

WATER HARVESTING



A SMD INITIATIVE

Catch the water where it falls



Kerala is a land blessed with monsoons twice a year. The state receives an average annual rainfall of 3000mm, whereas the average annual precipitation of India as a whole is only 1190 mm. On an average, each one hectare of land area in Kerala gets 30 million litres of water as rainfall every year. This means a small plot of 10 cents area receives almost 12-lakh litres of rainwater annually. But all this does not result in the perennial availability of water in the State. The region experiences excessive rainfall and high floods during monsoon months and also suffer from acute shortage of even drinking,

water in many areas due to lack of management. The basic issue underlying the water resources problems, are recurring floods, drainage congestion, soil erosion, human influence on environment and so on and calls for its integrated use for drinking, irrigation, generation of hydropower, navigation, pisciculture, recreation etc. The only way to overcome the problem of drinking water is to harvest the

usually comprises a roof, a storage tank and guttering to transport the water from the roof to the storage tank. In addition, a first flush system to divert the dirty water, which contains roof debris collected on the roof during non-rainy periods and a filter unit to remove debris and contaminants before water enters the storage tank are also provided.

of structures and drainage networks Plan integrated soil and water conservation intervention projects with respect to each piece of land considering the topography, sub-surface geography and social and demographical factors. Focus on more rainwater harvesting and groundwater recharge activities based on the need and sustainability. Form vigilant groups to prevent unauthorized sand mining, land conversion and mining. Promote projects like 'Mazhapolima' (Well recharge) in coordination with projects like 'Haritha Keralam, MGNREGA etc.

Take measures control both point source and non-point source pollutions. Promote 'water literacy' programmes in schools and other educational institutions. Ensure concerted and coordinated efforts of all line departments, agencies and other institutions pertaining to drought management, watershed development, water management, land use. Dr Manoj P Samuel, Head, Division of Engineering ICAR-Central Institute of Fisheries Technology, Kochi

Hykon
Powering the Nation

കാൻസർ പോലുള്ള രോഗങ്ങൾക്ക് പ്ലാസ്റ്റിക്കും ഒരു കാരണം...! മാറു സ്റ്റെയിൻലെസ്സ് സ്റ്റീലിലേക്ക്...!

10 YEARS WARRANTY

WANTED Distributors & Dealers across Kerala

Features

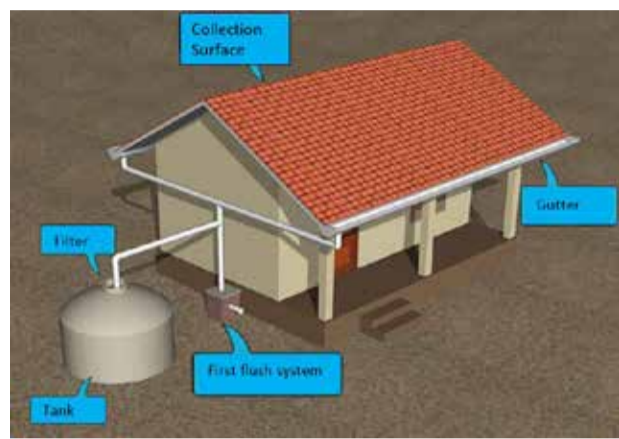
- Strong Durability
- UV Protection
- Hygiene
- SS 304 Tank

Stainless Steel Water Tank
Available from 500 to 2000 Ltrs

Helpline 1860 425 0121

Hykon India Ltd, Hykon House, Ikkandawarrier Road Thirissur, Kerala, India-680 001. info@hykonindia.com

www.hykonindia.com



abundant rains. A recent study revealed that in India, the depth to the ground water table is increasing by 30 cm per year on an average. Traditional water conservation measures like country ponds, paddy fields, mangrove forests, sacred groves, backwaters etc are slowly getting depleted. Natural water flow networks including first and second order streams, canals, and rivers are getting filled up with silt deposits and urban wastes. Indiscriminate sand mining, point and non-point source pollution including dumping of waste are silent killers for our rivers. The development of water sources must be within the capacity of nature to replenish and to sustain. If this is not done, costly mistakes can occur with serious consequences. We can combat the drought and water scarcity problems up to some extent by adopting ways to conserve the both surface and groundwater resources.

'Rain Water Harvesting' is considered as a low cost alternative to drought mitigation. The region loses the lion share of the rainwater through runoff. It can be implemented as a viable alternative to conventional water supply considering the fact that any land anywhere can be used to harvest rainwater.

storage tank is the most expensive and critical component. Storage tank used to store the water that is collected from the rooftops. The capacity of the storage tank determines the cost of the system and reliability of the mechanism for assured water supply. A Demand-supply analysis is required while designing water collection tanks. The factors such as amount and frequency of rainfall, runoff coefficient of the collecting surface, number of users, daily requirements and death period are important for calculating the size and capacity of the storage tank.

All the roof water harvesting systems should be aided with a filtration system. A three layer filter system with sand, (shell) charcoal and small sized granite stones is preferred. Fibre sieves made up of coir, sisal, hemp fibres may be fixed between the layers filter materials for efficient filtration. Well recharge system can also be designed in a similar fashion so that the filtered roof water can be diverted to a well or pond directly with or without any intermediate storage.

OUR PRODUCTS POWER DIVERSE INDUSTRIES IN INDIA

AND YOU THOUGHT WE ONLY MAKE INDIA'S BEST WATER TANKS

AQUA TECH
MOULDING INDIA IN SILENCE

Carris PIPES AND TUBES (PVT.) LTD

P/B No: 2, Koovappady, Cochin, Kerala, India-683 544, T/F: +91 484 264 9061, 264 9561, +91 94470 40071
Factory: Coimbatore, T: +91 422 2655661, Vijayawada, T: +91 8676 259898, Depot: Chennai, T: +91 44 2476655

Supreme
People who know plastic best

'Quality - our watch word'

Download the App Supreme Pipes

...Be a part of clean India

Nu-Drain Underground Drainage and Sewer System

Ultra PLUS Double Wall Corrugated Pipes

SAFEGARD Septic Tanks

Lifeline C-PVC Hot and Cold Water System

SILTAIR Overhead Water Tanks and Left Tanks

SKY RISE All Tech, Low Noise, S.W.A. Drainage Systems

THE SUPREME INDUSTRIES LIMITED
The Esplanade, 4th Floor, Convent Jn, Ernakulam-35. Ph: 2385345 www.supreme.co.in

Dealers: Thiruvananthapuram : Sree Padmam Agencies - 2361109, Kollam: Udaya Sanitary and Hardware - 2794555, Haripad: Rajam Traders - 2473620, Pala: Ashok Trade Lines - 2200225, Thiruvalla: Kovoer Agencies - 9846608725, Thodupuzha: Vijaya Hardware & Sanitary - 9447186690, Kattapana: Kollamkudiyil Agencies - 273023, Kollamkudy Pipes - 9447827725, Ernakulam: Universal Pipes - 2807423, Jayaraj Pipe Traders - 2530785, Jane Sanitation - 9388879006, Sanitary Equipments Stores - 2360719, Thirissur: Universal Distributors - 2429251, J-Star Enterprises - 2352777, Best Pipe Traders (Exclusive Borewell Pipes Distributor) 9447254495, Palakkad: Jayaraj Pipe Traders - 2502607, Perinthalmanna: Jane Marketing - 227830, Kozhikode: Classic Pipe Syndicate - 2700017, Jayaraj Pipe Traders - 2769043, Supreme Sales Corporation - 2744555, Wayanad: T.P. Buildware - 220229, Kannur: Tap Gallery- 0497 2835768, Shreyas Engineering - 2709663, Kasaragod: ABC. Buildwares (India) Pvt. Ltd. - 2808435, Christ Agencies - 4220218.

Rainwater harvesting, irrespective of the technology used, essentially means harvesting and storing water in days of abundance, for use in lean days. Storing of rainwater can be done in two ways; (i) storing in an artificial storage and (ii) in the soil media as groundwater. The former is more specifically called roof water harvesting and is rather a temporary measure, focusing on human needs providing immediate relief from drinking water scarcity, while the latter has the potential to provide sustainable relief from water scarcity, addressing the needs of all living classes in nature. The direct rainwater, roof water or runoff can be harvested using eco-friendly low-cost technologies such as uv resistant plastic lined ponds, ferro-cement tanks etc. and used for multiple purposes. The rainwater can be collected in large quantity plastic lined ponds and can be used for irrigation, animal rearing and recreational purposes. Generally big ponds are constructed and subsequently lined with plastic sheets like silpolin, nylon or HDPE. Small quantity of rainwater/roof water can be harvested in closed plastic, ferro-cement or masonry tanks for potable purposes.

The efficient utilisation and management of available rainwater is the core issue if the cropping intensity and production is to be enhanced. Rainwater harvesting and its recycling through the micro irrigation systems may revolutionize the state agriculture by enhancing the production, productivity and quality of produce.

Rain Water Collection in Lined Ponds

The rainwater can be collected in large quantity in plastic lined ponds. Generally big ponds are constructed and subsequently lined with uv resistant, multi-layered, cross-laminated plastic sheets like Silpaulin, HDPE or Nylon. The roof water, runoff water (after filtration) or spring water may be diverted to the pond. A large sum of water can be harvested using such ponds, which in turn may be used for irrigation or household purposes. These structures are durable, easy to construct and having less construction and maintenance cost.

Apart from these, runoff can be collected in farm ponds. Normally three types of ponds, viz. embankment type, excavated (dugout) and dugout-cum-embankment type are constructed for collection of excess runoff. Embankment type and dugout-cum-embankment types of ponds are feasible in hilly and undulating topography. Embankment type of ponds are created by constructing a small length of dam across a water course whereas dugout-cum-embankment type of pond can be created by excavating a site surrounded by hillocks from two or three sides and making the embankment from excavated soil on remaining sides.

Groundwater recharging

The basic principle of groundwater recharge is to reduce the velocity of running water. The water harvesting and conservation measures mainly aim at the control of soil erosion and thereby allowing more of this water this water to get infiltrated into the soil to replenish the ground water storage. A critical element in most soil erosion controls is the prevention of the uncontrolled movement of water across a sloping soil surface.

ഒരു ലിറ്റർ വെള്ളം 20 രൂപക്കു വാങ്ങുമ്പോൾ ഒരു ലക്ഷം ലിറ്റർ വെള്ളം നിങ്ങൾ വെറുതെ കളഞ്ഞില്ലേ ?

Aqua Star Presents
Rain Water Harvest System

Aqua Star
Water for Life

Customer Care: 9446 001212

RAIN GUTTER • PIPE AND FITTING • RAIN CHAMBER
UNDERGROUND TANK • SOCKWAY

PONNORE enterprises Ltd. THIRISSUR - 0487-2201181 | www.aquarain.in