

**AMMA SRI KARUNAMAYI
SMVA TRUST
WATER PROJECT OUTLINE**

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WATER PROJECT: OBJECTIVES

- PROVIDE SAFE DRINKING WATER THROUGH PUBLIC INSTITUTES SUCH AS, SMVA ASHRAM, SCHOOLS, HOSPITALS
- HELP INFANTS, SCHOOL AGE CHILDREN, PATIENTS WITH HEALTH PROBLEMS, ASHRAM VISITORS
- DRINKING WATER MUST BE FREE OF TOXIC AGENTS AND IMPURITIES SUCH AS FLUORIDE, ARSENIC, HIGH LEVELS OF SALINITY, HARMFUL BACTERIA AND ORGANICS
- WATER TREATMENT EQUIPMENT MUST BE BUILT WITH HIGH QUALITY COMPONENTS
- SMVA TRUST TO PROVIDE TECHNICAL ASSISTANCE, OPERATION AND MAINTENANCE SUPPORT, OPERATOR TRAINING
- SMVA TO SUPERVISE THE PROJECT WITH THE HIGHEST LEVEL OF INTEGRITY AND TRANSPARANCEY IN ALL AREAS OF PROJECT MANAGEMENT

PROBLEMS

- TREATED WATER BY THE LOCAL GOVERNMENT AGENCIES DOES NOT REACH ALL OF THE COMMUNITIES, PARTICULARLY LIVING IN DEEP FOREST REGIONS.
- THESE COMMUNITIES MUST RELY ON GROUND WATER (DEEP WELLS, HAND-DUG WELLS, BORE WELLS)
- MOST OF THE GROUND WATER SUPPLIES ARE FOUND WITH HIGH SALINITY AND EXTREMELY HIGH LEVELS OF FLUORIDE. OTHER CONTAMINANTS UNDER CONSIDERATION: ARSENIC, BACTERIA AND ORGANICS
- IMMEDIATE HEALTH PROBLEMS OBSERVED: TOOTH DECAY, BONE DETERIORATION, KIDNEY FAILURE, EYE DAMAGE, DEFORMED BONES AND LIMBS
- LARGELY POOR POPULATION WITH LIMITED INCOME. LOCAL GOVERNMENT HAS LIMITED FINANCES TO DEAL WITH THE PROBLEMS.

PROJECT OVERVIEW: OUR VISION

- PROVIDE TREATED, SAFE DRINKING AND COOKING WATER FOR AS MANY PUBLIC INSTITUTES AS POSSIBLE
- EACH SYSTEM/INSTALLATION WILL BE BASED ON 10,000 TO 30,000 LITERS PER DAY AND SERVE POPULATION OF 1000 TO 3000 INDIVIDUALS (10 LITERS OF TREATED WATER PER PERSON PER DAY). LARGER SYSTEMS MAY BE EVALUATED BASED ON AVAILABILITY OF FUNDS AND SITE SPECIFIC NEEDS
- HELP CHILDREN, YOUNG MOTHERS, HEALTH CARE INSTITUTES, SCHOOLS, ASHRAM VISITORS
- RAISE AWARENESS FOR SAFE DRINKING WATER THROUGH ACTIVE PUBLIC SERVICE PROJECTS
- ACCEPT FULL RESPONSIBILITY FOR FINANCING EACH INSTALLATION. PROVIDE HIGH-QUALITY EQUIPMENT FROM QUALIFIED LOCAL (INDIAN) SUPPLIERS OF WATER TREATMENT SYSTEMS, PROVIDE ALL OF THE INFRASTRUCTURE INCLUDING INSTALLATION, STARTUP, TRAINING AND UP TO THREE YEARS OF SUPPORT FOR CRITICAL PARTS (EXAMPLE: RO MEMBRANE ELEMENTS).
- HAND OVER THE PROJECT TO THE PUBLIC INSTITUTES IN AN ORDERLY FASHION, SO THAT THE PUBLIC INSTITUTES CAN CARRY ON WITH THE PROJECT ON THEIR OWN IN DUE TIME.

PROJECT EXECUTION: OUR VISION

- SERVE AS MANY COMMUNITIES AS POSSIBLE, WITHIN 25 KM RADIUS OF SMVA ASHRAM (2000 SQUARE KM AREA). THIS AREA COULD BE EXPANDED UPON AVAILABILITY OF ADDITIONAL FUNDS AND SITE SPECIFIC NEEDS
- PRIORITY ONE: SMVA ASHRAM, SMVA HOSPITAL AND SCHOOLS SUPPORTED BY SMVA. THESE INSTITUTES INCLUDING THEIR DIRECT EMPLOYEES WILL PROVIDE WATER AT NO COST TO THE USERS.
- PRIORITY TWO: WATER TREATMENT PLANTS FOR THE COMMUNITIES WITH HIGHEST HEALTH PROBLEMS. FOR QUANTITIES UP TO 20 LITERS PER DAY, PER PERSON WOULD BE FREE OF COST. FOR QUANTITIES HIGHER THAN 20 LITERS PER DAY PER PERSON, A CAUTION TO REDUCE WATER USAGE (SAVE WATER, SAVE COUNTRY), TWO RUPEES MAY BE CHARGED FOR EACH TWENTY LITER CAN TO RECOVER O&M COSTS
- SMVA (USA) GROUP TO ACCEPT THE RESPONSIBILITY FOR DEVELOPING EQUIPMENT SPECIFICATIONS, EVALUATING COMPETITIVE BIDS FROM THE QUALIFIED INDIAN SUPPLIERS AND RECOMMEND A PROJECT AWARD TO AMMA.
- SMVA (INDIA) TO PROVIDE LOGISTICS, WORK WITH LOCAL INSTALLATION CONTRACTORS TO SUPERVISE PROGRESS, TRAIN OPERATORS, PROVIDE CENTRALIZED WATER TREATMENT SUPPORT SERVICES FOR STORAGE OF CRITICAL PARTS
- EACH PROJECT SCOPE AND COST WILL VARY, BASED ON SITE-SPECIFIC RAW WATER QUALITY, SIZE OF THE POPULATION AND TREATMENT PROCESS THAT MAY BE NECESSARY TO ACHIEVE THE DESIRED WATER QUALTY.
- FOR THE WATER PURIFICATION SYSTEMS REQUIRING HIGHER LEVEL OF TREATMENT (EXAMPLE: REVERSE OSMOSIS PROCESS), THE SCOPE MAY INCLUDE SUPERVISION OF DESIGN, BUILD, INSTALLATION, STARTUP AND UP TO THREE YEARS OF PARTS SUCH AS RO MEMBRANE ELEMENTS
- **AMMA TO BLESS AND APPROVE ALL PROJECT ACTIVITIES.**

TYPICAL PROJECT COSTS

ITEM	TYPICAL COST
WELL PUMP WITH CASING, DRILLING	\$3,000
WATER TREATMENT EQUIPMENT, RO WITH PRETREATMENT	\$7,000
INSTALLATION COST	\$5,000
THREE YEARS CRITICAL PARTS	\$3,000
WATER STORAGE TANK	\$2,000
PLUMBING AND ELECTRICAL	\$1,000
SMALL WATER TREATMENT BUILDING	\$4,000
TOTAL PROJECT COST	\$25,000

BASIS : SYSTEM SIZE: 15,000 LITERS PER DAY, SERVES POPULATION OF 1500 INDIVIDUALS
INLET SALINITY: 1500 MG/L, INLET FLUORIDE 1.5 MG/L TREATED WATER QUALITY: LESS
THAN 300 MG/L, LESS THAN 0.15 MG/L FLUORIDE. ASSUME LOCAL AVAILABILITY OF
ELECTRICITY TO RUN THE RO SYSTEM.

PROGRESS REPORT

- SMVA (INDIA) HAS ALREADY INSTALLED SEVERAL REVERSE OSMOSIS WATER TREATMENT SYSTEMS IN REMOTE COMMUNITIES
- SMVA (USA) SURVEYED OVER 50 LOCATIONS IN THE YEAR 2010 AND YEAR 2011, COLLECTED PRELIMINARY DATA, VISITED SMVA ASHRAM, SMVA HOSPITAL AND SCHOOLS SPONSORED BY SMVA
- SMVA (USA) HAS RAISED \$170,000 FROM VARIOUS FUND DRIVES TOWARDS WATER PROJECT. THESE FUNDS WILL BE SUFFICIENT TO PROVIDE 7-10 NEW SYSTMS
- PUBLIC RESPONSE FROM THE USA DEVOTEES IS EXCELLENT

SITE VISIT, AUGUST 2010



SMVA WATER TREATMENT SYSTEM



GROUND WATER SUPPLY SYSTEM IN RURAL INDIA



WHO IS GOING TO HELP THESE CHILDREN?



WATER SUPPLY FOR THE HOSPITAL



KIDNEY PATIENT, FLUORIDE DAMAGE EVIDENCE



SCHOOL CHILDREN WITH FLUORIDE DAMAGED TEETH



AMMA DIRECTING EACH PROJECT

