

**ENERGY FOR WOMEN  
&  
WOMEN FOR ENERGY**

**ENGENDERING ENERGY  
&  
EMPOWERING WOMEN**

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## **WOMEN IN ENERGY CONSUMPTION PATTERNS**

- TRADITIONAL ENERGY ANALYSIS
- RURAL ENERGY CONSUMPTION PATTERNS
- WOMEN WORK LONGER HOURS
- WOMEN PERFORM THE BACK-BREAKING TASKS
- WOMEN ARE DISPLACED BY AGRICULTURAL MECHANIZATION

## **TRADITIONAL ENERGY ANALYSIS**

- SUPPLY SIDED
- GENDER BLIND
- EXCEPTIONS --> ASTRA STUDIES  
(1980s) & ENERGY FOR A  
SUSTAINABLE WORLD

## **RURAL ENERGY CONSUMPTION PATTERNS**

- MAJORITY OF LDC WOMEN LIVE IN  
RURAL AREAS
- SIX-VILLAGE STUDY --> 1977-80
- ENERGY-UTILIZING ACTIVITIES -->  
AGRICULTURE (INCL. TRANSPORT),  
DOMESTIC, LIGHTING AND  
INDUSTRY

## **PURA RURAL ENERGY CONSUMPTION PATTERN**

- DIRECT SOURCES --> HUMANS, BULLOCKS, FUELWOOD, KEROSENE & ELECTRICITY
- RANKING OF SOURCES : FUELWOOD (89%) --> HUMAN ENERGY (7%) --> KEROSENE (2%) --> BULLOCK ENERGY (1%) --> ELECTRICITY (1%)
- HUMAN ENERGY: DOMESTIC (80%) --> AGRICULTURE (12%) --> INDUSTRY (8%)

## **PURA RURAL ENERGY CONSUMPTION PATTERN**

- DOMESTIC: GRAZING (37%) - COOKING (19%) - GATHERING FUELWOOD (14%) - FETCHING WATER (10%)
- FUELWOOD: COOKING (82%) - WATER HEATING (14%) - INDUSTRY (4%)
- KEROSENE: LIGHTING (93%) - INDUSTRY (7%)
- ELECTRICITY: AGRICULTURE (65%) - LIGHTING (28%) - INDUSTRY (7%)

## **PURA RURAL ENERGY CONSUMPTION PATTERN**

- COMMERCIAL ENERGY (KEROSENE & ELECTRICITY) - MERE 3% OF INANIMATE ENERGY
- FUELWOOD - REMAINING 97%
- FUELWOOD - NON-COMMERCIAL - GATHERED AT “ZERO” FINANCIAL COST
- ANIMATE SOURCES : ONLY 8% OF TOTAL ENERGY BUT 77% OF AGRICULTURE

## **PURA RURAL ENERGY CONSUMPTION PATTERN**

- VIRTUALLY ALL ENERGY COMES FROM RENEWABLE SOURCES
- BUT EXORBITANT PRICE VIZ (1) LOW AGRICULTURAL PRODUCTIVITY, (2) LARGE AMOUNTS OF HUMAN ENERGY SPENT ON GATHERING FUELWOOD (2.6 HRS/DAY), FETCHING WATER (1.5 HRS/DAY), GRAZING LIVESTOCK (5.8 HRS/DAY)

## **PURA RURAL ENERGY CONSUMPTION PATTERN**

- ONLY 25% HOMES ELECTRIFIED IN 1980
- KEROSENE LAMPS (78% OPEN-WICK TYPE) FOR REMAINING 75% HOMES
- 65% OF ELECTRICITY FOR IPSETS
- 28% FOR LIGHTING 14 OUT OF 56 HOMES
- 7% FOR ONE FLOUR MILL

## **RURAL ENERGY CONSUMPTION PATTERNS**

- MANY SUBSEQUENT STUDIES BUT BROAD FEATURES OF ASTRA SIX-VILLAGE STUDY GENERALLY VALIDATED

## **WOMEN WORK LONGER HOURS**

- PURA WOMEN'S LABOUR HOURS:  
53% OF TOTAL LABOUR HOURS -->  
FETCHING WATER - 80%,  
AGRICULTURE - 44%, GATHERING  
FUEL - 42%, GRAZING LIVESTOCK -  
15%
- WOMEN WORK MORE THAN MEN

## **WOMEN PERFORM THE BACK-BREAKING TASKS**

- GENDER PREFERENCE IN  
AGRICULTURAL OPERATIONS
- MEN: LAND-PREPARATION  
(PLOUGHING, HARROWING)
- WOMEN: SOWING/TRANSPLANTING,  
WEEDING, HARVESTING

## **WOMEN PERFORM THE BACK-BREAKING TASKS**

- THUMB-RULE I: IF BULLOCK-POWER, THEN MEN
- THUMB-RULE II: IF CONTINUOUS BENDING/SITTING AND STRENUOUS & BACK-BREAKING, THEN WOMEN
- E.G., WOMEN TRANSPLANT & WEED 6-10 HOURS/DAY IN ANKLE-DEEP SLUSH AND OFTEN IN DRIZZLE

## **WOMEN ARE DISPLACED BY AGRICULTURAL MECHANIZATION**

- AGRICULTURAL MECHANIZATION DOES NOT RELIEVE WOMEN OF BACK-BREAKING JOBS
- MACHINES ARE CONSIDERED PREROGATIVE OF MEN
- WOMEN ARE RELIEVED OF THEIR JOBS
- FEMALE JOBS CONVERTED INTO MALE JOBS
- E.G, THRESHERS AND HARVESTERS



## **WOMEN INTAKE LESS FOOD**

- WOMEN TRADITIONALLY EAT LAST AND LEAST
- PROBLEM OF STUDYING INTRA-FAMILY FOOD DISTRIBUTION
- MULTIPLE REGRESSION OF FOOD CONSUMPTION VS NUMBER OF MEN, WOMEN, BOYS, GIRLS

## **WOMEN INTAKE LESS FOOD**

- MEN EAT TWICE AS MUCH AS WOMEN AND BOYS ARE GIVEN MORE FOOD THAN GIRLS
- GENDER BIAS IN ACCESS TO FOOD ENERGY
- WOMEN'S WEIGHT GAIN STOPS AT 16 BUT MEN'S, AT 25
- WOMEN'S WEIGHT GAIN IN PREGNANCY ONLY 4-6 KGS VS DESIRED 10-12 KGS

## **HEALTH HAZARDS OF BIOMASS COOKING FUELS**

- > HALF WORLD'S HOUSEHOLDS COOK DAILY WITH UNPROCESSED SOLID FUELS [FUELWOOD, DUNG CAKES, ETC.]
- THESE FUELS RELEASE TOXIC EMISSIONS [CO, TSP, HCs, ETC.]
- OPEN COOKSTOVES HAVE LOW EFFICIENCY

## **HEALTH HAZARDS OF BIOMASS COOKING FUELS**

- WOMEN @ 3 HOURS/DAY COOKING EXPOSED TO 700 MICROGRAMMES PARTICULATE MATTER PER CU.M.
- WOMEN BEGIN REGULAR COOKING AT 13, I.E., LONG PERIOD OF EXPOSURE
- EVERY PART OF FUEL CYCLE --> HEALTH HAZARDS

## **HEALTH EFFECTS OF ENERGY SCARCITY**

- HIGH TIME/LABOUR COST OF FUELWOOD GATHERING --> MEASURES TO ECONOMIZE FUEL --> (1) FEWER HOT MEALS --> STALE FOODS, (2) UNDER-COOKING, (3) SWITCH TO STAPLES REQUIRING LESS COOKING
- WOMEN'S DOMESTIC TASKS - PERENNIAL BUT MEN'S AGRICULTURAL TASKS - SEASONAL; HENCE, WOMEN EXPEND MORE ENERGY PER DAY

## **HEALTH EFFECTS OF ENERGY SCARCITY**

- HIGH TIME/LABOUR COST OF FETCHING WATER --> MEASURES TO ECONOMIZE WATER --> NEGATIVE IMPACT ON PERSONAL HYGIENE - GUIs AND RTIs
- SHARP INCREASE IN STILL & PREMATURE BIRTHS AND NEO-NATAL MORTALITY DURING RICE-TRANSPLANTING MONTHS BECAUSE WOMEN LABOUR FOR HOURS BENT ALMOST DOUBLE

## **SOCIAL AND GENDER IMPACT OF SCARCITY OF ENERGY SERVICES**

- LACK OF BASIC NEEDS AGGRAVATES WOMEN'S POWERLESSNESS & DISADVANTAGES
- LOW LEVELS OF ENERGY SERVICES ARE MAJOR BARRIER TO RAISING STATUS OF WOMEN
- ENERGY TECHNOLOGIES --> PRE-CONDITION FOR RAISING LIVING STANDARDS

## **ENGENDERING ENERGY SERVICES**

- ENERGY FOR SAFE AND SUFFICIENT WATER
- ENERGY FOR COOKING
- ENERGY TO RELIEVE CHILDREN FROM WORKING & TO FACILITATE SCHOOLING
- ENERGY FOR EMPLOYMENT

## **EMPOWERING WOMEN THROUGH ENERGY ENTERPRENEURSHIP**

- WOMEN PLAY A CRUCIAL ROLE IN MANAGEMENT OF ENERGY RESOURCES (BIOMASS)
- WOMEN AS BENEFICIARIES ARE BEGINNING TO PLAY A KEY ROLE IN REWSUs
- WOMEN ARE POTENTIALLY BEST MANAGERS OF ENERGY ENTERPRISES

## **EMPOWERING WOMEN THROUGH ENERGY ENTERPRENEURSHIP**

- WOMEN PLAY A CRUCIAL ROLE IN MICRO-ENTERPRISES - EXCELLENT RECORD OF TIMELY LOAN REPAY-MENTS & BENEFICIAL USE OF LOANS
- WOMEN --> BETTER INVESTORS AND PLANNERS
- WOMEN THINK IN TERMS OF STEPS & CONSENSUS
- WOMEN THINK OF LONG-TERM & NEXT GENERATION (LOWER DISCOUNT RATE)

## **IMPLEMENTATION OF ENERGY INTERVENTIONS TO IMPROVE QOL OF WOMEN**

- NEITHER GOVERNMENT NOR UTILITIES ARE INTERESTED AND DEPENDABLE
- WOMEN ENTREPRENEURS ARE HOPE
- REQUIRED --> WOMEN'S ENERGY ENTREPRENEUR PROJECT