



## Oasis Valleys - Green Building Policy & Initiatives

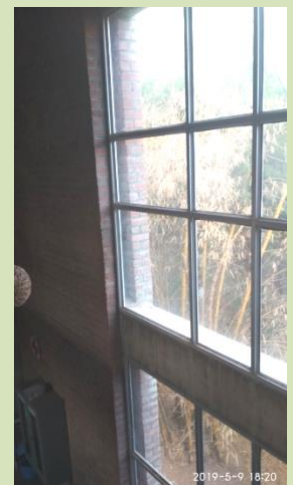
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There is a continuous effort by the Oasis Valleys team, with support from Program facilitators & Participants, in ensuring that the Oasis Valleys is a green, safe and environment friendly Educational Campus. It is our endeavor to continuously upgrade the experience of the participants for which, several innovative activities have been undertaken since initial years. The institute & campus has a green touch to all the green initiatives.

### INSTITUTE

#### 1. Project Values, Architect design values & Construction practices

- i) Placement of the building was done at the place that is of least useful for Agriculture. Flat land on Plateau & in Valleys can be used for Organic farming while slopes were difficult for step farming. So planned to use the middle slope of campus for the placement of the building.
- ii) Placement of the building is done North-south such that the least surface of the building is exposed to southern sun throughout the year. This reduces heating of the building by direct sunlight considerably.
- iii) Building was designed to construct with Exposed Brick work and Exposed RCC work for most of the construction part. It has avoided the consumption of Cement for Plaster as well as enamel, solvent and paint for Painting of the internal as well as exterior walls.
- iv) No member of the building was kept as dummy part. The structural design was prepared in such a way that all the members – RCC frame structure of beams & columns, Brick masonry, Fabricated bridge, Window Seal, Lintel – almost everything is sharing the load.
- v) The building was designed for construction of Double brick wall. In all external wall exposed to the outside atmosphere, there is 5 inch Air gap between two walls of 9 inch thickness. Air-gap works as an insulating media keeping the building warm during winter and cool during summer.
- vi) All the areas of the building are designed with large window to harness maximum natural light and better natural air circulation. Both the Training halls, Dinning Area, Residential rooms, Staircase areas have large windows depending upon structural possibilities. In the middle block of Reception & Offices, Glass bricks are used to let Sunlight pass on up to 3 floors from the top to encourage using natural light.



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- vii) Turbo Ventilators are provided in the Staircase area for Cross ventilation and fresh air circulation.
- viii) It was planned & executed in such a way that the Construction waste was utilized in the campus of Oasis Valleys itself.
  - a) Civil construction waste of Bricks (called brick batt) was preserved to use for Waterproofing work.
  - b) The waste of masonry, RCC & other material was reused to create base of Parking area, pathways & steps inside the campus and at the places of soil erosion.
  - c) Waste steel of Reinforcement is used to prepare Railing, Shoes racks and Window grill of the building.



## 2. Shifting the grown trees:


Plantation was done on the whole campus of Oasis Valleys immediately upon receiving facility of Irrigation water. While the planning of constructing an Institute at particular location was decided later on after few years. Meanwhile in that time period, few big trees were grown at that location. To save those trees, Oasis Valleys had put an extra effort using JCBs, Manual Excavation after consulting various Agriculture Consultants & Machinery Experts.

- i) All the Trees/Plants were replanted from building site to nearby location with utmost care taken specifically. Team of competent supervisors was remained present during the whole process
- ii) Trees/Plants can be very sensitive to dehydration, so were removed during either early morning or late nights.
- iii) Pits were excavated and kept ready in advance to immediately replant them. Extra labour team was kept ready on site to execute the work. All the labours were given instructions to take care of trees as living thing, not a work of project.
- iv) Extra doze of Manure was added in order to increase the vitality of shifted trees.
- v) Trees were removed such that least roots were damaged during removal, shifting and replanting. Many branches were pruned for reducing the evaporation rate.
- vi) Oasis Valleys is happy that we could retain most of the trees shifted from the construction site.


**3. Eco-Friendly Practices adopted during renovation of building as follows:**

- i) Building Materials including interior materials to have at least 20% recycled content by cost.
- ii) 80% of waste generated (by weight or volume) on site does not go to landfill. Design & selection of material is done such a way that almost everything is reused somewhere in the campus.
- iii) Minimum use of Paints and Adhesives advised which also has LOV content.
- iv) Workmen involved in the construction will be provided with restrooms and safe drinking water facility.

**4. Energy efficient Light Fittings:**

- i) It is decided to use LED lights for Energy saving purpose. All newly purchased light fitting of Phase.2 are LED light. Surface mount Corve LED & Syska T5 tubelight fittings are selected. 
- ii) All the light fittings are selected with high ratio of Lumens/watt.
- iii) Selection of type light fittings & total number of fittings are done based on utilization of that area. E.g. Light fittings in Reading area & Reception are more illuminative than passages & walkways.

**5. Measures for Electricity saving (Timer, sensor, level controller) – Various Energy saving instruments have been installed at Oasis Valleys.**

- i) All the streetlights have sunlight sensors. The installation of Sunlight sensors connected with the Streetlights as such that it is set seasonally to match with the maximum use of natural sunlight.
- ii) All the common lights of passage & staircase areas are connected with digital timer switches. The timings of the timer switches are set to match with the use of natural sunlight for early risers to late night workers. 
- iii) Few areas are provided with Motion sensor lights to reduce power consumption as well as ensure safety of occupants.
- iv) Both Overhead tanks- Utility water for Institute and Irrigation water for campus are filled with water using Submersible pump installed in Borewell. Both the submersible pumps are connected with Level controller to avoid spill over and any wastage or water.
- v) Motors of sewage water treatment plants are also connected with level controller to avoid wastage of electricity.
- vi) Notice-boards & Reading areas are located in well-lit place of the building.

**6. Equipment Selection:**

- i) It has been planned to Usage of non-CFC equipments in future, may it be Air-Conditioners, Fridge or any other equipment.
- ii) Also it is planned to purchase Equipments with 5 star rating wherever possible to have by adhering requirement.

- iii) While selecting any equipment for purchase, the Total Cost (including Initial Cost, Running Cost, Maintenance Cost & Labour cost) is calculated for decision making.

## 7. Measures for Saving water

- i) Use water efficient Plumbing fixtures for controlling flow rates.
- ii) Dual Flush type Flush tanks are provided in the toilets.
- iii) Main Valves of the floor are throttled on the lower floors with high pressure of water due to gravity

## 8. Solar & other Renewable energy on-site

- i) Solar hot water system is installed at Oasis Valleys Institute for bathrooms. Highly efficient Glass-tube heating technology is adapted in solar hot water system. Energy efficient Heat pumps are provided as back up during monsoon or cloudy seasons.



## 9. Waste Recycling systems:

- i) Oasis Valleys is preparing Bio-compost from the farm waste. In order to save human energy various decentralized Waste hips are created throughout the farm and cow dung & cow urine from nearby farmers are being used for creating microbial environment for decomposing process.
- ii) Oasis Valleys is preparing Vermi-compost from Kitchen waste. Segregated organic waste of Kitchen & dining area is shifted to Vermi-compost units for recycling. Vermi-compost produced from the units is being used as manure in the plants kept inside the building premise & surrounding. Waste PVC drums were engineered and designed to create vermin-compost plant from Kitchen waste.



## 10. Sewage Treatment plant & reuse of treated water

- i) Oasis has installed sewage treatment plant with completely natural treatment.
- ii) Technology called 'Bio-Filter' developed by renowned Transchem Agritech Pvt. Ltd., Vadodara is being used for filtering the sewage water.
- iii) Earthworms along with biologically degradable media works as a filter in the plant.



- iv) Treated water of the sewage treatment plant is used for Irrigation & agriculture in the campus. The production of the crops, orchard & other plants has increased drastically due to higher composition of N-P-K etc. major minerals as well micro nutrients in the treated water.
- v) The filtering media is being replaced every 6 months with new media. Used filter media has been converted to bio-compost by bacteria & earth worms. It is being used in the campus in organic farming, landscape & orchard.
- vi) New filtering media is being prepared on campus by crushing waste of forest trees & agriculture. If needed farming waste from nearby farmers are brought to campus for preparing bio-filtering media.

11. **Staff:** Environment friendly Housekeeping techniques are taught to staff. It includes water & Electricity saving as well as energy efficient ways. Green practices as well as material have been used for cleaning as well as maintenance of the building & campus.

12. **Environment friendly utilities:** It is decided to use all the utilities with environment friendly norms for reducing Carbon footprints.

- i) Diesel generator set confining to GPCB as well as pollution control norms of IS. Also the Generator is silent generator with casing to reduce noise pollution.
- ii) All the pumps & motors used in Irrigation system, Solar system as well as sewage treatment plants are confined to Indian standards.
- iii) Water & Electricity consumption is regularly being measured & monitored for various utilities.




13. **Car Pool:** Car/Vehicle Pool facility is planned for facilitators as well as participants of Oasis workshops and children camps. The co-ordinator of the program always ensures that single vehicle is used for camps including facilitator and minimum number of vehicle using car pool for adult workshops. Approved service providers for various cars & buses are appointed for central travel from Vadodara to Oasis Valleys.

14. **Environment Activities for participants:** All the participants of the workshops & camps are taken for Environment Protection Education tour. They are being shown all the actions as well as demonstration of the points mentioned under the section of Campus below. Also during camps & workshops, all the participants are offered to participate in any one activity of Environment protection or organic farming.



## 15. Occupant wellbeing facilities:

- i) **Library** contains books ranging from Subject from children stories to philosophy. Various sections of more than 1200 books are created and distributed in the cupboards on all floors of the building. All the facilitators & participants of Oasis workshops & camps have an access to the distributed library as well as publication counter.
- ii) **Honesty Shop:** Oasis has published more than 80 books/booklets in last 10 years. All the books are available for sale at publication counter. Few other publications of Gandhiji, Swami Vivekanand etc. are also available. Participants are supposed to read the price on the book and drop money in honesty box kept at the counter. Though the building has been covered with CCTV surveillance for security, no CCTV has been kept in Honesty shop. We trust people.
 
- iii) **Exercises & Games:** Various physical exercises are planned for children of the camps which include Yoga, Jogging, Mountain climbing, local Indian traditional games etc. Also during camps various trainings of Self-defense, healthy lifestyle are being given to participants.
- iv) **Medical:** First aid kit is available on all floors for immediate treatment for injury or illness. Also contact number of nearby PHC & major hospitals are handy in office. Folding Wheelchair & Stretcher are kept ready for any emergency. One 4 wheeler is always kept standby during all major programs.
- v) **Drinking Water:** RO Water purifiers are installed at Oasis Valleys for Drinking water. Water from Borewell, Irrigation and RO Plant is being tested in laboratory every year for monitoring water quality.
- vi) **Amphitheatre:** Oasis Valleys has developed a place where various cultural as well as social events can be organised during the programs. Regularly Camp Fire, Group Activities, Debate etc are being organised during the camps. Such programs help children to make new friends and bring out their talents.
- vii) **Sanitation:** Few toilets in the institute building are designed with Indian Toilet Pan so that Children & participants from rural areas are comfortable.
- viii) **Food:** Only healthy & tasty food with minimum of spices is served to the participants of Oasis Programs & staff members. Food is being cooked in completely hygienic environment with proper SOPs by trained team.

## **CAMPUS**

1. **Retain Contours:** After purchasing the land for the campus, the policy decision was taken for NOT disturbing original natural contours & topography of land. Whatever development is to be planned in the campus, be it constructing institute building, organic farming or creating infrastructure, everything has been planned without any change in the topography of the land.
2. **Soil Erosion prevention:** Various measurements for preventing soil erosion are taken in the campus.

- i) Fast growing creeper named 'Vadelia' has been planted to quickly prevent soil erosion at critical location.
- ii) Green Bamboo & Golden Bamboo has been planted on slopes as well as in valleys to prevent soil erosion.
- iii) Low cost technology has been adopted for the steps of soil erosion prevention. Bunding and check-dams are prepared from used cement bags, wood waste from campus. Used cement bags are filled with local soil and are closed with stitches and all the stacked bags are stitched together to make it as a single unit. This bunding or dam is covered with soil to avoid degradation of plastic of soil bags.
- iv) At the edge of top of hill or plateau area, bunding using cement bag are prepared. This has ensured cutting or washing out of edge.
- v) Check dams are prepared in the path of water ways. It serves 2 purposes. Breaking the velocity of stream of water & thereby preventing soil erosion. Also it allows water to seep in the soil of land and thereby increase the ground water table.



*We are proud to say that the Soil erosion that was common phenomenon since past few years has been stopped at the location of Oasis Valleys which has helped the contours of surrounding land. The same is visible on the map of Google Earth.*

3. **Rain water harvesting:** The system of harvesting rain water has been developed in the campus including checkdams which allows water to seep in the soil of land and thereby increase the ground water table. Storm water structure & network inside the campus is set since a decade. Percolating well has been planned near the lowest point of the campus.
4. **Irrigation by Gravity:** Underground Irrigation pipelines are fitted in the campus. Piping network is designed in such a way that water is being distributed from Overhead tank to the end point by gravity.

5. **Pond:** Combination of natural & artificial technology is adopted for creating a water body inside the campus. The location of same is selected based on water ways, slope of the campus contours and wind direction. Cool wind breezing from the pond keeps the whole campus cool during summer. Also the water body helps in creating habitat for the local animals & birds.



6. **Organic Farming:** In order to propagate low cost sustainable farming, Oasis Valleys has adopted Organic farming since the purchase of land in 2004. No chemical fertilizers or pesticides have been used since then. Bio Fertilizers like vermi-compost, bio-compost, cow dung, coal ash etc. have been used as natural fertilizers. Cow urine & fermented buttermilk have been used as natural pesticides.



7. **Composts:** Various Compost plants using Vermi-culture, Bio-culture has been developed at Oasis Valleys. Inputs from local farms have been developed to create composts.
8. **Demonstration models of Low cost farming:** Various models of low cost farming have been developed at Oasis Valleys.

i) **Gangama Circle:** Experiment of 1024 sq.ft. for sustaining livelihood of 1 family.

ii) **Crop changing:** Rotation of vegetable beds based on its category: Root-based, Leaves-based, Fruit-based or Creepers. This ensures availability of required manure for each category throughout the season. Also it prevents imbalance of minerals in soil.



iii) **Inter cropping:** In order have control of pest infection & balance of minerals in soil, various vegetables & other crops are grown in single bed in best combination on the farm.

iv) **Mulching:** To reduce evaporation from the soil, covering of watered soil is being done at Oasis Valleys Campus. Green mulching using forest grass/weeding and Dry mulching using leaves & other farm waste are being done.



- v) **Green Field Project:** Smaller plants are brought from nursery from forest department and are grown in bigger sapling bags (recycled) after adding local soil. It is easier to look after them by less labour, energy and time. Also this helps smaller plants to adapt in the new situation, atmosphere and location. After they are settled & bloomed in 1-2 years and reached up to height of 5-7 ft they are planted on land. It takes hardly one monsoon for them to settle. This system of plantation reduces mortality rate and extra labours to save them in initial stage.
9. **Bio-diversity Orchard:** Oasis Valleys has developed Bio-diversity orchard with more than 25 species of fruit trees. It ensures equilibrium of all the minerals in the soil & avoids utilization of only few minerals which is the general case in other farms with only single species. It also ensures restriction of the growth of pest in the farm. Design of the orchard is done such a way that it harnesses maximum Sunlight possible for best utilisation of land.
10. **Saving of Native & vanishing Species:** Oasis Valleys has taken initiative of saving native species of the region. *Sitaphal, Ramphal & Shetur* are few such fruit trees and *Kher, Paras Pipal, Aambali, Ambiyaar* are few such forest trees.
11. **Herbal Garden:** Few herbal plants like Allovera, Basil, Paanfuti etc. and Trees like Bijora, Indrajav, Nagol, Karanj are grown at Oasis Valleys. All 3 trees from which Triphala Churn is prepared are grown at Oasis Valleys - Amla, Harde, Baheda. Many Natural Insect Repellent plants like Basil are grown zone wise to ensure healthy atmosphere in the whole campus.
12. **Green Footprints by Planned Forest:** Oasis Valleys has grown planned forest in the campus with more than 60 varieties of trees. With Trees density more than 8 ft x 8ft, Oasis Valleys actually fall in the zone of Forest. More than 3000 trees are grown in 9 acres of land. Oasis Valleys can be easily distinguished & recognized as a green patch from the surrounding area on Google earth.
13. **Co-living with Animals & Birds:** Oasis Valleys encourages habitat of living creatures on the campus. Wild heir, snakes, other reptiles as well as 40 varieties of birds like peacock, parrot, king fishers are found in the campus. All the staff members & visitors are instructed not to tease or harm any animal or birds. As a policy if any snake or poisonous/dangerous reptiles are found on campus, people from forest department are called and creatures are cached & released to nearby forest.





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14. **Tobacco policy:** Chewing Tobacco, Mawa, Gutka and smoking in any form (Bidi, Cigarette, Cigar, Pipe, etc.) and consuming Liquor in any form is prohibited inside the Institute building or any other premise or anywhere in the whole campus.
15. **Multipurpose Usage:** Various Parts of Bamboo & other Trees used creatively inside the campus like preparing internal fence, scaffolding etc. Children used to create various craft items/articles & Educational material using the same during the camps.
16. **Waste segregation & disposal system:** Various kind of waste generated inside the institute and the campus is segregated. Dry & Wet waste separated initially using different kinds of Dustbins. Green waste is transferred to Vermi-compost unit or Bio-compost unit as per season, quantity and material in the waste. Dry waste is further segregated in to various parts – E-waste to be given to authorized recycle, Scrape to be given to local scrape recycler, Waste that can be used creatively, are utilised in Oasis camps by children. All the actions are taken based on segregation.



## **Green Guidelines for Oasis Valleys for Participants and Staff**

- Do not waste water, always close tap immediately after use.
- Do not use running water to wash your cloths; use bucket and clothe instead.
- Make use of natural light wherever possible, switch off electrical lights/fans when not required.
- Participants been provided with solar water heater facility with back up. All are requested to use judiciously.
- Purchase and Install energy efficient BEE star labeled appliances such as Air Conditioners, Refrigerators, Televisions, Fans, Stoves, and Ovens etc. Purchase/use only Air-Conditioners/ Refrigerator that have CFC free refrigerant.
- Switch OFF the main power for appliances with remote control such as TV, AC etc. since these equipment consume considerable power even in standby mode.
- Report any misuse or waste of electricity, water and other valuable resources to the Oasis Valleys Administrators to enable them to take appropriate actions.
- Segregate Dry Waste, Wet (Organic) Waste, Bio-medical Waste and e-Waste at source (such as: at kitchen, in rooms etc.) and use separate bins for disposal.
- Make full use of the facilities available inside the campus and thereby avoid inconvenience and cost of going outside the Oasis Valleys for the same.
- Use public transport as much as possible- a GSRTC bus stop is newly developed just outside the Oasis Valleys main gate.
- For coming to Oasis Valleys, pool cars with your colleagues. Use facility of providing centralized transportation from Vadodara to Oasis Valleys during the camp.
- Do not use tobacco in any form, and refrain from smoking, consuming alcohol inside the campus of Oasis Valley.

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### **OASIS MOVEMENT**

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