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# **IDRC - BAIF**

## **IV LIAISON COMMITTEE MEETING**

### **TECHNICAL PRESENTATIONS**

**21st JANUARY 1991**



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**MULTIPURPOSE TREES SPECIES**

SLIDE A

## **MULTIPURPOSE TREES (INDIA)**

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SLIDE B

### **OBJECTIVES**

- \* ESTABLISHMENT OF ARBORETUM : 100 SPECIES
  - \* SPECIES ELIMINATION TRIAL - 3 LOCATIONS
  - \* STANDARDISATION OF NURSERY TECHNIQUES
  - \* OPTIMIZATION OF TREE DENSITY
  - \* ON FARM TESTING OF WOODLOT ECONOMICS
  - \* CHOICE OF SUITABLE AGROFORESTRY MODELS
  - \* MOTIVATION AND EXTENSION
- 

SLIDE C

### **FUTURE RESEARCH NEEDS**

#### **I - PROPAGATION**

- \* GERMPLASM COLLECTION - INDIGENOUS SPECIES
  - \* SEED CENTRE - PRODUCTION, PROCESSING, DISTRIBUTION
  - \* MICRO PROPAGATION & BIOTECH. APPLICATION
-

## SLIDE D

## FUTURE RESEARCH NEEDS

## II - ESTABLISHMENT

- \* SILVICULTURAL STUDIES - *about 10 species*
  - \* MANAGEMENT IN MIXED STANDS
  - \* SOIL PRODUCTIVITY
    - BIOFERTILIZERS *mycorrhiza rhizobia*
    - EARTHWORMS
    - CHEMICALS
    - CONSERVATION METHODS
  - \* FOCUS ON SPECIAL SITES
    - ERODED TERRAINS
    - MINED AREAS
    - DRY AREAS
    - SALINE SOILS
    - WATERLOGGED AREAS
- 

## SLIDE E

## FUTURE RESEARCH NEEDS

## III - POST PRODUCTION ASPECTS

- \* UTILISATION OF TREE PRODUCE
  - \* MARKETING *- sell products.*
-

SLIDE F

**DISSEMINATION OF RESULTS**

- \* NODAL AGENCY - FOR NURSERIES
  - \* ADVISORY SERVICES
  - \* TRIBAL REHABILITATION
  - \* MPTS NATIONAL NETWORK
  - \* TRAINING - POLYTECHNIC
  - \* WORKSHOPS AND SEMINARS
  - \* PUBLICATIONS AND FILMS
-

SLIDE G

## SITE DESCRIPTION

SITE	URULIKANCHAN	LAKKIHALLI	NANODARA
Latitude	18° 30' N	13° 12' N	23° N
Longitude	73° 48' E	76° 24' E	72° E
Altitude (m)	559	938.2	44.5
Av. Rainfall (mm)	425	615	706
Av. Temperature range C	8 to 42	15 to 38	6 to 44
Soil type	Gravelly	loamy sand	Loamy sand with hard pan
pH	7.8	6.4	8.7
Depth (m)	0.1	more than 2.0	1.0 to 1.5
Drainage	well drained	well drained	Seasonal water logging

SLIDE H

## PERFORMANCE OF SOME SELECTED FAST GROWING MPTS

SPECIES	AVERAGE GROWTH RATES PER YEAR IN CM											
	URULIKAMCHAN				LAKKIHALLI				NANODRA			
	HT	BD	DBH	Canopy	HT	BD	DBH	Canopy	HT	BD	DBH	Canopy
<i>Acacia auriculiformis</i>	125	1.98	0.88	66 **	134	1.95	1.13	81	very poor survival 2			
<i>Acacia nilotica</i> v.cu	107	1.90	1.08	77	190	0.35	-	17	37	1.47	1.09	29 *
<i>Acacia nilotica</i> v.te	65	1.24	0.68	51	41	0.88	0.43	38	288	3.96	3.26	94
<i>Albizia lebbeck</i>	102	2.21	1.34	93	112	1.48	0.95	64	144	3.97	3.26	136 *
<i>Azadirachta indica</i>	104	2.12	1.49	71	76	1.23	0.70	45	256	4.81	3.72	143
<i>Cassia siamea</i>	113	2.43	1.29	81	91	1.48	0.75	74	-	-	-	-
<i>Eucalyptus camaldulensis</i>	170	2.03	1.42	55	170	2.32	1.48	61	-	-	-	-
<i>Eucalyptus tereticornis</i>	192	2.16	1.85	58	148	1.75	1.35	52	377	5.28	4.81	111
<i>Gliricidia sepium</i>	134	1.50	1.20	110	66	0.95	0.55	50	-	-	-	-
<i>Gmelina arborea</i>	95	2.12	1.29	74	51	1.18	0.55	41	-	-	-	-
<i>Melia azedarach</i>	131	2.27	1.65	79	98	1.40	0.85	33	78	1.71	1.16	25 **
<i>Leucaena leucocephala</i>	160	2.18	1.66	99	90	1.13	0.73	45	317	3.35	2.79	97
<i>Parkinsonia auleata</i>	91	1.80	0.73	91	75	1.15	0.45	91	131	3.41	2.72	127 **
<i>Prosopis juliflora</i>	82	1.51	0.95	148	55	0.58	0.34	65	141	3.72	2.75	132

Rate of Survival : \* 50-75%

\*\* 25-50%

## SLIDE I

## EFFECT OF TREE DENSITY ON GROWTH

Melia azedarach

Spacings (m)	Trees/Ha	Growth at 23 months in cm		
		Height	BD	D B H
1.5 x 1.0	6667	206	3.1	1.65
1.5 x 1.5	4444	216	3.43	1.83
2.0 x 1.0	5000	240	3.61	1.83
3.0 x 1.0	3333	254	3.70	1.86
2.0 x 2.0	2500	239	3.90	2.01
3.0 x 2.0	1667	276	4.42	2.27
3.0 x 3.0	1111	345	5.77	3.23



SLIDE J

## EFFECT OF TREE DENSITY IN GROWTH

Acacia nilotica Var. cupressiformis

Spacings (m)	Trees/Ha	Growth at 23 months in cm		
		Height	BD	D B H
1.5 x 1.0	6667	220	3.66	1.42
1.5 x 1.5	4444	217	3.84	1.71
2.0 x 1.0	5000	201	3.56	1.60
3.0 x 1.0	3333	174	2.94	1.03
2.0 x 2.0	2500	218	4.17	1.72
3.0 x 2.0	1667	209	4.20	1.39
3.0 x 3.0	1111	214	4.70	1.83

## SLIDE K

## EFFECT OF TREE DENSITY ON GROWTH

Acacia auriculiformis

Spacings (m)	Trees/Ha	Growth at 26 months in cm			
		Height	BD	D B H	Canopy
1 x 1	10,000	230	2.36	1.05	139
1 x 2	5,000	248	2.63	1.78	132
1 x 3	3,333	213	1.98	1.01	119
2 x 2	2,500	183	2.51	1.08	142
1.5 x 3	2,222	200	2.13	1.08	138

## SLIDE L

## EFFECT OF TREE DENSITY ON GROWTH

Cassia siamea

Spacing (m)	Trees/Ha	Growth at 26 months in cm			
		Height	BD	D B H	Canopy
1 x 1	10,000	144	2.15	0.94	111
1 x 2	5,000	76	1.54	-	81
1 x 3	3,333	61	1.23	-	61
2 x 2	2,500	61	1.32	-	58
1.5 x 3	2,222	76	1.38	-	75

## SLIDE M

## EFFECT OF PLANTING MATERIAL ON GROWTH

Melia azedarach

Type of plants	Growth at 25 months in cm		
	Height	BD	D B H
Poly bag 100 days old	184	3.13	1.31
Bare root 100 days old	192	3.20	1.45
Poly bag 50 days old	197	3.24	1.46
Bare root 50 days old	192	3.29	1.44
Direct seed sowing	204	3.37	1.54

## SLIDE N

## EFFECT OF PLANTING MATERIAL ON GROWTH

Acacia auriculiformis

Type of seedlings	Growth at 26 months in cm		
	Height	BD	D B H
Poly bag 150 days old	178	2.0	0.80
Bare root 150 days old	195	2.2	1.1
Poly bag 75 days old	177	1.9	1.0
Bare root 75 days old	202	2.3	1.2
Direct seed sowing	123	1.2	-

SLIDE O

## EFFECT OF PLANTING MATERIAL ON GROWTH

Cassia siamea

Type of seedlings	Growth at 26 months in cm	
	Height	BD
Poly bag 150 days old	99	1.7
Bare root 150 days old	85	1.4
Poly bag 75 days old	118	1.8
Bare root 75 days old	121	1.9
Direct seed sowing	90	1.3

## SLIDE 8

## SITE DESCRIPTION

SITE	URULIKANCHAN	LAKKIHALLI	NANODARA
Latitude	18° 30' N	13° 12' N	23° N
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Depth (m)	0.1	more than 2.0	1.0 to 1.5
Drainage	well drained	well drained	Seasonal water logging

**BAIF INSTITUTIONAL SUPPORT PROGRAMME**

SLIDE A

BAIF INSTITUTIONAL SUPPORT

PROGRAMME

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SLIDE B

OBJECTIVES

- \* INCREASE GEOGRAPHICAL SCALE OF OPERATIONS
  - \* INCREASE TECHNOLOGICAL DIVERSITY OF PROGRAMMES
  - \* IMPLEMENT INFORMATION SYSTEMS FOR IMPROVING  
PROGRAM PLANNING, DESIGN, DELIVERY & MANAGEMENT
  - \* MONITOR SOCIAL & ECONOMIC EFFECTS OF PROGRAMS
  - \* CONSOLIDATE & SUSTAIN PROGRAM BENEFITS
- 

SLIDE C

PROJECTS

- \* INFORMATION RESOURCE CENTRE
  - \* COMMUNITY BASED RESEARCH
  - \* COMPONENT SYSTEMS RESEARCH
-

SLIDE D

LIST OF PROJECTS

- \* INFORMATION RESOURCE CENTRE
  - \* COMMUNITY BASED RESEARCH
    - .. IN NON-TRIBAL AREAS
    - .. IN TRIBAL AREAS
    - .. RURAL POLYTECHNIC
- 

SLIDE E

COMMUNITY BASED RESEARCH

- \* COMMONALITY OF THEMES, ISSUES AND APPROACHES.
  - \* CONVERGENCE ON CONCEPTUAL, & PRACTICAL LEVELS.
- 

SLIDE F

SYNTHESIZED THEMES / APPROACHES

- \* HEALTH SYSTEMS
  - \* SOCIAL SCIENCES
  - \* FARMING SYSTEMS
  - \* WOMEN IN DEVELOPMENT
  - \* PROGRAMMES FOR CHILDREN
-



SLIDE G

COMPONENT SYSTEMS RESEARCH

- \* UPGRADING OF FROZEN SEMEN TECHNOLOGY  
FOR THE DEVELOPMENT OF BUFFALOES
  - \* DEVELOPMENT OF ECONOMIC FEEDING SYSTEMS FOR  
RUMINANTS FROM LOCALLY AVAILABLE AGRICULTURAL  
BY-PRODUCTS
  - \* STANDARDISATION OF MICRO-CARRIER CULTURE  
TECHNIQUE FOR IMPROVING QUALITY AND  
DEVELOPMENT OF IMMUNOBIOLOGICALS USING  
MAREK'S DISEASE VACCINE AS A MODEL
- 

SLIDE H

- \* DEVELOPMENT OF MUSHROOM PRODUCTION TECHNOLOGY
  - \* DEVELOPMENT OF SERICULTURE TECHNOLOGY
  - \* EXPLORATORY STUDIES & OPERATIONS RESEARCH ON  
POST PRODUCTION TECHNOLOGIES
  - \* COLLECTION OF GERMPLASM & ADAPTABILITY STUDY  
FOR BAMBOO SPECIES
  - \* DEVELOPMENT & STANDARDISATION OF PRODUCTION  
TECHNOLOGY FOR VA MYCORRHIZA INNOCULA
-

**RESEARCH PROGRAMMES UNDER IDRC - BIS**

**III YEAR**

**PROJECT NO.**

**PROJECT TITLE**

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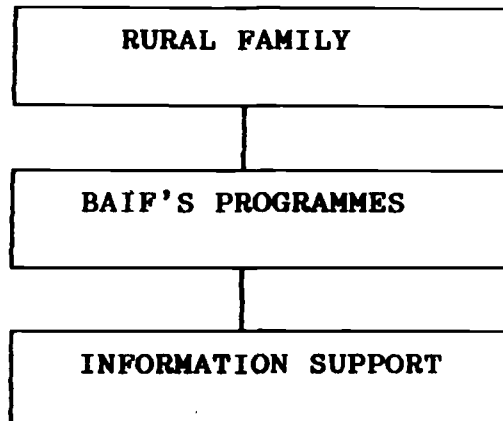
1. Information Resource Centre
2. Community Based Research
3. Upgrading Frozen Semen Technology for the Development of Buffaloes
4. Rural Polytechnic
5. Development and Standardisation of Production Technology for VA Mycorrhiza Innocula
6. Standardisation of Microcarrier Technique for Improving Quality and Development of Immunobiologicals Using Marek's Disease as a Model
7. Development of Mushroom Production Technology
8. Development of Economic Feeding System For Ruminants From Locally Available By-Products
9. Development of Sericulture Technology
10. Exploratory Studies and Operations Research on Post Production Technologies
11. Germplasm Collection & Adaptability Study of Bamboo Species

SLIDE A

**INFORMATION RESOURCE CENTRE**

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SLIDE B



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SLIDE C

**BAIF INFORMATION RESOURCE CENTRE**

**OBJECTIVES**

- \* PROVIDE SUPPORT SERVICES TO BAIF'S PROGRAMMES
- \* ASSIST IN PROGRAMME MONITORING
- \* DEVELOP APPLICATION SOFTWARE SYSTEMS
- \* ORGANISE RESEARCH AND DEVELOPMENT INFORMATION

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SLIDE D

**SUPPORT SERVICE AREAS**

- \* LIBRARY & INFORMATION SERVICES
  - \* COMPUTER/ EDP SERVICES
  - \* COMMUNICATION & TRAINING SERVICES
-

SLIDE E

**BAIF INFORMATION RESOURCE CENTRE**

**LIBRARY AND INFORMATION SERVICES**

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SLIDE F

**LIBRARY AND INFORMATION SERVICES**

**OBJECTIVES**

- \* TO ORGANISE BAIF'S RESEARCH AND  
DEVELOPMENT INFORMATION
- \* TO PROVIDE INFORMATION SERVICES TO  
RESEARCHERS, DEV. WORKERS AND NGOS

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SLIDE G

**ACTIVITIES TAKEN UP DURING YEAR III**

**ACTIVITIES IN PROGRESS :**

- \* SURVEY OF USERS' INFORMATION NEEDS
    - PREPERATION OF DETAILED USER PROFILES
  - \* DATABASE OF INSTITUTIONS
    - COMPIATION OF DIRECTORIES
-

SLIDE H

### INFORMATION SERVICES AND PRODUCTS

- \* PLANNING NEW SERVICES
- \* EXTENDING SERVICES TO NEW USERS

*- field workers!  
- outside users!*

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 SLIDE I

### NEW ACTIVITIES

- \* CREATION OF TOPIC SPECIFIC DATABASES
- \* BUILDING UP LIBRARIES AT OTHER CAMPUSES

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 SLIDE J

### SURVEY OF USERS' INFORMATION NEEDS

- \* DISCIPLINEWISE ANALYSIS OF USER GROUP
- \* CREATION OF USER PROFILES
- \* INFORMATION SERVICES TO 64 IN-HOUSE USERS

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 SLIDE K

### DATABASE OF INSTITUTIONS

THREE SEPERATE DATABASES CREATED

EXPERTS	85 ENTRIES	SUBJECT SPECIALISTS
INSTITUTIONS	152 ENTRIES	R&D ORGANISATIONS
NGOS	175 ENTRIES	ACTIVITIES INFORMATION

---

SLIDE L

### INFORMATION SERVICES AND PRODUCTS

- \* CURRENT CONTENTS : 120 TITLES TO 60 USERS
- \* ARTICLE ALERT : AVG.10-13 ARTICLES/MTH TO 25 USERS
- \* INFORMATION UPDATE : MTHLY, 65-70 CITATIONS TO 64 USERS
- \* BIBLIOGRAPHIES : AVG. 4-6 SPECIFIC TOPICS/YEAR
- \* ONLINE SEARCHES : ONE-TWO SEARCHES/ MONTH

SLIDE M

### INFORMATION SERVICES MANAGEMENT SYSTEM

- \* FORMAL ANNUAL MEMBERSHIP :
  - IN-HOUSE : A. RESEARCH B. FIELD
  - OUTSIDERS : A. INDIVIDUAL -
    - 1. STUDENTS 2. OTHERS
  - B. INSTITUTIONAL -
    - 1. VOL. ORGN. 2. OTHERS

SLIDE N

### MEMBERSHIP ENTITLEMENTS

#### REGULAR SERVICES

- 1. CURRENT CONTENTS 2. INFORMATION UPDATE
- 3. ARTICLE ALERTS 4. TWO RETROS. SEARCHES
- 5. REFERENCE SERVICES 6. BAIF JOURNAL
- 7. BIRC NEWSLETTER

SLIDE O

## ON REQUEST

- |                    |                      |
|--------------------|----------------------|
| 1. ONLINE SEARCHES | 2. RETROS. SEARCHES  |
| 3. PHOTOCOPYING    | 4. DOCUMENT DELIVERY |
| 5. COMPILATIONS    | 6. READING LISTS     |

SLIDE P

## TOPIC SPECIFIC DATABASES

- \* LOW COST CONSTRUCTION
- \* INDIGENOUS KNOWLEDGE
- \* MULTIPURPOSE TREE SPECIES (MPTS)
- \* SERICULTURE
- \* WASTE RECYCLING
- \* WATERSHED MANAGEMENT

SLIDE Q

## CAMPUS LIBRARIES

* MAHARASHTRA	BKS.	JNLS	SUBJECTS
URULIKANCHAN	1600	74	ANIMAL SC./AGROFORESTRY
PUNE - A	400	28	FORESTRY/AGRICULTURE/ENGG.
PUNE - B	1800	166	HEALTH/ENERGY/SOC.SC./AT WATER/COMPUTERS

## SLIDE R

## \* GUJARAT

VANSDA	237	10	HEALTH/AGRICULTURE/PPS
BARODA	115	18	ANIMAL SCIENCE/AGRI.EXTENSION

## \* KARNATAKA

LAKIHALLI	25	18	AGROFORESTRY/AGRICULTURE
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SLIDE S

## ACTION PLAN FOR 1991 - 92

## \* STRENGTHENING REGIONAL INFORMATION CENTRES

- .. REPACKAGING INFORMATION IN LOCAL LANGUAGES
- .. EXTENSION OF INFORMATION SERVICES TO FIELD STAFF
- .. NETWORKING/ INFORMATION EXCHANGE

## \* SETTING UP VILLAGE INFORMATION CENTRES

-----  
SLIDE T

## \* BIRC COMPILATIONS

REGULAR	OCCASIONAL
BIRC NEWSLETTER	DIRECTORIES
BIRC HOLDINGS LIST	SPECIALISED BIBLIOGRAPHIES
	SELF-INSTRUCTIONAL BOOKLETS

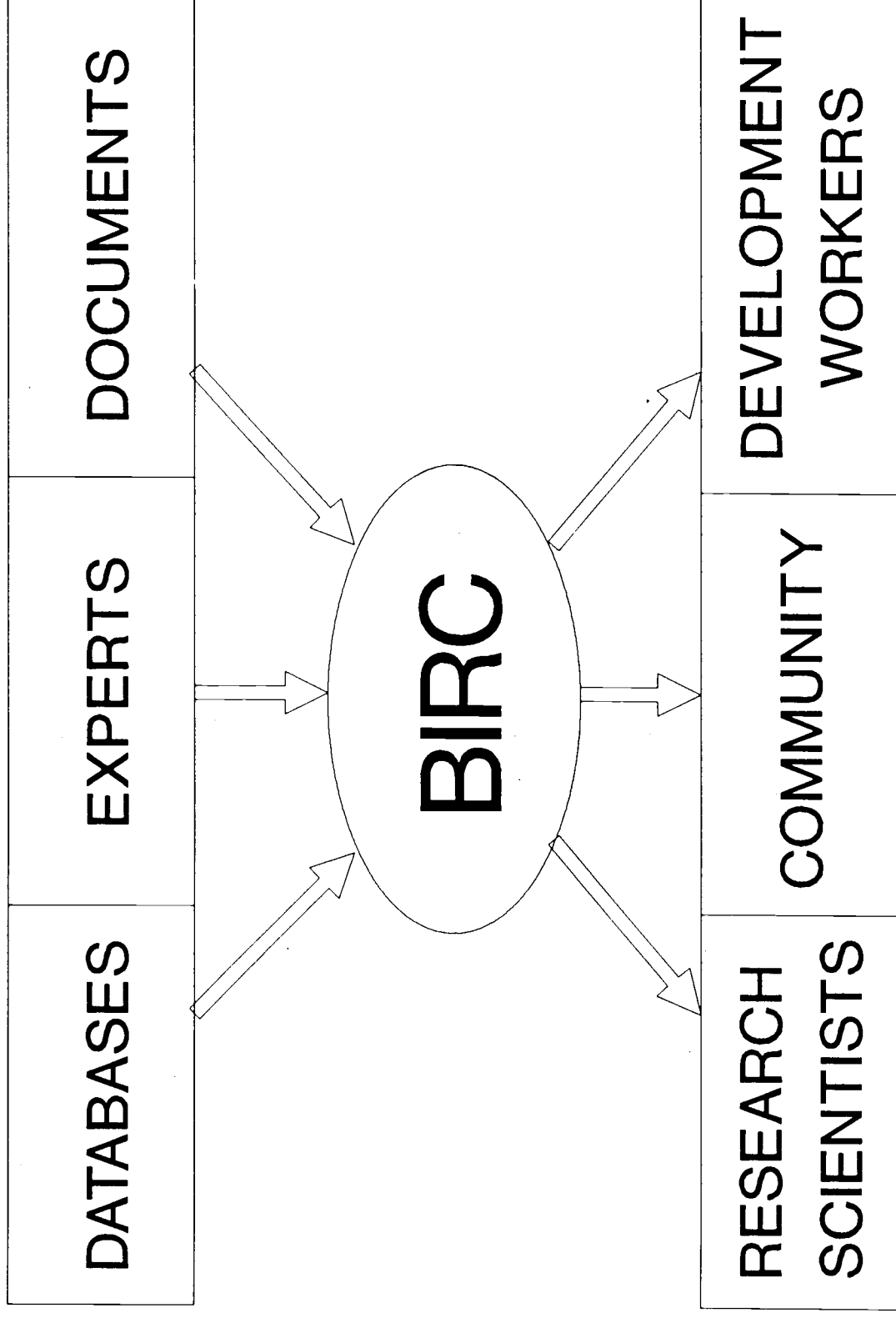


SLIDE U

TRAINING

- \* CDS/ISIS 2.34
  - \* USER ORIENTATION
  - \* ONLINE SEARCHING
-

## PROJECT LINKAGES



SLIDE U

**BAIF DEVELOPMENT RESEARCH FOUNDATION**

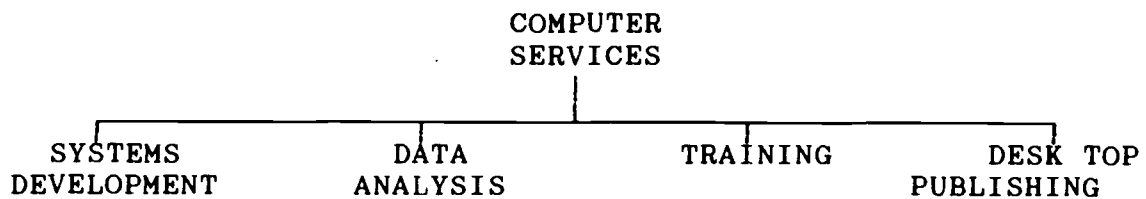
**COMPUTER/EDP SERVICES**

SLIDE V

**OBJECTIVES**

- \* TO IDENTIFY AREAS OF COMPUTERISATION
- \* TO DEVELOP APPLICATION SOFTWARE
- \* TO ANALYSE RESEARCH DATA
- \* TO IMPART TRAINING(INHOUSE/OUTSIDERS)

SLIDE W



SLIDE X

**SYSTEMS DEVELOPMENT**

- \* WADI PROJECT MONITORING SYSTEM
- \* MOTHER CHILD HEALTH CARE SYSTEM

SLIDE Y

### **SYSTEMS UNDER DEVELOPMENT**

- \* DAIRY CATTLE DEVELOPMENT SYSTEM
  - \* STORES ACCOUNTING SYSTEM
  - \* HEALTH CENTRE MANAGEMENT SYSTEM
- 

SLIDE Z

### **DATA ANALYSIS**

- \* BASE LINE SURVEY
  - \* NUTRITIONAL STATUS SURVEY
  - \* SURVEY OF WAVLI PRACTICES
- 

SLIDE AA

### **TRAINING**

- \* A COURSE IN COMPUTER FUNDAMENTALS PC : PACKAGES
  - \* AN ORIENTATION COURSE ON SPSS/PC+
- 

SLIDE AB

### **SOFTWARE ACQUIRED**

- \* SPSS/PC+ : DATA ANALYSIS
  - \* FOCUS(PC/UNIX) : RDBMS SOFTWARE
  - \* PROCOMM : COMMUNICATION SOFTWARE
-

SLIDE AC

**WORK SUMMARY**

- \* SYSTEMS DEVELOPMENT
  - .. CONTINUE SYSTEMS DEVELOPMENT TAKEN UP
  - .. HEALTH CARE MONITORING SYSTEM
  - .. SERICULTURE MONITORING SYSTEM
- \* DATA ANALYSIS
  - .. SOCIO-ECONOMIC BASE LINE SURVEY

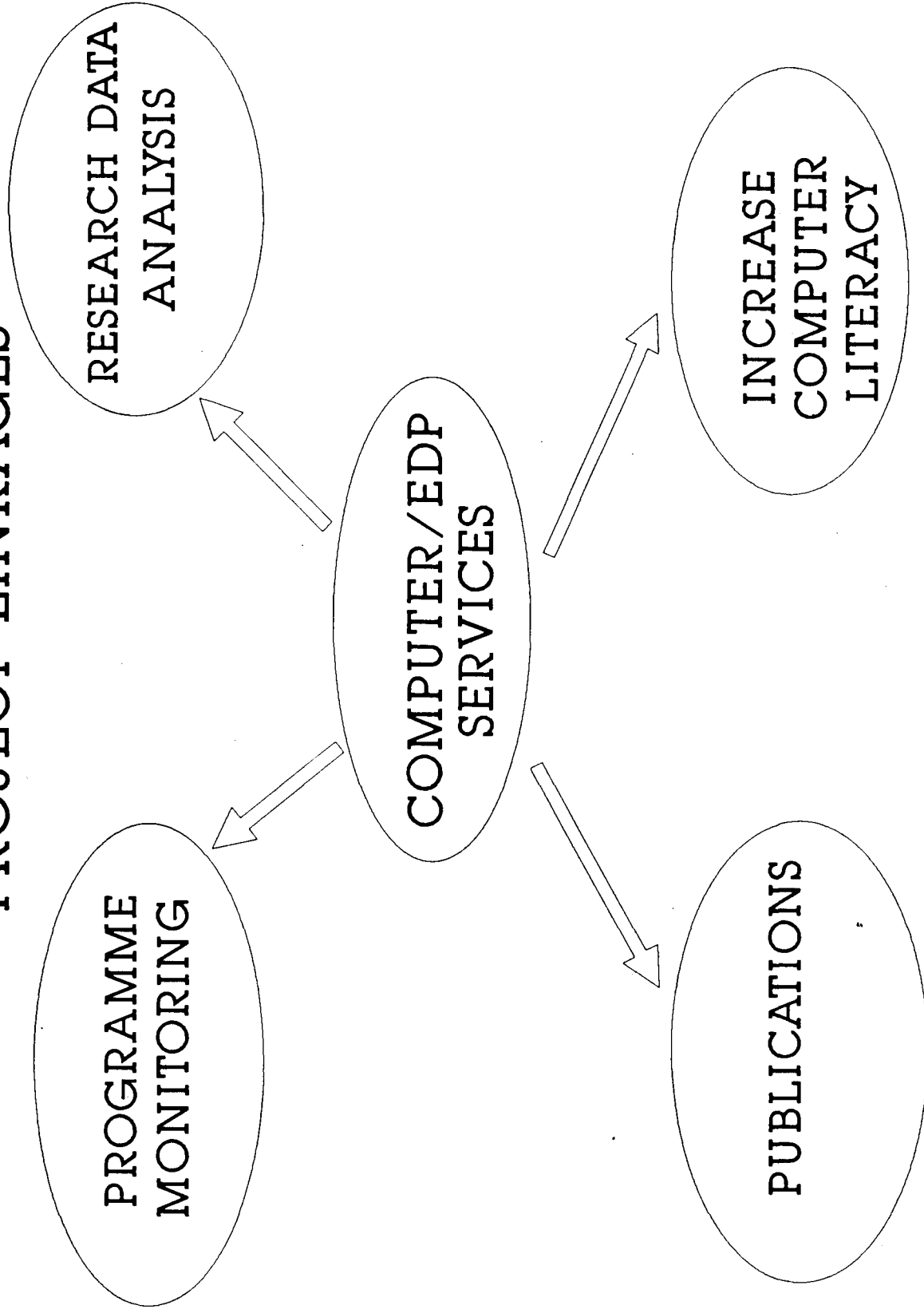
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SLIDE AD

**ACTION PLAN FOR 1991 - 92**

- \* TRAINING
    - SPSS/PC+ MODULES & HARVARD GRAPHICS
    - FOCUS
    - WORD PROCESSING
  - \* LOCAL AREA NETWORKING
  - \* GEOGRAPHIC INFORMATION SYSTEM
-

# PROJECT LINKAGES



SLIDE AE

**BAIF INFORMATION RESOURCE CENTRE**

**COMMUNICATION AND TRAINING**

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SLIDE AF

**COMMUNICATION**

- \* A TWO-WAY PROCESS
- \* AN INDISPENSABLE PART OF DEVELOPMENT

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SLIDE AG

**COMMUNICATION AND TRAINING SERVICES**

**OBJECTIVES**

- \* SURVEY OF COMMUNICATION NEEDS
  - \* COMMUNICATION SUPPORT TO BAIF DEVELOPMENT ACTIVITIES
  - \* PRODUCTION OF COMMUNICATION MATERIAL
  - \* TRAINING OF FIELD WORKERS
-

SLIDE AH

**ACTIVITIES TAKEN UP DURING YEAR III**

- \* COMMUNICATION NEEDS SURVEY
- \* DATABASE OF TRAINING MATERIAL
- \* PRE-TESTING
- \* PRODUCTION OF COMMUNICATION MATERIAL
- \* TRAINING AND WORKSHOPS

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SLIDE AI

**PRODUCTION OF COMMUNICATION MATERIAL :**

- \* FILMS
- \* SLIDES
- \* MODELS
- \* PRINTED MATERIAL

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SLIDE AJ

**FILMS**

- \* NURSERY RAISING
  - \* MANGO GRAFTING
  - \* AFTER CARE OF MANGO TREE
-



SLIDE AK

**SLIDES & MODELS**

- \* BROAD SPECTRUM OF BAIF'S ACTIVITIES
  - \* MODELS OF MOTHER AND BABIES FOR TRAINING IN MCH CARE
- 

SLIDE AL

**PRINTED MATERIAL**

- \* REFERENCE BOOKLETS
    - MOTHER CHILD HEALTH CARE - 30-40pp.
    - NUTRITION
    - COMMON AILMENTS - preventive
  - \* FLIP CHARTS
    - RAISING A WADI
    - GRAFTING TECHNIQUES
-

## SLIDE AM

- \* **BAIF NATURE SERIES :** *- proposed to start :*
  - PROTECT OUR ENVIRONMENT *- done booklet for young people*
  - NEERU AND HER MANGO TREE *- age 6-8*
- \* **BAIF JOURNAL**
- \* **ANNUAL REPORT**

## SLIDE AN

**PRE-TESTING**

- \* **PRINTED MATERIAL :**
  - POSTER ON NURSERIES
  - BAIF NATURE SERIES
    1. PROTECT OUR ENVIRONMENT
    2. NEERU AND HER MANGO TREE
- \* **MODELS :**
  - CLOTH MODELS FOR HEALTH EDUCATION

## SLIDE AO

- ACTION PLAN FOR 1991 - 92**  
*prizes to best student after each episode*
- \* <sup>13</sup> **PROGRAMMES OVER ALL INDIA RADIO** *- for children, what they can do is*
  - \* **NARROW CASTING** *- interactive - tape exchanges*
  - \* **BAIF NATURE SERIES**

SLIDE A

**COMMUNITY BASED RESEARCH**

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SLIDE B

**BAIF'S PROGRAMMES**

- \* INCREASING COMPLEXITY
    - VARIETY
    - DETAIL
  - \* MULTIDISCIPLINARY
  - \* INTEGRATED
- 

SLIDE C

**INTEGRAL PROGRAMME COMPONENTS**

- \* NEEDS ASSESSMENT
- \* FIXING PRIORITIES
- \* LEARNING FROM EXPERIENCES
- \* REFINING DEVELOPMENT ACTIVITIES

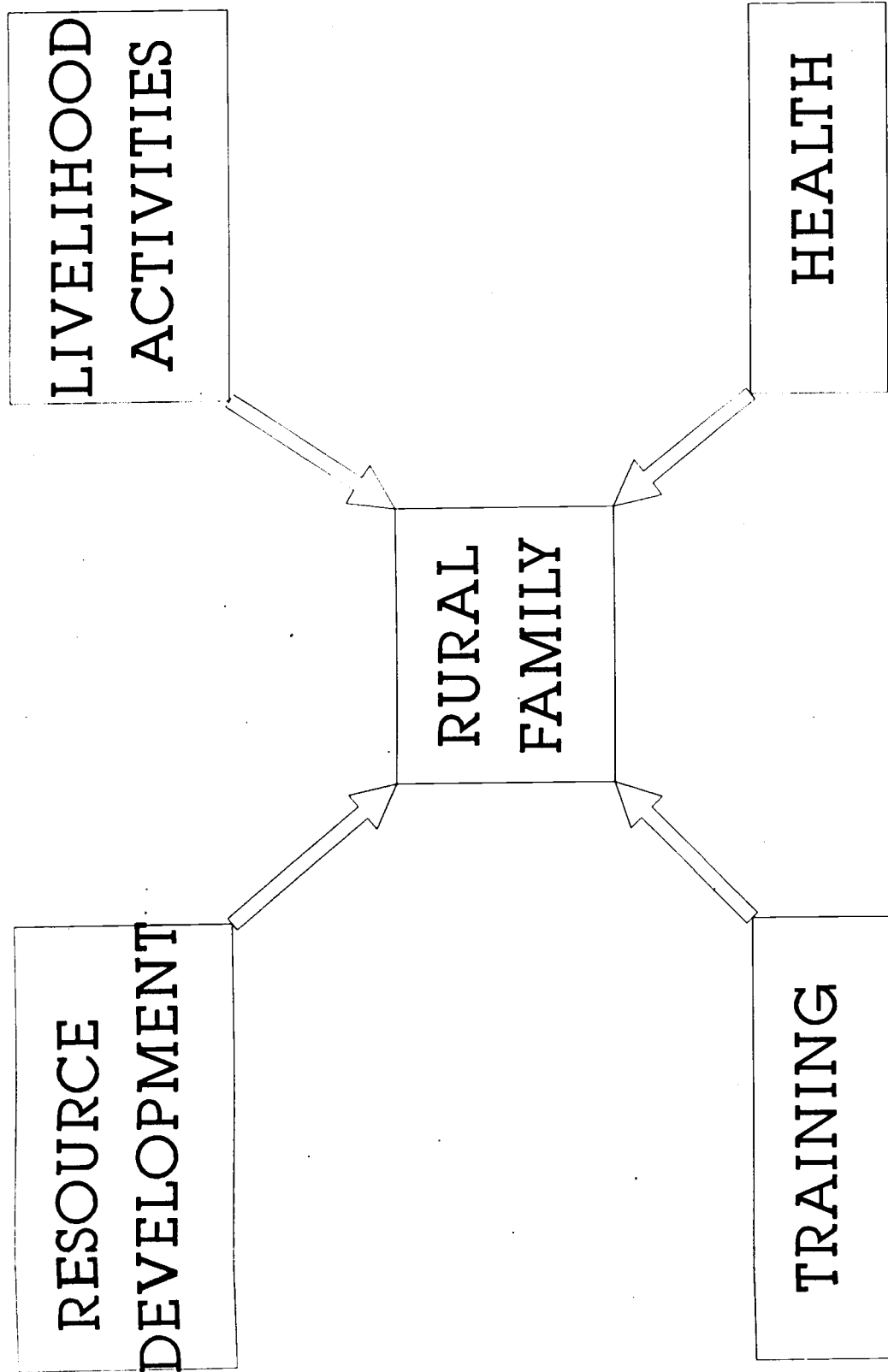
**INTERNALIZE METHODOLOGY**

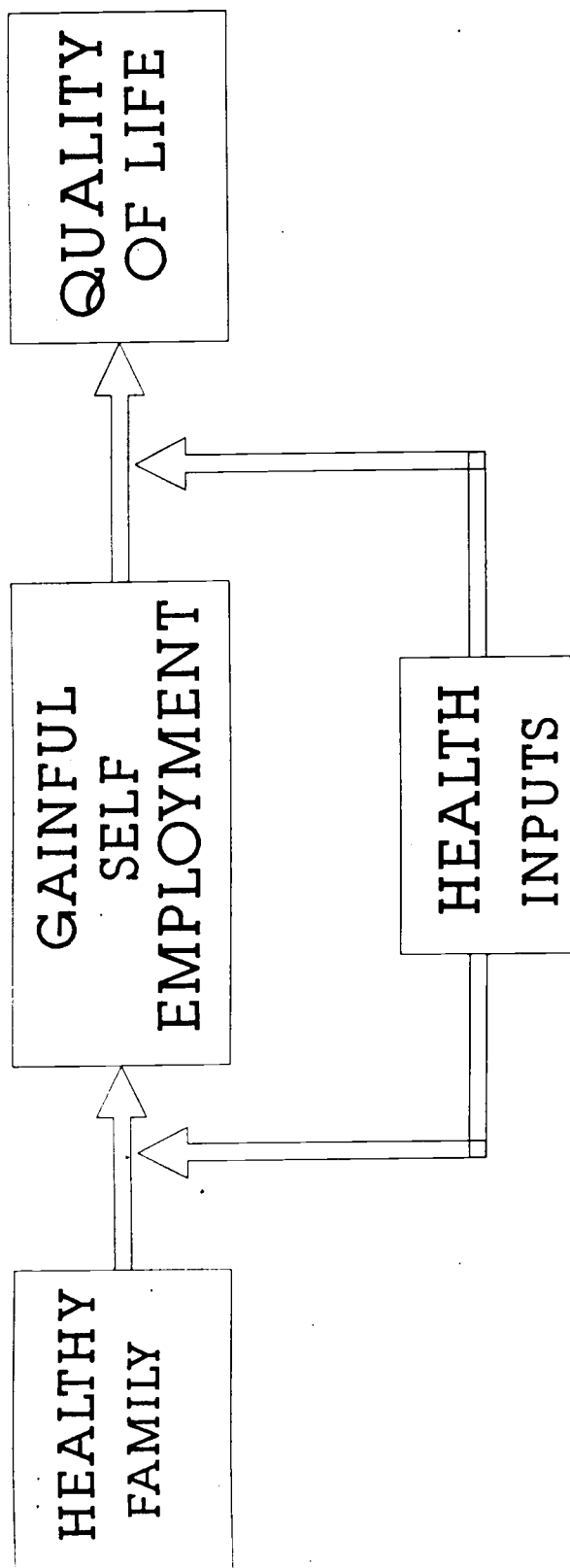
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SLIDE D

**RURAL AREA**

- \* ASPIRATIONS Vs. UNDEREMPLOYMENT
  - \* LIMITED RESOURCES Vs. POPULATION
  - \* HIGH SOCIAL STRATIFICATION
  - \* LOW STATUS OF WOMEN
-





## SLIDE E

**TRIBAL AREA***Common themes/characteristics.*

- \* ISOLATION
  - GEOGRAPHIC
  - TECHNOLOGICAL
- \* EXPLOITATION
- \* DEGRADED RESOURCES
- \* MIGRATION
- \* SUBSISTENCE FARMING
- \* POOR HEALTH

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SLIDE F**METHODOLOGY**

- \* SITUATION ANALYSIS
- \* PROBLEMS, PRIORITIES
- \* DEFINE INTERVENTIONS
- \* PARTICIPATORY IMPLEMENTATION
- \* ACTION RESEARCH

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SLIDE G**PRIORITIES IDENTIFIED**

- \* HEALTH EDUCATION
  - \* DRINKING WATER; SANITATION
  - \* MCH CARE
  - \* NUTRITION
  - \* PRIMARY TREATMENT
  - \* REFERRALS
-

SLIDE H

**DRINKING WATER PROGRAMME**

- \* SOURCE DEVELOPMENT
  - \* POTABILITY
  - \* HEALTH EDUCATION
- 

SLIDE I

**MCH CARE  
AND  
PRIMARY TREATMENT**

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SLIDE J

**LINKAGES  
AND  
REFERRAL SYSTEM**

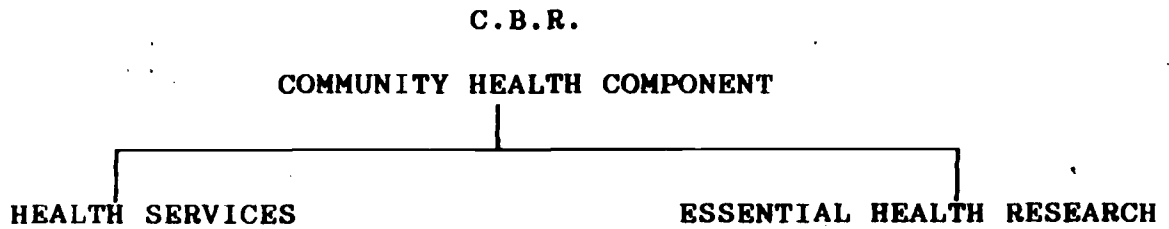
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SLIDE K

**NUTRTION AWARENESS  
TRAININGS  
AND  
HEALTH EDUCATION**

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SLIDE L



SLIDE M

**ACTION BASED RESEARCH**

**VANSDA AREA**

- \* LONGITUDINAL STUDIES IN MCH CARE
- \* MATERNAL AND UNDERFIVE MORTALITY ENQUIRY
- \* WORMS' CONTROL TRIAL
- \* NUTRITIONAL STATUS OF UNDERFIVES

SLIDE N

**LONGITUDINAL STUDIES IN MCH CARE**

- \* HEALTH CARE SYSTEMS
- \* MORBIDITY PATTERN
- \* HIGH RISK PATTERN



SLIDE O

**M.C.H. FINDINGS**

I     ANC : 51 % HIGH RISK;    90 % ANAEMIA

TRENDS :    IMPROVED I-TRIMESTER REG.

NO MATERNAL DEATHS (1990)

II    UNDERFIVE :    ANAEMIA; INFESTATIONS

TRENDS : IMPROVED IMMUNIZATION

---

SLIDE P

**T.B.A. INVOLVEMENT**

\*     84 TBAS

\*     438 BIRTHS REGISTERED

\*     191 NEONATES WEIGHED

---

SLIDE Q

**MATERNAL MORTALITY**

SALIENT FINDINGS :

\*    YOUNG MOTHERS; P2 - P3

\*    NO A.N.CARE

\*    ALL PREVENTABLE CAUSES

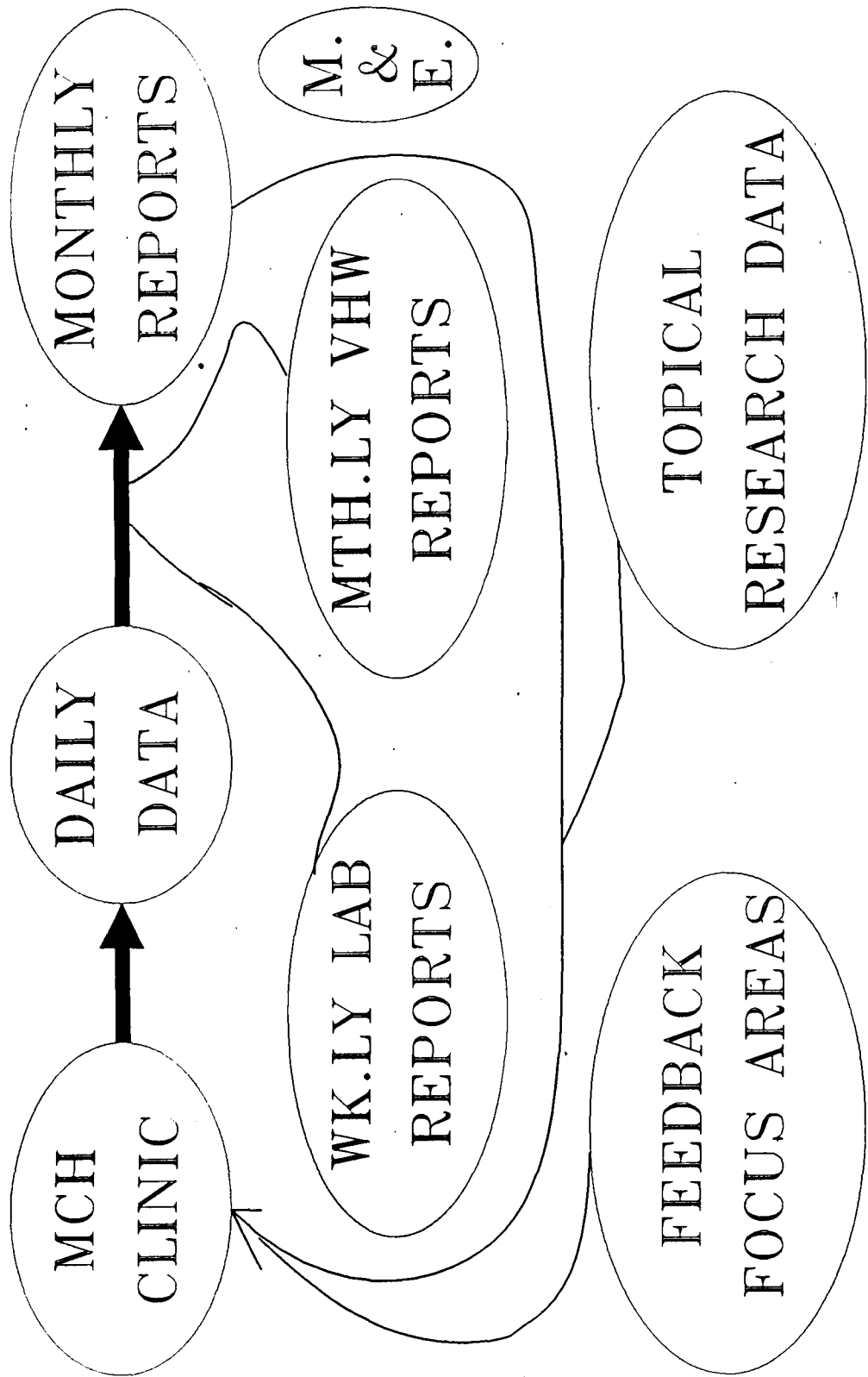
-    HAEMORRHAGE

-    PUERPERAL SEPSIS

-    P.E.T.

---

# MCH DATA MANAGEMENT



SLIDE R

### UNDERFIVE MORTALITY

#### SALIENT FINDINGS :

*	TOTAL	53	
*	INFANT DEATHS	48;	73% NEONATAL
*	TREATMENT	19 /	53

SLIDE S

### UNDERFIVE MORTALITY

#### COMMON TERMINAL ILLNESS -

- \* ARI
- \* DIARRHOEA
- \* PREMATURITY

SLIDE T

### WORMS CONTROL TRIAL

#### SCHOOL BASED PROGRAMME :

- \* INFESTATION SCREENING
- \* PANWORMICIDE TO ENTIRE SCHOOL
- \* HEALTH EDUCATION

SLIDE U

**WORMS CONTROL TRIAL**

**SALIENT FINDINGS :**

- \* MIXED INFESTATIONS
  - \* ASCARIS, ANKYLOSTOMA (HOOKWORM),  
E. VERMICULARIS
  - \* ASSOCIATED GIARDIASIS / AMOEBIASIS
- 

SLIDE V

**SICKLE CELL ANAEMIA**

* SAMPLES SCREENED	:	184
* HB-S	:	64
* FAMILIES SCREENED	:	41

INTERVENTION : COUNSELLING

---

SLIDE W

**SCABIES CONTROL**

**SCHOOL BASED PROGRAMME :**

- \* 22 SCHOOLS SCREENED.
  - \* 33 % MEAN PREVALENCE.
  - \* 900 STUDENTS & FAMILIES TREATED.
  - \* ON-GOING FOLLOW-UP.
-

SLIDE X

**ACTION BASED RESEARCH**

**AKOLE AREA**

1. RAPID APPRAISAL : HEALTH SITUATION  
: DRINKING WATER PROBLEM
  2. NUTRITIONAL STATUS OF UNDERFIVE
- 

SLIDE Y

**AKOLE : RAPID APPRAISAL HEALTH STATUS**

- \* HEALTH FACILITIES REMOTE
- \* WATER SCARCITY : LACK OF SANITATION
- \* MALNUTRITION
- \* INFESTATIONS

APPROACH : REGULAR CAMPS

---

SLIDE Z

**AKOLE : RAPID APPRAISAL WATER PROBLEM**

- \* STEEP SLOPES - HIGH RUN OFF
- \* GROUND WATER LIMITED / ABSENT
- \* ACUTE SCARCITY IN SUMMER

APPROACH : GROUND WATER SURVEY

SURFACE WATER DEVELOPMENT

---

SLIDE AB

**AKOLE : NUTRITIONAL STATUS OF UNDERFIVES**

- \* 74% UNDER-NOURISHED.
  - PEM GRADE II 27 %
  - GRADE I 21 %
- \* CAUSES
  - REPEATED INFECTIONS
  - LATE / FAULTY WEANING

---

SLIDE AC

**ACTION BASED RESEARCH**

**URULIKANCHAN**

- \* BASELINE STUDY
- \* SCHOOL HEALTH EDUCATION
- \* T.B.A. TRAINING : IMPACT
- \* INTERVENTIONS VS. GIT MORBIDITY

---

SLIDE AD

**SCHOOL HEALTH EDUCATION**

**14 VILLAGE SCHOOLS COVERED**

**SCHOOL PROFILES STUDIED**

- BASIC FACILITIES ABSENT IN MANY
- K.A.P. ON PERSONAL HYGIENE
- HAZY CONCEPTS *found*

SLIDE AE

**MORBIDITY STUDY**

- \* 1251 CHILDREN EXAMINED
  - \* PRELIMINARY FINDINGS
    - ANAEMIA; VITA. DEF.
    - SKIN INFECTIONS
    - POOR ORAL HEALTH
- 

SLIDE AF

**T.B.A. TRAINING**

- \* 22 DAIS TRAINED
  - \* KAP - ROLE LIMITED TO DELIVERY
    - MINIMAL KNOWLEDGE OF ASEPSIS
    - ADVICE GIVEN TRADITIONAL
    - WILLING TO LEARN
- 

SLIDE AG

**TBA TRAINING**

- \* DAI KIT PROVIDED
  - \*
    - 59 BIRTHS RECORDED IN 1990
    - FIELD LEVEL TRAINING
-

SLIDE AH

# INTERVENTIONS Vs. GIT MORBIDITY

- A. SOURCE STUDY : WELL WATER )  
RIVER WATER ) CONTAMINATED  
BOREWELL POTABLE WATER
- B. STUDY ON STORED WATER : STORAGE WATER CONTAMINATED
- C. K.A.P. ON WATER USE : NO CONCEPT OF WB DISEASES  
UNHYGIENIC HANDLING

---

SLIDE AI

# IMPACT STUDY - 5 VILLAGES

- \* AMONG UNDERFIVES
- \* REGULAR FOLLOW-UP
- \* DATA UNDER COLLECTION

---

SLIDE AJ

# APPROACHES

- \* HEALTH SYSTEMS RESEARCH
  - \* HEALTH EDUCATION
  - \* WOMEN. IN DEVELOPMENT
  - \* SCHOOL BASED PROGRAMMES
-



## SLIDE AK

## PROJECT AREA SCENARIO

- \* RAIN SHADOW AREA *- 250-300 mm.  
runoff & erosion*
- \* LIGHT SOILS
- \* LOW-PRODUCTIVE CATTLE *- non-descript  
for bullocks.*
- \* LIMITED CROP DIVERSITY

## SLIDE AL

\* LIVELIHOOD ACTIVITIES*develop confidence of farmers.*

- \* DAIRY CATTLE PRODUCTION
- \* AGRICULTURE
- \* AGRO - FORESTRY
- \* HORTICULTURE
- \* OTHER ACTIVITIES

## SLIDE AM

## DAIRY CATTLE PRODUCTION

- \* A.I. & P.D. SERVICE *pregnancy  
diagnosis*
- \* VACCINATIONS
- \* FEEDING, MANAGEMENT : ADVICE

SLIDE AN

**AGRICULTURE**

- \* FARMER LEVEL DEMONSTRATIONS :  
... PEARL MILLET, SORGHUM
- \* WATER CONSERVATION : LOW COST CHECK DAMS
- \* FARMER GUIDANCE

SLIDE AO

**AGRO - FORESTRY**

- \* NURSERY RAISING
- \* PLANTATION

**HORTICULTURE**

- \* GUAVA, CUSTARD APPLE & ZIZYPHUS INTRODUCED
- \* VERMICULTURE INTRODUCED <sup>BIR</sup> - earthworms
- \* TRAINING TO PARTICIPANTS

SLIDE AP

**OTHER ACTIVITIES**

SELF HELP GROUPS OF WOMEN

TRAINING IN : SOAP / DETERGENT MAKING

HANDICRAFTS

FOOD / FRUITS PRESERVATION

NUTRITION EDUCATION

*management / money issues training*

SLIDE AQ

## ACTION BASED RESEARCH

### FARMING PRACTICES STUDY :

STRATIFICATION CRITERIA : LAND HOLDING

IRRIGATION FACILITY

LIVE-STOCK HOLDING

COVERAGE : 27 FARMERS

CASE STUDIES BEING DOCUMENTED

SLIDE AR

## TRIBAL REHABILITATION PROGRAMME

### SALIENT FEATURES

- .. SOCIO-ECONOMIC
- .. ENVIRONMENTAL
- .. HUMAN RESOURCE
- .. HEALTH STATUS
- .. QUALITY OF LIFE

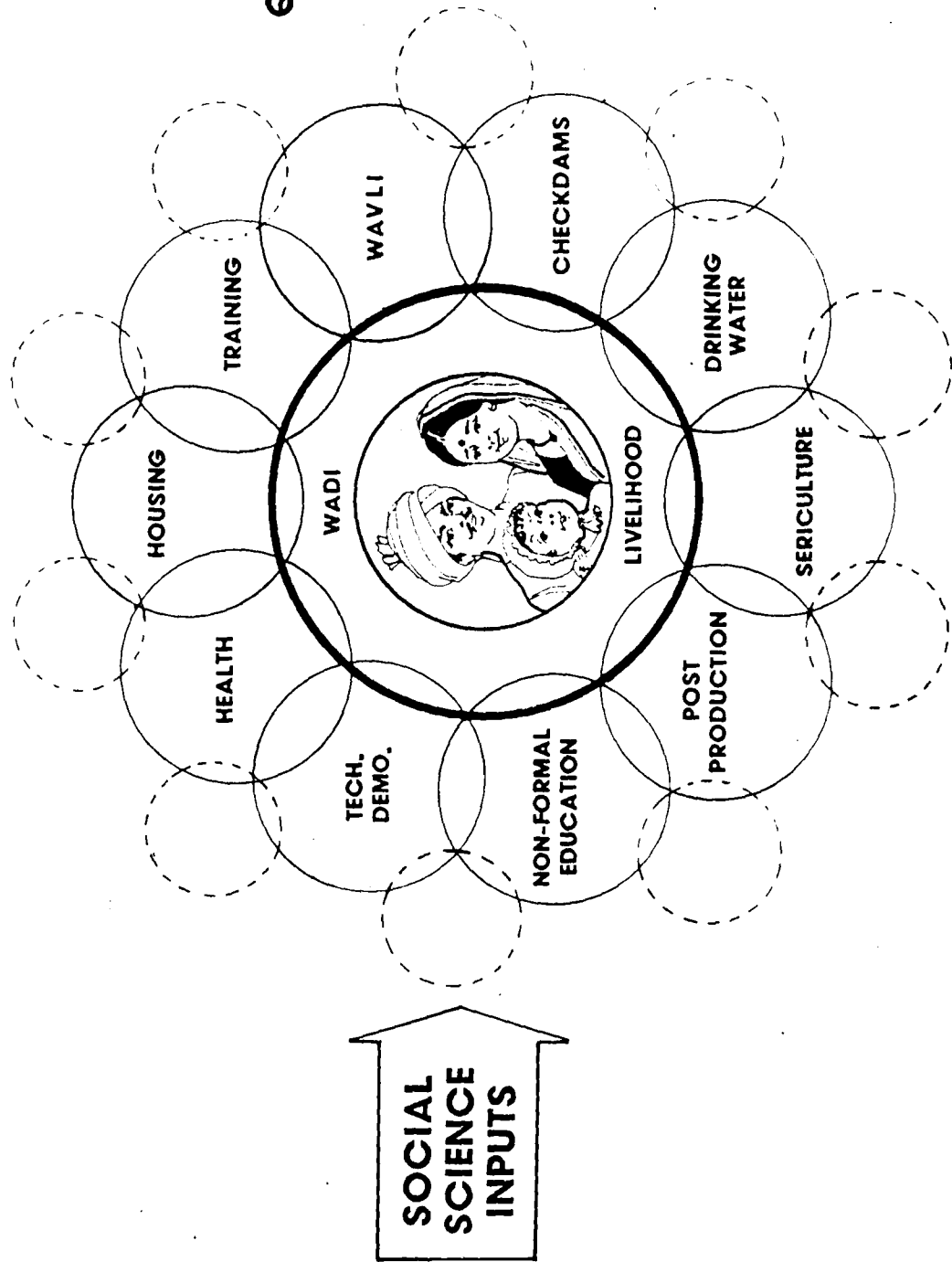
SLIDE AS

## WADI PROGRAMME

### CORE COMPONENTS

- .. LAND DEVELOPMENT
- .. PLANTATION
- .. POST PLANTATION ACTIVITIES
- .. WATER HARVESTING
- .. OTHER ACTIVITIES *inter-cultivation*  
*green manuring*

# QUALITY OF LIFE



SLIDE AT

**FOCUS AREAS**

- .. FARMING SYSTEMS
  - .. WATER RESOURCE DEVELOPMENT
- 

SLIDE AU

**NEED FOR WATER HARVESTING**

- .. HEAVY RAINFALL DURING MONSOON (JUNE-AUGUST)
  - .. HIGH RATE OF RUNOFF
  - .. NO SURFACE WATER AFTER FEBRUARY
  - .. GROUND WATER SCARCITY
- 

SLIDE AV

**FACTORS AFFECTING CHECKBUND DESIGN**

- .. CATCHMENT CONDITION
  - .. RUNOFF PATTERN
  - .. GEOGRAPHICAL AND SOIL CHARACTERISTICS
  - .. FLOW VELOCITY
  - .. WIDTH / DEPTH OF NALLAH
-

SLIDE AW

**CHECKDAM DESIGNS**

1. CONVENTIONAL MASONRY BUND (KT WEIR)
  2. ROCK - FILL BUNDS
  3. SOIL EMBANKMENT WITH PROTECTIVE COVER
  4. TEMPORARY BUND WITH REUSABLE COMPONENTS
- 

SLIDE AX

**LAND USE PATTERN IN TRIBAL AREA**

**AN EXPLORATORY STUDY**

**OBJECTIVES :**

- \* TO KNOW THE PRESENT LAND USE PATTERN
  - \* TO DEVELOP METHODOLOGY FOR PRA
- 

SLIDE AY

**FINDINGS OF THE STUDY**

- .. HIGH CROP DIVERSITY
  - .. LOCAL AND IMPROVED VARIETIES OF PADDY
  - .. PLOT SPECIFIC PLANTATION
  - .. VARIETAL ROTATION
  - .. PLANTATION OF GRAFTED MANGO
  - .. FAST GROWING FORESTRY SPECIES
  - .. VEGETABLES IN SMALL LOTS
-

SLIDE AZ

**STUDY OF ORGANISATION AND MANAGEMENT ASPECTS  
OF  
AGRO SERVICE CENTRE**

**OBJECTIVES :**

- \* TO STUDY THE FEASIBILITY
- \* TO DETERMINE THE EQUIPMENTS AND INPUTS  
IMPROVED FARMING
- \* TO SET UP AN AGRO SERVICE CENTRE
- \* TO STUDY THE IMPACT

---

SLIDE BA

**BACKGROUND :**

**OBSERVATIONS AND RECOMMENDATIONS OF FARMING  
SYSTEM STUDY**

- \* INTRODUCE
  - \* BETTER AGRICULTURAL PRACTICES
  - \* SIMPLE AGRICULTURAL EQUIPMENT
  - \* PROMOTE WINTER CROPS
  - \* ARRANGE INPUT SUPPLY (IMPROVED SEEDS,  
FERTILISERS ETC)
-

SLIDE BB

**AGRO SERVICE CENTRE**

**EQUIPMENTS AND IMPLEMENTS**

TRACTOR WITH ACCESSORIES

SPRAYERS AND DUSTERS

DIESEL ENGINE PUMPSETS

IMPROVED SICKLES

WINNOWER FANS

PADDY THRESHER

---

SLIDE BC

**AGRO SERVICE CENTRE**

**\* STUDIES PLANNED**

UTILISATION PATTERN

OPERATIONAL ASPECTS OF ASC

IMPACT OF ASC

---



SLIDE BD

**SOCIAL SCIENCE CELL**

---

SLIDE BE

**A SOCIAL SCIENCE APPROACH**

**IS**

**AN INTEGRAL PART OF**

**BAIF'S PROGRAMMES.**

*now more formalized*

---

SLIDE BF

**OBJECTIVES**

**STRENGTHEN BAIF PROGRAMMES**

**.. RESEARCH IN SOCIAL ASPECTS**

**.. INPUTS TO DEVELOPMENT PROGRAMMES**

**.. TRAINING**

---

SLIDE BG

**BAIF PROGRAMMES**

- \* GAINFUL SELF-EMPLOYMENT FOR SUSTAINABLE LIVELIHOOD
  - \* FAMILY ORIENTED APPROACH
  - \* SENSITIVITY TO PARTICIPANTS
  - \* INTEGRATED RURAL DEVELOPMENT
- 

SLIDE BH

**ROLE OF SOCIAL SCIENCE**

- \* UNDERSTANDING PARTICIPANT COMMUNITIES
  - \* HELPING TO IDENTIFY INTERVENTIONS
  - \* ASSISTANCE IN PROGRAMME DESIGN
  - \* BASELINE STUDIES AND IMPACT ANALYSIS
- 

SLIDE BI

**TWO MAJOR THEMES**

- \* BASELINE STUDIES AND IMPACT ANALYSIS
  - \* WOMEN IN DEVELOPMENT
-

SLIDE BJ

**WADI IMPACT STUDY**

- \* CROSS-SECTIONAL ANALYSIS
- \* STRATIFIED RANDOM SAMPLE
- \* SURVEY
- \* CASE STUDIES
- \* OBSERVATIONAL DATA

---

SLIDE BK

**SAMPLE COVERAGE**

WADI PARTICIPANTS  
(1982, 83, 84)

100

NON-PARTICIPANTS  
FROM PROJECT VILLAGES

50

NON-PARTICIPANTS FROM OUTSIDE PROJECT AREA 87

---

SLIDE BL

### **FINDINGS**

MAJOR IMPACT IN THE AREAS OF :

- \* MIGRATION
- \* INCOME GENERATION
- \* QUALITY OF LIFE
- \* ADOPTION OF SCIENCE AND TECHNOLOGY
- \* BEHAVIOURIAL CHANGE

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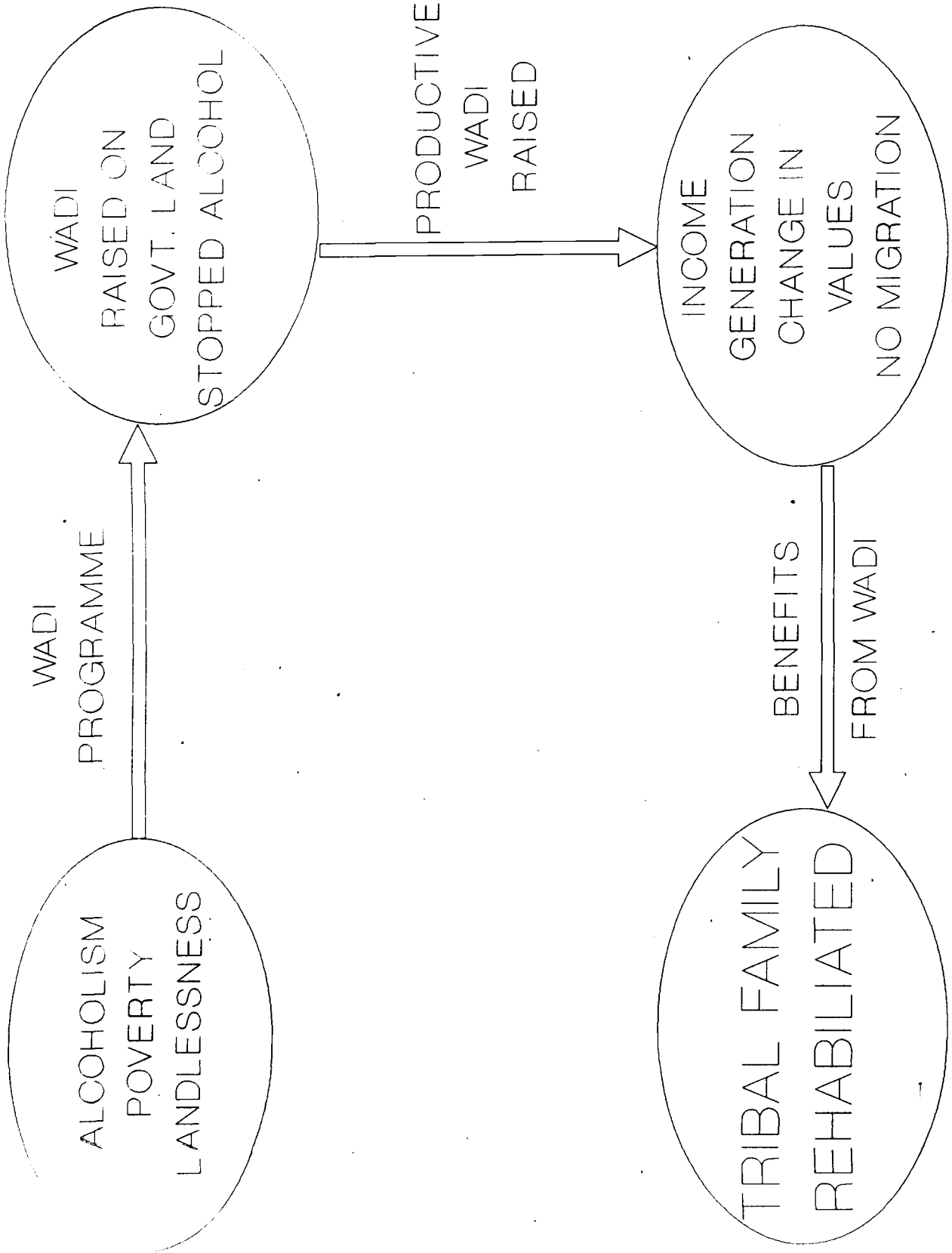
SLIDE BM

### **RELATED STUDIES**

- \* SOCIO-ECONOMIC BASELINE SURVEY
- \* VALIDATION OF INDICATORS
- \* ASSESSMENT OF FOOD SECURITY STATUS

TO DEVELOP A COMPREHENSIVE MODEL FOR MONITORING AND EVALUATION.

---



SLIDE BN

**WOMEN IN DEVELOPMENT**

---

SLIDE BO

**RESEARCH STUDIES**

- \* DEVELOPMENT PROCESS OF WAVLI GROUP.
- \* SOCIO-ECONOMIC STATUS OF RURAL WOMEN.

---

SLIDE BP

**DEVELOPMENT PROCESS OF WAVLI GROUP**

**METHODOLOGY**

- \* SURVEY
- \* GROUP DISCUSSION
- \* OBSERVATION

---

SLIDE BQ

**DEVELOPMENT PROCESS**

**OF**

**WAVLI GROUP**

---

SLIDE BR

**FINDINGS :**

- \* GROUP FUNCTIONING
- \* FAMILY WELFARE
- \* EMPOWERMENT

---

SLIDE BS

**RECOMMENDATIONS**

- \* FURTHER TRAINING
- \* HEALTH EDUCATION
- \* SELF-HELP GROUPS

---

SLIDE BT

**SOCIO-ECONOMIC STATUS  
OF  
RURAL WOMEN**

---

SLIDE BU

**FINDINGS**

- \* ECONOMIC DEPRIVATION
  - \* NO ROLE IN FAMILY DECISION-MAKING
  - \* NO PARTICIPATION IN COMMUNITY ACTIVITIES
  - \* NEGATIVE ATTITUDE TOWARDS GIRLS
-

SLIDE BV

**DEVELOPMENTAL ACTIVITIES**

- \* INCOME GENERATING ACTIVITIES
- \* LEADERSHIP DEVELOPMENT
- \* SELF-HELP GROUPS

---

SLIDE BW

**EFFECTS**

- \* INCREASE PARTICIPATION
- \* ROLE IN DECISION MAKING
- \* WOMEN'S GROUPS

---

SLIDE BX

**SCHOOL BASED PROGRAMME .**

- \* TEACHER'S TRAINING :
  - NON-FORMAL METHODS OF EDUCATION
- \* STUDENT PARTICIPATION IN DEVELOPMENT



SLIDE A

UPGRADING FROZEN SEMEN TECHNOLOGY  
FOR  
DEVELOPMENT OF BUFFALOES

---

SLIDE B

MAIN HURDLES IN BUFFALO DEVELOPMENT :

- \* LOWER BREEDING EFFICIENCY
- \* LOWER ACCEPTANCE TO A.I.
- \* LACK OF STANDARDISATION IN SEMEN FREEZING PROCEDURES.

---

SLIDE C

CORRECTIVE MEASURES FOR IMPROVEMENT :

- \* STANDARDISATION OF SEMEN PROCESSING AND FREEZING PROCEDURES
  - \* TRAINING OF PERSONNEL
  - \* CREATING AWARENESS AMONGST FARMERS
-

SLIDE D

OBJECTIVES

- \* TO EVOLVE APPROPRIATE TECHNOLOGY  
FOR DEEP FREEZE PRESERVATION
  - \* TO TEST FERTILITY OF FROZEN SEMEN  
PRODUCED
  - \* TO PRODUCE FROZEN SEMEN FOR WIDER  
USE
- 

SLIDE E

STUDIES COMPLETED

(1989-90)

- \* REPRODUCTIVE BEHAVIOUR
  - \* SEASONAL VARIATION.
  - \* STANDARDISATION OF TECHNIQUES
- 

SLIDE F

ONGOING STUDIES

- \* STUDIES ON SEMEN PACKAGING
-

## SLIDE G

## FERTILITY DATA

	BAIF	OTHERS
TOTAL A.I.	4533	483476
FOLLOWED	2470	177946
%	54.50	36.80
PREGNANT	1275	79929
%	51.6	44.91

## SLIDE H

## TRAINING OF FIELD WORKERS

- \* 11 SENIOR OFFICERS
- \* 43 SENIOR TECHNICIANS
- \* TRAINING MANUAL PREPARED

## SLIDE I

## ACTION PLAN 1991-92

- \* STUDIES ON FREEZING RATES
- \* FERTILITY TRIALS WITH IMPROVED AND CONVENTIONAL FREEZING TECHNIQUES

**SLIDE A**

**RURAL POLYTECHNOLOGY INSTITUTE**

---

**SLIDE B**

**RURAL SCENARIO**

- \* INCREASING MANPOWER PRESSURE ON LAND
- \* DECLINE OF TRADITIONAL CRAFTS
- \* LACK OF LIVELIHOOD OPPORTUNITIES
- \* RURAL STAGNATION AND MIGRATION TO CITIES

---

**SLIDE C**

**OBJECTIVES**

- \* IDENTIFICATION OF TRAINING NEEDS.
- \* DEVELOP AND CONDUCT APPROPRIATE TRAINING COURSES
- \* ASSIST TRAINEES IN SELF-EMPLOYMENT ACTIVITIES

---

**SLIDE D**

**APPROACH**

- \* BUILD UP ON EXISTING LOCAL KNOWLEDGE AND SKILLS
  - \* COMBINATION OF ON-FARM & OFF-FARM ACTIVITIES
  - \* NO EMPHASIS ON FORMAL EDUCATIONAL QUALIFICATIONS
  - \* PRODUCT-BASED COURSES
-

SLIDE E

**THREE COMPONENTS**

- \* IDENTIFICATION OF NEEDS AND TRAINING AREAS
  - \* TRAINING ACTIVITIES
  - \* POST-TRAINING SUPPORT
- 

SLIDE F

**WORK SUMMARY**

**PRE-TRAINING ACTIVITIES**

- \* TRAINING NEEDS - PILOT STUDY
  - \* ARTISAN INVOLVEMENT
  - \* PRODUCT DEMAND ASSESSMENT
  - \* TECHNICAL APPRAISAL,
- 

SLIDE G

**WORK SUMMARY**

**TRAINING ACTIVITIES**

- \* IDENTIFICATION OF AREAS
  - \* DEVELOPMENT OF INSTRUCTIONAL PACKAGES
  - \* PILOT COURSES
-

SLIDE H

**TRAINING AREAS IDENTIFIED**

- \* BUILDING & CONSTRUCTION RELATED TRADES
  - \* HORTICULTURE AND FRUIT PROCESSING
  - \* REPAIR OF DOMESTIC APPLIANCES
  - \* LEATHER CRAFT
  - \* OTHERS
- 

SLIDE I

**PILOT COURSES CONDUCTED**

- \* NURSERY RAISING
  - \* GRAFTING TECHNIQUES
  - \* FERROCEMENT TECHNOLOGY
  - \* FOOD PROCESSING
- 

SLIDE J

**FEEDBACK FROM PARTICIPANTS**

- \* COURSE DURATION
  - \* TRAINING MATERIAL
  - \* TRAINING METHODOLOGY
  - \* POST TRAINING SUPPORT
-

SLIDE K

POST TRAINING SUPPORT

- \* TECHNICAL BACKUP
- \* MARKET LINKAGES
- \* CREDIT LINKAGES

---

SLIDE L

TRAINING PLAN

PHASE I

- # FERROCEMENT
- # FABRICATION
- # FOOD PROCESSING
- # CARPENTRY
- # HORTICULTURE

---

SLIDE M

TRAINING PLAN

PHASE II

- # LEATHER CRAFT
  - # MUSHROOM PRODUCTION
  - # REPAIR OF DOMESTIC APPLIANCES
  - # DAIRY CATTLE MANAGEMENT
-

SLIDE N

RECOGNITION FROM  
MAHARASHTRA OPEN UNIVERSITY  
AS  
COLLABORATING INSTITUTION

---

SLIDE O

ACTION PLAN FOR 1991 - 92

- \* TRAINING CUM PRODUCTION CENTRE
- \* FURTHER INVOLVEMENT OF LOCAL ARTISANS
- \* INTEGRATION OF ACTIVITIES WITH FIELD PROGRAMME
- \* OUTREACH TO SCHOOL DROPOUTS / EX-STUDENTS



COMMUNITY  
BASED  
RESEARCH

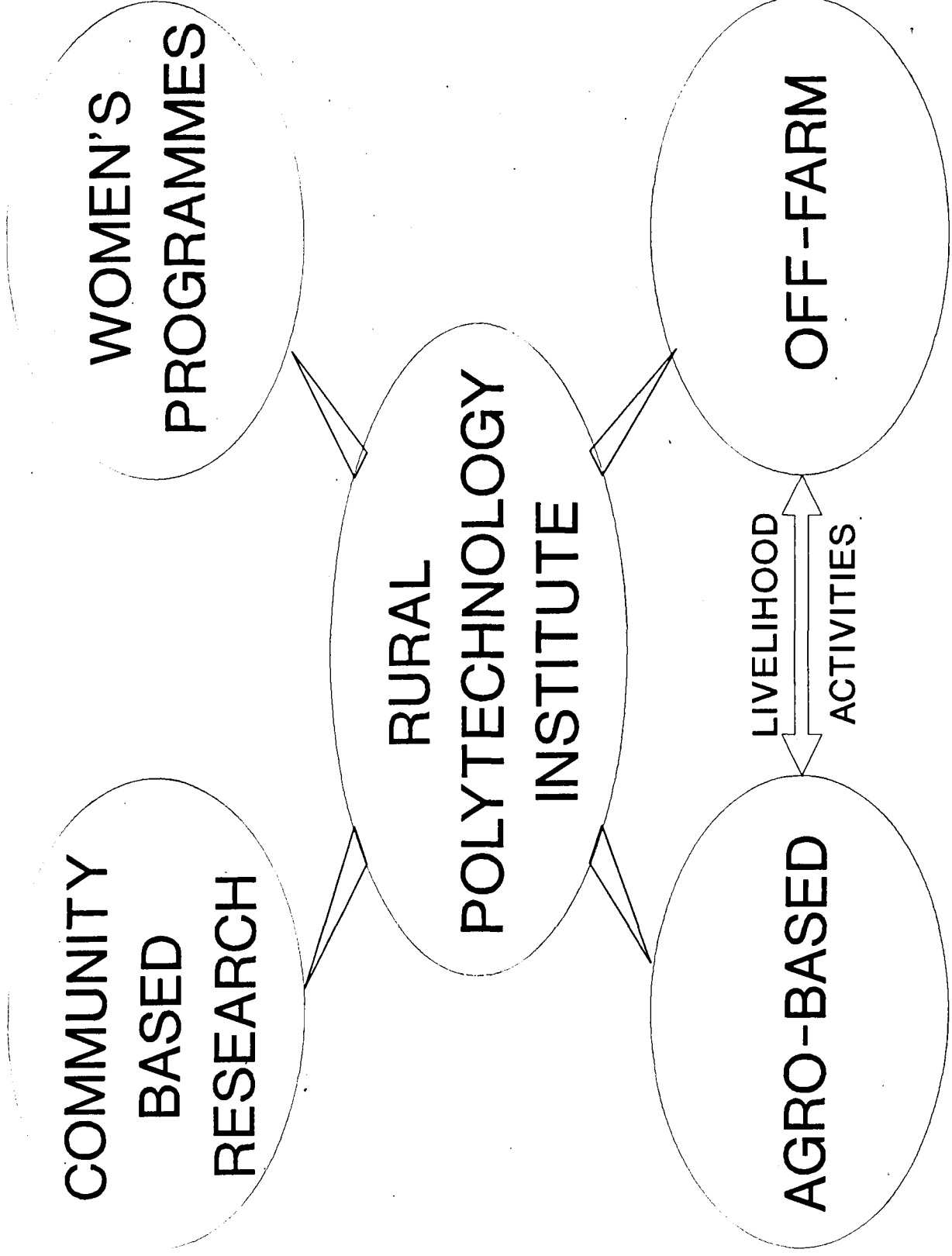
WOMEN'S  
PROGRAMMES

RURAL  
POLYTECHNOLOGY  
INSTITUTE

AGRO-BASED

LIVELIHOOD  
ACTIVITIES

OFF-FARM



SLIDE A

**DEVELOPMENT AND STANDARDISATION  
OF  
PRODUCTION TECHNOLOGY FOR VA MYCORRHIZA INNOCULA**

---

SLIDE B

**OBJECTIVES**

**MASS PRODUCTION OF PATHOGEN FREE ENDO-MYCORRHIZA**

---

SLIDE C

**BACKDROP**

MYCORRHIZA LITERALLY MEANS FUNGUS ROOT ENHANCING THE  
ABSORPTIVE SURFACE AREA OF ROOT SYSTEM VAM OCCUR ON CLEAR  
90% OF THE 300,000 SPECIES OF VASCULAR PLANTS IN THE WORLD

---

SLIDE D

**THEME**

- \* TO UNDERSTAND AND APPLY THE BENEFIT OF NATURAL AND  
MANMADE STRESS ON FOREST HEALTH, PRODUCTIVITY AND  
DIVERSITY
  
  - \* TO CONDUCT DEVELOPMENT RESEARCH TO SYNTHESIS RESULTS OF  
DISSEMINATE THE BASIC BIOLOGICAL INFORMATION ON  
RHIZOSPHERE MYCORRHIZA DYNAMICS
-

SLIDE E

POT TRIALS (VAM INOCULATION)

- \* VAM NON-HOST SPECIFIC INTENSITY OF COLONISATION  
DEFERRED WITH THE PLANT SPECIES
- \* ENHANCED BIOMASS PRODUCTION AND POSITIVE RESPONSE TO  
PLANT GROWTH OBSERVED

---

SLIDE F

NETWORKING

- \* INOCULA PRODUCTION AND DISTRIBUTION
  - \* INSTITUTIONS
  - \* FEEDBACK
  - \* DATA ANALYSIS
  - \* EVALUATION OF EFFECTIVENESS
  - \* GROWTH AND YIELD PARAMETERS
  - \* AGROCLIMATIC SUITABILITY
-

SLIDE G

**ACTION PLAN FOR 1991-92**

**I. VAM INOCULA PRODUCTION**

**\* GERMPLASM BANK MAINTENANCE OF MASTER SEED STOCK**

- ROOT ORGAN CULTURE (ROC)
- SOLID STATE FERMENTATION
- MICROCARRIER

**\* MASS SCALE PRODUCTION IN PILOT GROWTH UNIT**

- HOST PLANT
- ROOT ORGAN
- HYDROPONIC/AEROPONIC SYSTEM
- SOLID STATE FERMENTATION

---

SLIDE H

**ACTION PLAN 1991 - '92**

**II. DELIVERY METHODOLOGY**

**III. INOCULANT TECHNOLOGY**

- \* SEEDLINGS
  - \* NURSERY
  - \* FIELD CROPS
-

SLIDE A

STANDARDISATION OF MICROCARRIER TECHNIQUE  
FOR  
IMPROVING QUALITY AND DEVELOPMENT OF IMMUNOBIOLOGICALS  
USING MAREK'S DISEASE AS A MODEL

---

SLIDE B

APPROACH

- \* CATTLE BREEDING PROGRAMME
  - \* ANIMAL HEALTH COVER
  - \* AVAILABLE TECHNOLOGIES
- 

SLIDE C

APPROACH

- \* NEWER TECHNOLOGIES
    - .. HIGHER YIELDS
    - .. COST EFFECTIVE
  - \* BENEFIT TO ENDUSER
    - .. IMPROVED QUALITY
    - .. LOWCOST AVAILABILITY
-

## SLIDE D

## NEWER TECHNOLOGIES

- \* GUARDED SECRETS
- \* PIONEERING IN INDIA

## SLIDE E

## THEME

## SLIDE F

## BACKDROP

- MCT high density of cell yields
- Reduced inputs & cost effectiveness
- vaccine viruses cultivated in animal cells,
- selection of technology - upstream - application

## SLIDE G

## METHODOLOGY

- cell culture
- virus growth studies
- quality assay
- scaling up
- application of MCT to animal cell virus models.

## SLIDE H

## GROWTH CHARACTERISATION

- \* CELL CULTURES *chicken embryo fibroblast.*
  - .. PRIMARY CEF
  - .. BHK-21
- \* VIRUS CULTURES
  - .. MAREK'S/CEF
  - .. NEWCASTLE/CEF
  - .. FMD/BHK-21

## SLIDE I

## PERSPECTIVE

*Development of technology*

- \* ADAPTATION OF IMMUNOBIOLOGICALS
- \* SCALING-UP

*INPUTS*ECONOMICAL ~~REPORTS~~ IN DEVELOPMENT PROGRAMMES

---

SLIDE A

DEVELOPMENT  
OF  
MUSHROOM PRODUCTION TECHNOLOGY

---

SLIDE B

OBJECTIVES

- \* BIOTECHNOLOGY DEVELOPMENT
    - SPAWN PRODUCTION AND DELIVERY
  - \* TRANSFER OF TECHNOLOGY
    - MUSHROOM FARMING AT RURAL LEVEL
    - TO IMPROVE NUTRITION
    - TP SUPPLEMENT INCOME
    - TO CREATE EMPLOYMENT OPPORTUNITIES
- 

SLIDE C

BACKDROP

MUSHROOM CULTIVATION

- \* RECYCLING OF AGRICULTURAL WASTES
  - \* ROUND THE YEAR ACTIVITY
  - \* SOCIO-ECONOMIC TRANSFORMATION
  - \* LOW COST INPUT REMUNERATIVE TECHNOLOGY
-



## SLIDE D

## THEME

TO UNDERTAKE DEVELOPMENT RESEARCH FOR STANDARDISING SPAWN PRODUCTION AND DELIVERY METHODOLOGY BY REDUCING GESTATION PERIOD.

TO PROVIDE GAINFUL SELF-EMPLOYMENT IN LEAN AND/OR ROUND THE YEAR OCCUPATION FOR WOMEN AND CHILDREN

---

## SLIDE E

## METHODOLOGY

## SPAWN PRODUCTION

- \* SELECTION OF STRAIN
  - \* SELECTION OF SUBSTRATE
  - \* STANDARDISATION OF MICRO-CLIMATE
    - TEMPERATURE
    - HUMIDITY
    - GROWTH CYCLE
    - DELIVERY
  - \* MUSHROOM CULTIVATION AND HARVESTING
- 

## SLIDE F

## RESULTS

- \* PLEUROTUS SAJORCAJU WAS MOST SUPERIOR STRAIN
  - \* POTATO DEXTROSE AGAR (PDA) OFFERED UNIFORM FUNGAL GROWTH
  - \* WHEAT GRAIN WAS SUITABLE FOR MASTER AND LARGESCALE SPAWN PRODUCTION
-

## SLIDE G

## ACTION PLAN FOR 1991 - 92

- \* SELECTION OF MUSHROOM STRAINS
  - \* MASS SCALE SPAWN PRODUCTION
  - \* SPAWN DELIVERY METHODOLOGY
  - \* TRANSFER OF TECHNOLOGY
    - .. TRAINING-CUM-DEMONSTRATION
    - .. CREATING AWARENESS AND MOTIVATION OF FARMERS
    - .. STANDARDISATION OF GROWTH PARAMETERS IN LOWCOST HOUSING FACILITY
    - .. APPLICATION OF MUSHROOM FARMING AT RURAL LEVEL
    - .. COST EFFECTIVENESS AND SOCIO-ECONOMIC IMPACT
    - .. PRODUCT PROCESSING
-

SLIDE A

**DEVELOPMENT OF ECONOMIC FEEDING SYSTEMS**

**FOR RUMINANTS**

**FROM LOCALLY AVAILABLE BYPRODUCTS**

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SLIDE B

**OBJECTIVES**

**SURVEY FEEDING SYSTEMS**

**INTERVENTIONS**

**TESTING**            - ON STATION  
                      - ON FARM

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SLIDE C

**WORK DONE IN 1989-90**

- \* **COLLECTION OF INFORMATION**
- \* **SAMPLE ANALYSIS**

---

SLIDE D

**ACTION PLAN FOR 1990-91**

- \* **INITIATE STUDY OF EXISTING FEEDING SYSTEMS**
  - \* **CROP RESIDUES OF MAIZE AND BAJRA**
-

## SLIDE F

## MILKING HERD COMPOSITION (350 KG LW)

	ASIND		SHAHAPURA	
	M/LL	S	M/LL	S
LOCAL	0.3	0.3	0.75	1.1
X-BRED	1.0	0.7	0.5	2.0
BUFFALOES	0.5	0.2	0.4	0.8

## SLIDE G

AVAILABLE DRY MATTER FOR LACTATING ANIMALS  
(% TOTAL DIET )

	ASIND		SHAHAPURA	
	M/LL	S	M/LL	S
GREENS	25	26	4.4	6.9
DRY	62	63	88.4	84.2
CONCENTRATE	13	11	7.4	8.9
Kg/d/h	15.1	13.6	13.5	16.2

## SLIDE G

## MILK PRODUCTION (Kg/d/h)

	ASIND		SHAHAPURA	
	M/LL	S	M/LL	S
LOCAL	4.3	2.9	2.9	3.5
X-BRED	6.6	5.4	--	8.4
BUFFALOES	4.4	5.4	3.9	4.9

## SLIDE H

## NUTRITIONAL STATUS

- \* ENERGY INTAKE : ADEQUATE
- \* CP INTAKE : 20% SHORTFALL
- \* CENTRE OR ANIMAL TYPE : NO DIFFERENCE

## SLIDE I

## UREA TREATMENT OF MAIZE STOVERS

- IMPROVEMENT IN DMI (34 %)
  - IMPROVEMENT IN ENERGY INTAKE (27 %)
  - INCREASE IN NDFD (17 %)
  - HIGHER DEGRADATION RATE OF OM AND NDF
- WITH UREA TREATMENT

SLIDE J

**BAJRA STRAW****VARIETAL VARIATION**

- INTAKE DIFFERENCE ( 57% )
- AVAILABLE NUTRIENTS ( 40% )
- MORE VARIATION IN STEMS
- IMPORTANT DIFFERENCES IN PLANT MORPHOLOGICAL PARTS

-----  
SLIDE K**GRAIN, STRAW AND NUTRIENT YIELD(Kg/ha)****FROM BAJRA VARIETIES**

	MP 201	MH 179
GRAIN YIELD	750	900
STRAW:GRAIN RATIO	3.5	3.5
STRAW YIELD	2625	3150
OMD	61	52
DOM YIELD	1440	1470

## SLIDE L

## ACTION FOR 1991-92

- \* ANALYSIS OF INFORMATION
- \* GROWTH STUDIES
- \* ON FARM STUDIES

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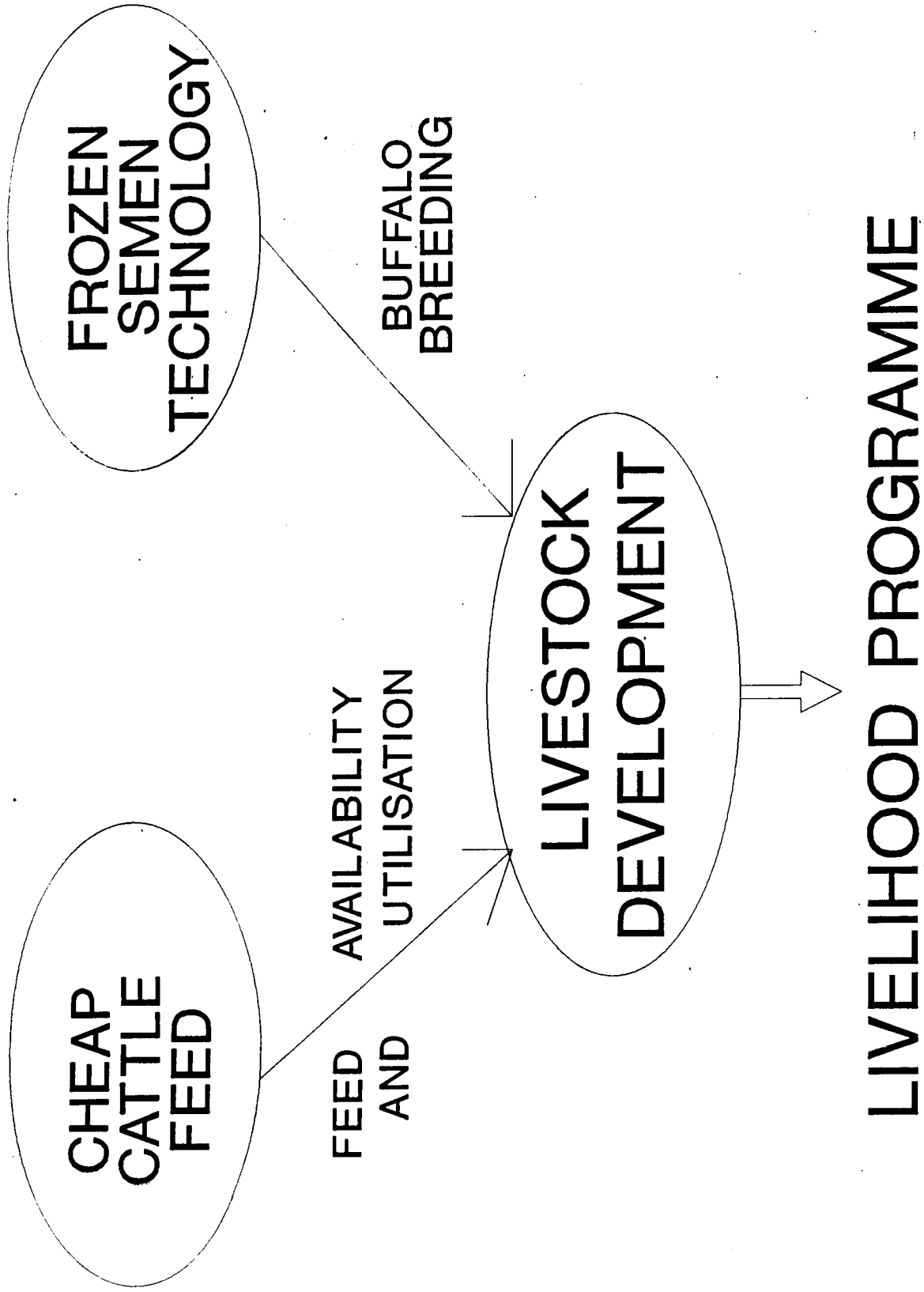
 SLIDE E

## DISTRIBUTION OF MILKING ANIMALS

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	ASIND		SHAHAPURA	
	M/LL	S	M/LL	S
LOCAL	13	5	29	28
X-BRED	39	11	16	43
BUFFALOES	16	3	10	15

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SLIDE A

DEVELOPMENT AND STANDARDISATION  
OF

SERICULTURE TECHNOLOGY

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SLIDE B

SERICULTURE : MAIN FEATURES

- \* LOW GESTATION PERIOD
  - \* LOW INITIAL INVESTMENT
  - \* LABOUR INTENSIVE
  - \* EASILY ADAPTABLE SKILLS
  - \* INVOLVEMENT OF WOMEN
- 

SLIDE C

OBJECTIVES

- \* TO ESTABLISH GRAINAGE
  - \* TO DEVELOP METHOD OF DFL TRANSPORTATION
  - \* TO DEVELOP RECOMMENDATIONS FOR USE OF DIFFERENT MULBERRY VARIETIES
-

SLIDE D

ACTIVITIES UPTO APRIL 90

- \* INITIATED GRAINAGE OPERATIONS
- \* IDENTIFIED APPLIED RESEARCH AREAS
  - .. LEAF PRESERVATION
  - .. DEVELOPMENT OF IMPROVED MOUNTAGES
  - .. TRANSPORTATION OF SILKWORM EGGS

---

SLIDE E

RESEARCH STUDIES UNDERTAKEN

- \* COLLECTION AND MULTIPLICATION OF MULBERRY GERMPLASM
  - \* SILKWORM REARING STUDY
  - \* STUDY OF LEAF PRESERVATION METHODS
  - \* STUDY ON DIFFERENT MOUNTAGES
-

## SLIDE F

## COLLECTION AND MULTIPLICATION OF GERMPLASM

- \* FIFTEEN VARIETIES COLLECTED FROM MAHARASHTRA, KARNATAKA AND GUJARAT.
- \* PLOTS DEVELOPED AT URULIKANCHAN, VANSDA AND KADOD
- \* RESEARCH TRIALS INITIATED

## SLIDE G

## VARIETIES OF MULBERRY

* INDIGENOUS	* SELECTED EXOTIC
ASSAM 1	P 16
MAHABALESWAR LOCAL 1	P 21
MAHABALESWAR LOCAL 2	T 1
POONA LOCAL	T 6
M 5 OR KANVA 2	P 1
* EVOLVED	P 2
S 36	P 6
S 54	P 10

SLIDE H

STUDY OF LEAF PRESERVATION METHODS

OBJECTIVES :

- \* STUDY PRESENT METHODS
- \* DEVELOP IMPROVED TECHNIQUES

STATUS :

- \* TWO UNITS SET UP AT VANSDA AND URULIKANCHAN
- \* DATA RECORDING SYSTEM FINALISED
- \* TRIALS : INITIATED IN JANUARY 1991

---

SLIDE I

SILKWORM REARING STUDY

OBJECTIVES :

- \* MULTILOCATIONAL COMPARISON OF EACH RACE
- \* INTER-RACE COMPARISON AT EACH LOCATION

RACES FOR TRIAL :

MULTIVOLTINE	:	15
BIVOLTINE	:	2
CROSS-BREEDS	:	7

REARING TRIALS INITIATED AT VANSDA, KADOD, URULIKANCHAN

---

SLIDE J

DISADVANTAGES OF CHANDRIKA

- \* NON-UNIFORM SPACING
  - EXCESSIVE FLOSS
  - DOUBLE COCOONS
- \* URINATION LEADS TO STAINED COCOONS
- \* MORE LABOUR FOR MOUNTING WORMS
- \* BULKY STORAGE
- \* DAMAGE DURING STORAGE

---

SLIDE K

STUDY ON DIFFERENT MOUNTAGES

OBJECTIVES :

- \* DEVELOP NEW DESIGNS
- \* COMPARE PERFORMANCE

STATUS :

- \* STUDY DESIGN COMPLETED
  - \* FOUR DESIGNS UNDER TRIAL
  - \* PILOT SCALE COCOONING TRIED OUT
  - \* TO BE INITIATED IN FEBRUARY 1991
  - \* COMPARATIVE STUDIES
-

SLIDE L

ACTION PLAN FOR 1991 - 92

- \* PRESENT STUDIES WILL BE CONTINUED
  - \* STUDY ON DFLS TRANSPORTATION AND DISTRIBUTION
-

**SLIDE A**

**EXPLORATORY STUDIES AND OPERATIONS RESEARCH  
IN  
POST PRODUCTION TECHNOLOGY**

---

**SLIDE B**

**BACKGROUND : VANSDA**

- \* LIMITED LAND RESOURCES**
- \* PRODUCTION BASE ESTABLISHED**

**NEED FOR THE PROJECT :**

- \* VALUE-ADDITION TO AGRICULTURAL PRODUCE**
- \* OFF-FARM EMPLOYMENT**
- \* OPPORTUNITIES FOR SMALL ENTERPRISES**

---

**SLIDE C**

**OBJECTIVES**

- \* STUDY OF EXISTING POST PRODUCTION SYSTEMS**
- \* NEEDS ASSESSMENT**
- \* PILOT INTRODUCTION OF TECHNOLOGIES FOR**
  - . MANGO**
  - . WOOD**
  - . OILSEEDS**
  - . PADDY**

SLIDE D

ACTIVITIES UPTO APRIL 1990

- \* TRIAL PROCESSING OF MANGO PULP,  
AMBAPOLI, MANGO MAWA.
- \* INTRODUCTION OF OIL-EXPELLER
- \* INTRODUCTION OF PADDY - THRESHER
- \* STUDY OF OPTIONS IN WOOD-PROCESSING

---

SLIDE E

WORK SUMMARY FROM APRIL 1990

- \* ESTABLISHED FACILITY FOR FRUIT PROCESSING
  - \* RESEARCH STUDIES INITIATED
    - . CHARACTERISATION OF MANGO PULP
    - . PROCESS STANDARDISATION FOR TRADITIONAL PRODUCTS
    - . USE OF SOLAR DRYER
-



SLIDE F

**CHARACTERISATION OF MANGO PULP**

- \* RECORD PULP CHARACTERISTICS
- \* RECORD CHANGE IN CHARACTERISTICS

30 TONNES RAJAPURI MANGOES PROCESSED

PULP CHARACTERISTICS UNDER OBSERVATION

---

SLIDE G

**PROCESS STANDARDISATION FOR TRADITIONAL PRODUCTS**

- \* TRADITIONAL PROCESS OF AMBAPOLI AND MAWA
- \* STUDY DESIGN : 18 TRIAL BATCHES IN MANGO LEATHER  
: 3 TRIAL BATCHES IN MAWA.

PRODUCTION TRIALS INITIATED

---

SLIDE H

**USE OF SOLAR DRYER**

- \* TWO DESIGNS READY FOR TRIALS
  - \* PRODUCTS : AMBAPOLI, MANGO SLICES
  - \* STUDY DESIGN : BATCH PRODUCTION
  - \* PRODUCTION TRIALS INITIATED
-

SLIDE I

**ACTION PLAN FOR 1991 - 92**

- \* ENTREPRENEURSHIP DEVELOPMENT (PADDY, OIL)**
  - \* STUDY OF WOOD TREATMENT TECHNIQUES**
-

SLIDE A

**GERMPLASM COLLECTION AND ADAPTABILITY STUDY  
OF  
BAMBOO SPECIES**

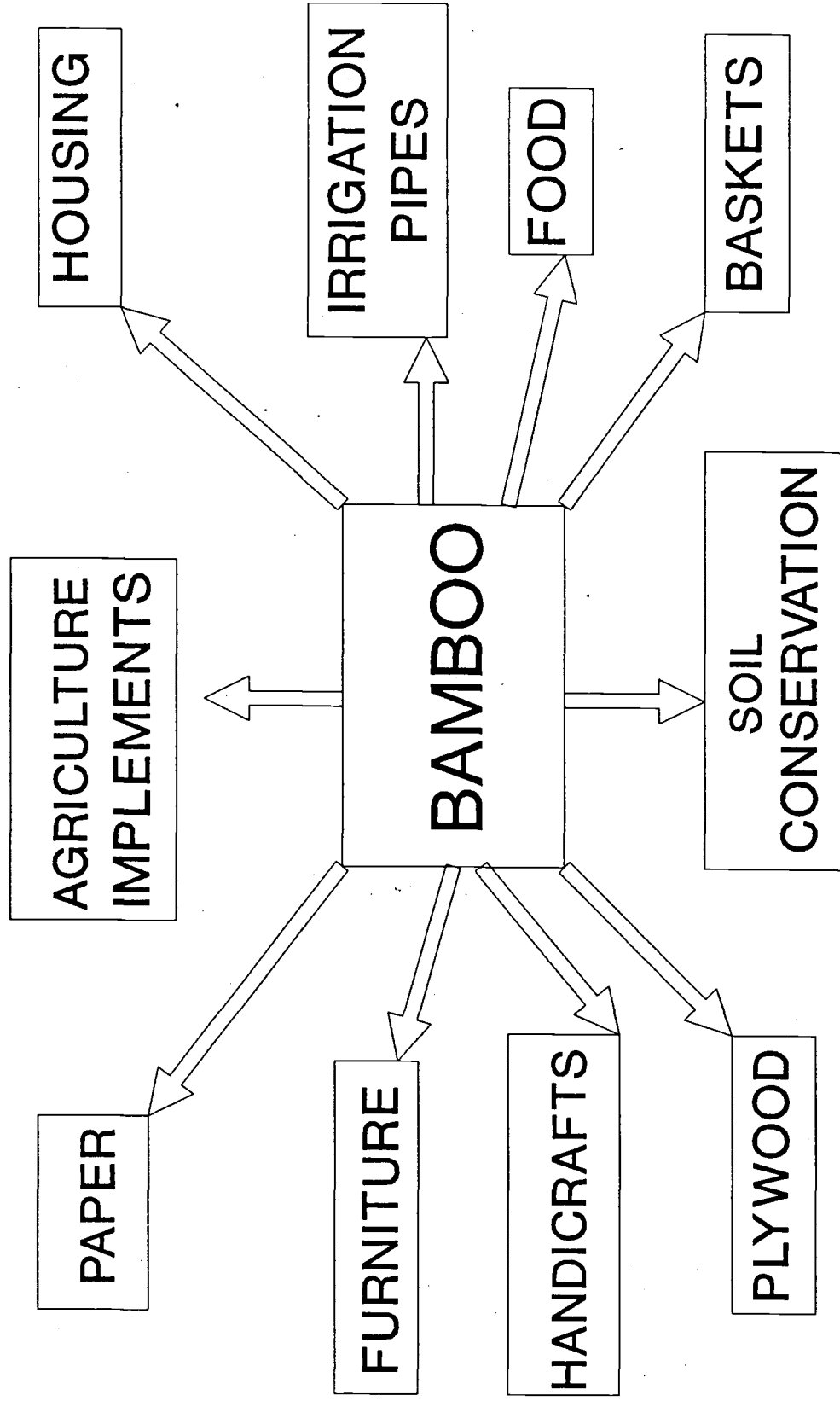
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SLIDE B

**BAMBOO**

- \* PLANTED IN HOMESTEAD
  - \* MULTIPLE USES
  - \* POTENTIAL SOURCE OF EMPLOYMENT
  - \* INDIA - SECOND LARGEST GENETIC RESOURCE
  - \* 75 GENERA AND 1250 SPECIES IN THE WORLD
  - \* 25 GENERA AND 130 SPECIES IN INDIA
  - \* OVEREXPLOITATION IS A THREAT.
-

# BAMBOO - MULTIPLE USES



SLIDE C

OBJECTIVES

- \* GERMPLASM COLLECTION OF BAMBOO SPECIES
  - \* SETTING OF ARBORATA IN :  
MAHARASHTRA  
KARNATAKA  
GUJARAT
  - \* ADAPTABILITY STUDIES - 8 LOCATIONS
  - \* PROMOTION OF BAMBOO CULTIVATION.
- 

SLIDE D

GERMPLASM COLLECTION

- \* EXPLORATORY VISITS
  - \* COLLECTION OF DATA ON CHARACTERS
  - \* COLLECTION OF GERMPLASM - SEEDS, RHIZOME, CULM
  - \* MULTIPLICATION OF GERMPLASM AT  
URULIKANCHAN  
LAKKIHALLI  
KADOD
-

## SLIDE E

## BAMBOO SPECIES AND ACCESSIONS COLLECTED

GENUS	NO.OF SPECIES	NO.OF ACCESSIONS
DENDROCALAMUS	3	14
BAMBUSA	7	18
THYRSOSTACHYS	1	1
OCHLANDRA	1	3
OXYTENANTHERA	1	2

---

## SLIDE F

## ESTABLISHMENT OF ARBORATUM

## LOCATIONS :

URULIKANCHAN	-	MAHARASHTRA
LAKKIHALLI	-	KARNATAKA
KADOD	-	GUJARAT

## LAYOUT :

FOUR SAMPLES OF EACH SPECIES

DISTANCE 3 X 3 M.

## SLIDE G

## AGROCLIMATIC CONDITIONS OF PROJECT SITES

	URULIKANCHAN	LAKKIHALLI	KADOD
ALTITUDE (M)	560	938	50
SOIL DEPTH (M)	0.3-0.5	ABOVE 2	ABOVE 2
SOIL TYPE	SHALLOW GRAVELLY	YELLOWISH RED SANDY LOAM	MEDIUM CLAY SOIL
TEMP. RANGE (OC)	8-42	15-38	16-36
RAINFALL (MM)	425	615	950

## SLIDE H

## ACTION PLAN FOR 1991 - 92

- \* ADAPTABILITY STUDIES ON 8 LOCATIONS
- \* PROMOTION OF BAMBOO CULTIVATION

# PROJECT LINKAGES

