720 million cum of water and it can certainly arrest depleting ground water table . It will also solve the problem of drainage in the villages. Due to these benefits so there is great demand for the renovation of pond project .

Detail of Pond at village Dewatwal

Block Ludhiana-1, Distt. Ludhiana (Punjab)

Basic Data of the village

Name of Village	: -	Dewatwal
Name of Block	:-	Ludhiana-1
District	:-	Ludhiana
Location	:-	Village Dewatwal is located approx.15 km from Ludhiana via Ferozepur road and following 3 km of link road.
Sarpanch Name	:-	Sh. Lakhvir Singh
Mobile No.	:-	94178-70247
Area of Pond	:-	3½ Acre
Funds Received	:-	TSC = 5.00 Lacs Sustainability = 4.00 Lacs NREGA = 9.75 Lacs Beneficiary Share = 1.25 Lacs Total = 20.00 Lacs
Total Expenditure	:-	20.00 Lacs
No. of House Holds	:-	425 Houses
No. of Private Connections:-		311 Connections
Date of Start	:-	01-03-2010
Date of Completion	:-	30-05-2010

A Pond Renovation Experience: Village Birk

Block-Ludhiana I, District-Ludhiana



Introduction:

Disposal of waste water in the rural areas in village ponds is a major public health problem. Stagnant waste water smells bad and also acts as breeding place for mosquitoes resulting in spread of many serious diseases. Proper disposal and also reuse of waste water helps in combating diseases as well as water scarcity. Govt. of Punjab is highly concerned about cleaning of ponds.

In district Ludhiana, some work on cleaning of ponds has been taken up on pilot basis. Remodeling of 8 number ponds have been completed in Ludhiana district on basis of technology recommended by Govt. of India and Unicef in chapter 7 of booklet titled as "Soild and Liquid Waste Management in Rural areas" . This experiment on pilot basis has been successful.

1. Back Ground

- Village was facing stagnation of drains and choked ponds which are in dire need of pond renovation of the area approximate 3.5 Acre which was such a nuisance that in rainy season householders use to run away from the outskirts to the inner places.
- Water Supply Scheme was commissioned in March 2011 and is successfully running in the Village under ARWSS Project @70 LPCD. The various IEC and Capacity Building activities have been successfully carried in the Village and resulted in proper awareness of people. It has capacitated the Gram Panchayat Water Supply & Sanitation Committee and community very pro- active and expressed demand for the pond renovation and shown eagerness to participate in the pond renovation work. The Chairman of the GPWSC Birk Smt..Jaswinder Kaur and Master Kashmira Singh, Member Panchayat took the lead to motivate all the committee members and the villagers for the whole-hearted approach towards this project. With the co-ordination of the DWSS, Ludhiana the GPWSC motivated the collection of the beneficiary share and collected Rs.1.50 Lac.
- This village got approved from District Water Supply Mission constituted under TSC project.

Village Birk of Block Sidhwan Bet is situated on Ludhiana - Ferozpur road, 27 Km away from Ludhiana near Swaddi Kalan. Present population of village Birk is estimated to be 2760 Persons with 425 Hoseholds.

Construction Activities



First the existing pond was drained out in near by vacant land , and then the emptied pond was de-silted . It was then divided into four compartments through earthen embankments. The village drain is led into the first compartment. The overflow goes in to second compartment and then to the third and the fourth tank.

It is seen that the suspended solids settle to bottom of the first tank. Settled water goes in to the second tank(Facultative pond) & then to 3rd and fourth Pond(Maturation pond) .This way ground water gets recharged effectively .

The renovated pond has following components:

I. Screen

Screen is provided for preventing Plastic Bags and other non-bio degradable materials

II. Anaerobic cum Sedimentation tank :

The area of this Tank is 0.9 acre. The depth of water in the Pond is kept 10 feet for the sedimentation of suspended solids and decomposition of organic matter under anaerobic conditions and BOD /COD will be reduced .The surface area of the tank shall be equal to approx 15% area of the existing pond area and having 5 days detention time.

III Facultative Pond :

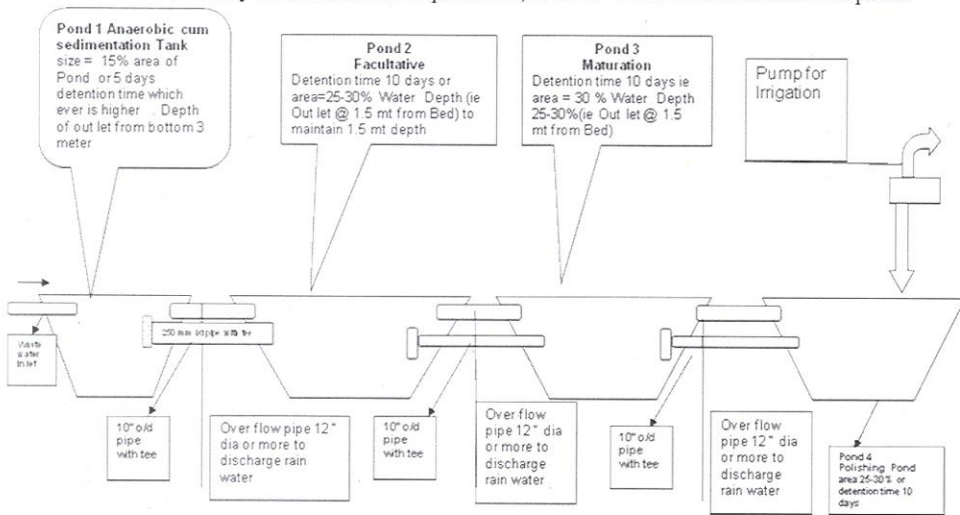
The area of this pond is 0.8 acre and In this tank over flow of anaerobic pond is being discharged and BOD shall reduce under aerobic conditions . Depth of water is kept 1.5 meter. The outlet of this tank is fixed at ht of 1.5 mt from the bed of tank to ensure that water depth shall not exceed 1.5 meter. Its area is 25% of the existing pond area .

III. Maturation / Polishing Pond : (2 numbers)

The area of this Tank is 1.1 acre and In this tank over flow of Facultative pond is being discharged where pathogen load if any shall be reduced . Depth of water is kept 1.5 meter. The out let of this tank is fixed at ht of 1.5 mt from the bed of tank to ensure that water depth shall not exceed 1.5 meter. Its area should be 25% of the existing pond area.

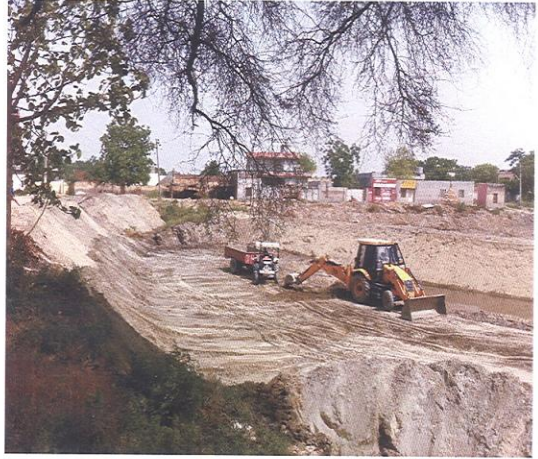
IV. Outflow

Normally in addition to evaporation , treated water is absorbed in the pond.



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- Over flow pipe used RCC pipe NP2 grade
- **Grass is planted on the top of embankments and slopes to protect against erosion during rains or otherwise .**
- Pucca floor is provided below inlet pipe in all the ponds to avoid soil erosion in the pond .



4. Landscaping. Ornamental Trees are planted around the pond to convert the pond into a park

EXPENDITURE ON THE WORK

Total expenditure on pond renovation work at Dewatwal was Rs. 10.5 lacs. The funds were received from sustainability for Rs.9.00 lacs and Rs.1.25 was the beneficiary share collected from the village for the scheme.



BENEFIT TO THE VILLAGE

- The foul smells have been over and the pond area has been converted to the park type recreation area and given aesthetic beauty to the village.
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This technique has worked wonders for the village sanitation and is a new milestones for the coming times. It is believed that GOP is leaving no stone unturned to bring success to this technology in the entire state of Punjab. This technology if adopted in all the 12000 villages of Punjab then we can harvest 720 million cum of water and it can certainly arrest depleting ground water table . It will also solve the problem of drainage in the villages. Due to these benefits so there is great demand for the renovation of pond project .

Detail of Pond at Village-Virk

Block Sidhwan Bet, Distt. Ludhiana (Punjab)

Name of Village	:-	Virk
Name of Block	:-	Sidhwan Bet
Distrist	:-	Ludhiana
Location	:-	Village Birk is located approx.40 km from Ludhiana, on ldh-ferozepur road. Village Birk is adjoining to village Swaddi Kalan in block Sidhwan Bet.
Sarpanch Name	:-	Smt. Jaswinder Kaur
Mobile No.	:-	98727-76545
Area of Pond	:-	3.5 Acre
Funds Received	:-	Sustainability= = 9.00 Lacs Beneficiary Share = 1.50 Lacs Total = 10.50 Lacs
Total Expenditure	:-	10.50 Lacs
No. of House Holds	:-	425 Houses
No. of Private Connections:-		243 Connections
Date of Start	:-	Oct.-2010
Date of Completion	:-	March-2011