TW
FSE
030

Amhara National Rigional State

Integrated food security program for the Year 1998 - 2002 (Draft 0)

CCRDA

Christian Relief & Development Association
LIBRARY
P.O.Box 5674

Oct. 1997
Bahir Dar

1. BACK GROUND 1

ROAD 6
HEALTH 6
EDUCATION AND TRAINING 6

2. FOOD SECURITY SITUATION 6

2.1 . FOOD BALANCE 7
2.2. MAGNITUDE OF FOOD INSECURITY IN THE REGION 8
2.3. THE POOR YEAR SITUATION CASE STUDY 10
2.4. VULNERABILITY OF PEASANTS AND COPING MECHANISMS 13

3. PROBLEMS AND CONSTRAINTS OF FOOD INSECURITY CAUSES FOR FOOD INSECURITY 15

4. POLICY FRAME WORK 24

4.1. THE AMHARA REGIONAL STATE (DEVEELOPMENT OBJECTIVES AND STRATEGIES) 24
4.2 GENERAL DEVELOPMENT STRATEGIES OF THE REGION 25
4.3. SECTORAL POLICIES AND STRATEGIES 26
1.1 CROP FARMING 27
1.2 CONSERVATION 28
1.3 LIVESTOCK 28
1. 4 FISHERY : 29
1. 5 REFORESTATION 30

5. THE INTEGRATED FOOD SECURITY PROJECT 34

5.1 OBJECTIVES OF THE PROJECT 34
5.2 LOCATION 34
5.3 BENEFICIARIES 34
5.3.4. The private sector *35*

6. DESCRIPTION OF PROGRAM COMPONENTS (OUT PUTS) 36

6.1. INCREASE PRODUCTION AND PRODUCTIVITY ON A HOUSEHOLD LEVEL 36
6.1.1. AN IMPROVED AND SUSTAINABLE CROP PRODUCTION INTERVENTION 37
6.1.1.1. Improved and clean seed supply mechanisms established *40*
6.1.1.2. Trials and Demonstration Sites established and supported *42*
6.1.1.3. Moisture conserving agronomic and cultural practices are introduced (improved) *43*
6.1.1.4. Conduct Variety Screening and Verifications /Testing centres/ *43*
6.1.1.5. Meteorological information stations are established at representative sites *45*
6.1.1.7. Sustainable and improved crop protection systems enhanced *47*
6.1.2. IMPROVE THE LIVESTOCK'S CONTRIBUTION FOR FOOD SECURITY 50
6.1.2. I. Situation analysis *50*

CCRDA

6.1.2.2. Existing programs *52*
6.1.2.3. Objectives of livestock improvement component *53*
6.1.2.4. DETAIL FEATURES OF THE COMPONENTS *54*
6.1.2.41 The forage development component *54*
6.1.2.42. The livestock breeding component. *56*
6.1.2.43. Establishment of bee keeping training and research centre. *59*
6.1.2.44. Improvement of equines. *59*
6.1.2.5. Animal health improvement intervention *62*
6.1.2.51. ANIMAL HEALTH SITUATION SYNOPSIS IN THE REGION *62*
6.1.2.52.Major Animal Health Constraints in the Project Words *63*
6.1.2.53 DESCRIPTION OF THE animal health intervention sub component *63*
6.1.3 IRRIGATION AND HOUSEHOLD LEVEL RAIN WATER HARVESTING PRACTICES *65*
6.1.3.1. Support to traditional irrigation *66*
6.1.3.2 Implement Waja Golesha Water irrigation project *67*
6.1.3.3 Gelana and Megenangna River diversions *68*
6.3. INTRODUCE SUSTAINABLE LAND RESOURCE DEVELOPMENT 70
6.3.1. Situation analysis *70*
6.3.2. PROJECT OBJECTIVE *75*
6.3.3. ACTIVITIES OF THE PROJECT *78*
6.3.3.1 FORMULATION OF LAND USE PLAN GUIDELINES *79*
6.3.3.2 IMPLEMENTING GRASS ROOT LEVEL LAND USE PLANNING ON PA LEVEL *79*
6.3.3.3.PROPOSED ACTIVITIES ON SOIL AND WATER CONSERVATION PROGRAM. *79*
6.3.3.4. ACTIVITIES ON AGRO-FORESTRY DEVELOPMENT PROGRAM *80*
6.3.3.5. ACTIVATES OF INCENSE AND GUM DEVELOPMENT PROGRAM *80*
6.3.3.6. ACTIVITIES ON SEED PROCUREMENT AND IMPROVEMENT PROGRAM *80*
6.3.3.7. Forestry development enhanced *81*
6.4 IMPROVED POTABLE WATER SUPPLY 84
6.5. HUMAN RESOURCE DEVELOPMENT AND INSTITUTIONAL CAPACITY BUILDING *87*
6.5.1 Existing levels of institutions and human resource conditions *87*
6.5.2 Objective of the intervention *91*
6.5.3. Major component descriptions /outputs *91*
6.5.3.1 Human resource development *91*
6.6 RURAL MARKETING *97*
6.6.1.The Road Component *98*
6.6.2 Enhance the Spatial Integration of the Rural Economy *109*
6.6.3 Market information and Food Security Monitoring system and emergency reserves. *115*
6.6.4. Food Reserved and Subsidy *117*
6.6.5 Support to co-operatives *117*

CCRDA

6.7 PROPOSAL ON NON-FARM ACTIVITIES FOR DROUGHT PRONE AREAS 118
A. BACKGROUND 118
6.8. RURAL CREDIT 121
7. IMPLEMENTATION 121
7.1 PHYSICAL & NON-PHYSICAL MEANS 121
7.2 IMPLEMENTATION PROCEDURES 122
7.3 TIME TABLE 122
7.4. FINANCIAL PLAN 122
7.5 SPECIAL CONDITIONS 123
8. FACTORS ENSURING LONG TERM FOOD SECURITY 123
8.2 MARKETS AND PRODUCTION 124
8.3. ENVIRONMENTAL ASPECTS 124
8.4 SOCIO /CULTURAL AND GENDER ASPECTS 124
8.5. MANAGEMENT CAPACITY 124
8.6. ACCOMPANYING MEASURES 124
9. FEED BACK 125
9.1 REPORTING REQUIREMENTS 125
CONCLUSION 125

CCRDA

Objective	Purpose	Out-put	Major activity
1. Household production and productivity increased	1 Increase crop production	1. Supply of improved and clean seed increase	1.1 Establish 40 new 55 seed cleaning station 1.2 enhance informal seed sector 1.3 establish two drought zone seed multiplication centres 1.4 private sector encouraged in seed production
		2. Soil fertility maintenance trials and demonstration	
		3. moisture conserving agronomic and cultural practices introduced or expanded	• Training • Demonstration • Tools supply
		4. conduct variety screening and verification	• trail sites, training and demonstrations
		5. Meteorological information stations at representative sites established	• 40 meteorological centres established
		6. Horticultural crops and coffee development	• Office nursery establishment • seedling distribution for horticulture development • Training

CRDA

Objective	Purpose	Out-put	Major activity
		7. Sustainable and improved crop protections practices installed	• Training, trials et • pesticides purchase • Sprayers purchased • vechils
	2. Improve the livestock contribution to food security	1. Improve livestock feed management	1.1 Management of grazing lands 1.2 Backyard forage production 1.3 Under solving / inter cropping 1.4 forage and pasture crops seed production
		2. The livestock breed improved	2.5 strengthen existing cattle breeding ranks 2.6 strengthening existing sheep breading ranches 2.7 Strengthen the existing poultry breeding ranches 2.8 Establishment of new sheep and goat improvement centres 2.9 Establishment of satellite brooding centres 2.10 establishment of bee keeping training and research centre 2.11 improvement of equines
		3. The livestock health situation improved	3.12 construction of 47 station clinics

CCRDA

Objective	Purpose	Out-put	Major activity
			3.13 regional laboratory strengthen 3.14 discuses out brake management activities strengthen by 3.15 Supply of veterinary drugs 3.16 Training of paraprofessionals and farmers
	3. Enhance irrigated agriculture	1. Traditional irrigation improved	Material, financial and technical Support To traditional Practices is provided.
		2. Small scale irrigation under taken	1. Waja Golesha ground water irrigation 2. Gelana and Megenangna River Diversions 3. other small scale earth dams and diversions are undertaken at the woreda level
		3. Household level rain Water harvesting	Household level rain water harvesting Schemes developed
2. Rehabilitate and conserve the natural resource base	21.Sustainable Land Resource Development and Reforestation practices are introduced	3.1 Formulation of land use guide lines 3.2 Implement Grass Root level Land Use Planning	• Undertook a survey and study • training • Landuse policy

CCRDA

Objective	Purpose	Out-put	Major activity
		Practices 3.3 Undertake soil and water Conservation 3.4 Agro forestry development program 3.5 Incense and Gum development 3.6 Seed procurement and improvement 3.7 Reforestation enhanced	legisaltion • handtools and Material supply • Undertook nurseries • Seed collection and reproduction • Seminars and workshops • Legislation about mountain are distribution • Research
3. Reduce water borne diseases	Improved potable water supply	Construction of water points and distribution systems	• Training • capacity building • material supply
4. Enhance attainment of food security through Beter organisation of institutions Building	Human Resource Development and institutional Capacity Building	5.1. Human Resource development	5.1.1. literacy Class support 5.1.2. Enhance availability of family planning services 5.1.3. Gender development 5.1.4. Enhance health and education services
		5.2 Institutional capacity building	5.2.1. Strengthen The capacity of Technical departments related to Food security 5.2.2. Strengthen woreda based community Institution 5.2.3. NGO, Go interaction 5.2.4. Support to private

ECRDA

Objective	Purpose	Out-put	Major activity
			institutions
6. Rural marketing	6.1. Improve road net works 6.2. .Enhance Spatial integration 6.3 Market Information, Food security monitoring and emergency reserves 6.4. Support to co-operatives	6.2.1. Study and design the spatial integration 6.2.2. Upgrade some settlements into rural service centres 6.3.3 Food security monitoring System 6.3.4 Marketing Information system Food Reserve and Subsidy	
7. Enhance off farm and non farm Income earning and employement opportunities	Farm and non farm activities are promoted	• Training • Credit • Institutional support • Supply of inputs	
8. Enhance access to credit services	Creat a seed capital		

CCRDA

1. Back ground

The population of the region is estimated to be 14.4 million of this 89.3% are living in rural areas and the remaining 10.7% are urban dwellers.

The region covers 170150 sq.km of land which is located approximately between 90 20' & 140 0' North latitude and 360 20' to 40 0 20' East longitude

Administratively it is divided into 11 zones, 105 woredas and 3051 kebeles. The region's topography can be divided into two main parts, namely the low land and the high lands (above 1500 m.a.s.) The highlands comprises the northern and eastern part of the region. The low land is mainly located in the North western part of the region.

Based on altitude, three major agro-climatic zones can be identified. These are Dega, Winadega and Kolla areas. The area coverage of each agro climatic ecological zone is 25% ,44% and 31% respectively.

Table 1 . Agro climatic Zones

	Altitude	coverage
Kolla	Below 1500	31%
Dega	2500-4620	25%
Winadega	1500-2500	44%

The annual mean temperature for most parts of the region is between 150c-210c. Relatively high temperature is observed at some valleys and marginal areas exhibiting arid climates (low kolla) . The mean annual temperature of these areas some times exceeds 270c .

The region receives the highest percentage [redacted] of the total rainfall in the country. This highest rainfall occurs during the summer season, which starts mid June and ends early September.

Frequent rainfall failures since 1900's is creating a very serious problem for agricultural development especially in the eastern part of the region . Low land areas in the Teke

ze valley are very susceptible to drought.

CGRDA

Natural Resource

Available data indicates that out of the total areas of the region about 27.3% is under cultivation, 39% left for grazing and browsing 2.1 and 12.6% covered by forest, bush and herb, respectively, and 18.9% is not currently used for productive purpose. The remaining 9.1% represents settlement sites, swampy areas, lakes, etc.

The Abay, Tekeze and Awash revere basins drain the region. Annual average discharge of these river basins is estimated at 43.1 billion cubic meters. Current consumption is below 1% of this resource. Using this water resource more than 450 thousand of land can be developed in to irrigated agriculture. The hydroelectric potential of these rivers is untapped.

Most part of the region is topographical rugged. Studies show that farming on lands above 5% slope can endanger heavy loss of soil. Unfortunately most of this rugged maintains have been intensively farmed for a long period of time. As the result the land is degraded. Each year agriculture yield is reduced between 1 to 2 % as the result of erosion.

Deforestation is another factor of concern for environmental rehabilitation. Presently the regions vegetable cover is quite small to cover its fuel and construction needs. Available information indicates that Supply of forest products falls by 32 % of demand. The following are main reasons for the environmental degradation

a) *Topographic factors - The topography of the region is vulnerable for erosion.*
b) *Climatic factors. high rainfall, in short period of time on a rugged mountains means high incidence for gully erosion.*
c) *Grazing -over grazing of the land is one factor for erosion Population- The steepest slope have been put to crop farming. The increase in population is seriously threatening even the protected areas.*
d) *Minimum conservation effort*

CCRDA

Economic Activity

Agriculture

The rural population of the region depends on crop and livestock husbandry for living. Cropping is predominantly rain feed and farming is based on in efficient methods of cultivation.

47 woredas are affected by drought. The productivity of land and use of agricultural input is very low. Despite the irrational utilization of the land, the region has a fertile land and water resources which are suitable for crop production and livestock husbandry.

CCRDA

Agricultural Extension

The extension staff has increased from 507 to 2928 in the last 4 years from 1993 to 1997. Changes in extension system from top down non participatory training and visit approach to participatory active learning system has brought drastic results in most parts of the region. The extension package was also adopted to local need. Broadly two packages were developed, namely the arid zone package and rain abundant packages. However, still most rural households are not covered with extension service. The DA also requires continuous skill upgrading to cope with the day to day challenge. Besides, there is a need develop the arid zone extension package and diversify it. This requires strengthening the capacities of zone agricultural extension teams (subject mater specialists)

Credit service

Credit service is basically required by farmers to purchase fertilizer, improved seeds, protection chemicals, better farm implements, farm oxen, and non farm activities as well as food, when shortage exists in the family. The sources of agricultural and other credit services in the region are mainly government financial institutions, other credit services and the individuals from the private sector. Presently a regional credit service is organized by ASCI (Amhara Saving and Credit Institution). The institution has branches in 78 woredas, 21 branches and 134 sub branches.

Land holding

Hence land shortage has became one of the constraints in most of the areas stricken by drought. It seemed that the problem has been induced by population growth especially in the high land areas . 1[1]2

CCRDA

1

2 The percapital land requirement referes to the minimum land size that can support a person in producing sufficient food and seeds. such as cerals, purses, oil seeds, etc. (0.515 ha perperson) most of the farmers have fragmented plot.

Farm Oxen

Available information from a regional sample survey indicates that 19.9% farmers don't own an ox, 29.2% owned an ox, and 10 percent owned a pair of oxen. The remaining have more than a pair of oxen.

Cropping pattern

Cereals accounted more than 80% land and 85% of production. In subsistence economy, the farmers uses a combination of crops to be grown in such a way that cereals, pulses and oil seeds represented in order to achieve his/her main objective of food self sufficiency. Although crop production takes place in rainy seasons at large the yield per hectare for most of the crops is very low. According to the sample survey, cereal production averaged only 6.5 quintals.

The region posses 8.94 million cattle 3.7 million goats 3.83 million sheep, and 1.4 million equine and 9.07 million poultry. This number accounts 33.29% of Ethiopian resource . Natural herbage from grazing land is the main source of animal feed followed by crop reside. The use of hay and other additional feeds is very limited in the region. As a result, an acute shortage of animal feed was widely observed through out the region. Crop residue and hay are considered as additional feeds although crop residue is only available for two to three months a year. covering a small proportion of the total feed requirement. There is total production deficit of 42% forage in the region.

Animal disease is one major constraint for livestock husbandry. Bacterial, viral, fungal, protozoa. Diseases and ecto parasites are prevalent in the region. Render pest (desta) anthrax (abasanga), C.B.P.P. (somba) and black-leg (Abagorba) are among the most threatening animal diseases. Besides this poisonous plants do affect animal health.

Apiary and fishing are other sources of income in the region . There are some 610,830 beehives in the region with an estimated annual production of 3342.4 tons of money.

There is also an estimated potential of 16-20 thousand ton fish resource in lakes. Present utilization is around 1.5 thousand tons per year.

CCRDA

Road

Road infrastructure problem is one of the major impediments of economic and social development of the region in which 22% of the population only has access to all weather road. The density of all weather road network of the region is 10.7 kilometers per thousand square kilometers.

The regional road density index is below the national average, i.e. 20 kilometers per thousand square kilometer.

Health

The prevalence of a wide range of disease, such as tuberculosis, malaria, intestinal parasite, etc. and low health service coverage, particularly in the rural areas and very low awareness of the vast majority of the population in preventive care has resulted in a low health standard of the working force.

Shortage of medical personnel, medical equipment and medicine are also problems for the provision of adequate health services in the existing few health stations.

Education and training

Participation rate at primary school is 24%. Training opportunities for the rural population is quite low. The average annual training at community training centers for the last 4 years stands at 2724. This inadequate education and training has been one limiting factor for food self sufficiency. Off farm employment opportunities are by large greater for educated citizens than non educated framers. One key instrument to gradually reduce the population pressure on agriculture is human resource development in education and training.

Training of farmers in non farm activities, in intensive farming, livestock development will have immediate effects on food security status of the rural poor.

2. Food security situation

The region is generally a surplus producing area. However, the image of the farmers is quite different than statistics. Most farmers have shown a fear of food self insufficiency through out the region. Survey conducted in 1995 shows that 76.5% feel they don't have enough stock until next harvest.

CCRDA

In drought porn zones, farmers were provided with grain aid as a result they have developed a dependency syndrome. There needs to be integrated effort to create an image with the household for self sufficiency. Training is essentially required. Hence analysis of food supply situation is required.

2.1 . Food Balance

Cereals are the most dominant crops grown in the region on the average accounting for at least 74% and 85% of the total cultivated land and grain production respectively. Crops are grown during the two major seasons i.e Meher(main) and Belg(small). The later season is restricted only to the dega woredas of the eastern Amhara region.

The total supply of food from the sources considered in the analysis for the past five years was about 27720565 quintals on the average. Though there was an erratic nature of the food supply in the analysis period, there were a considerable increase of production in the latest three cropping years. The demand during the same period on the average was 28730551 quintals for the rate 2.04 quintal per person per annum. This reflects that there was a deficit of about 1009986 quintals only. But there was a considerable surplus production at the late cropping years even in the high rate of per capital consumption(2.25 quintals).

In the five years development program of the region top priorities have been given to the agriculture sector. This is to attain food self-sufficiency. In this regard, an integrated efforts have been exerted and significant increase of production has been realized in the late three consecutive cropping years. What has been observed in the balance of the table in the period stated above seem to be very much encouraging. This depicts that we are really becoming food self-sufficient. In 1996/97, the per capita share of the domestic crop production of the population was about 2.18 quintal in the context that what has been produced was available for consumption. As the food self-sufficiency refers to producing all the required food domestically and excludes food imports and aids, the domestic crop production was showing good performance. Grain production alone was enough to meet about 89% and 97% of the food needs in 1995/96 and 1996/97 respectively even as per 2.25 quintal per capital consumption.

The region's own food supply situation including animal products and vegetables went even to the extent of meeting about 91.1% and 100.6% of the food needs of the corresponding population for the aforementioned periods of time and rate. This is to say that there were surplus supply of food even for the high level of per capital consumption. The availability of food which is a pre-request for household food security is seen to be

CSRDA

more than 100% even for the high rate of per capital consumption for the period of 1996/97. Details have been shown in table 2.

It has been already stated that the food balance approach has a limitation for that it does disguise the food situation at the household level. But one of the essential determinant of food security is availability of food. Access to food is another aspect of food security. The balance therefore, has shown only the availability of food which ensured that there were adequate supply of food through domestic/local production or food aids for the analysis periods. The availability of food remains to be only necessary pre-condition for the households food security. It is upon this context that ensuring households access to food through diversified efforts has become the regional government's deep concern. We, therefore, are aiming at securing households with food either they produce it themselves or they have the income to acquire it.

Even though we are becoming food self-sufficient regionally, the problem of food security at the household level is apparent. The next topic tries to reveal the level of food insecurity in the region as a whole and the people's coping mechanisms during famine.

Particulars	S.N.	Year			Average
		1994/95	1995/96	1996/97	
Supply: Production	1	7821672	9731689	11918173	9823845
Less 15% post harvest loss	2	1173251	1459753	1787726	1473577
Less 6% seed	3	398905	496316	607827	501016
Net Production (1-2-3)	4	6249516	7775620	9522620	7849252
Food Aid channeled by DPPC or NGO	5	707157	645950	353712	568940
Total grain available (4+5)	6	6956673	8421570	9876332	8418192
Other food sources in Cereal equivalent (meat)	7	282843	282803	282688	282778
Total Supply (6+7)	8	7239516	8704373	10159020	8700970
Demand: population census and estimate	9	5607613	5720302	6896324	6074746
Total Demand at 2.25 quintal	10	12617123	13095243	13511941	13074769
Food Balance (8-10)	11	-5377607	-4390870	-3352921	-4373799
Self-sufficiency ratio (%) (4+7/10)	12	51.8	61.5	72.6	62.0
Food availability ratio (%) (8/10)	13	57.4	66.5	75.2	66.3

CCRDA

2.2. MAGNITUDE OF FOOD INSECURITY IN THE REGION

Food insecurity results in human suffering. It produces unproductive labor force, reduces work performance and productivity, diverts productive resources while trying to cope with it. Food security on the other hand may have also an important implication for the environment and the use of natural resources. The food insecure and poor often have to

choose between short-term satisfaction of food needs with long-term environmental degradation.

The nation-wide policy to attain food self-sufficiency ; which is a pre-condition to food security, is being realized. Now comes ensuring food access to the ability of households in any either circumstances. Hence the next question is to ask what happens to food security.

The analysis presented under this section is based on the 2100 kcl minimum nutritional requirement recommended for Ethiopia which is equivalent with 225 kg. of cereals/person/annum. This amount is assumed to be equally applied to the region. According to the table, domestic food production supply was only to cover 62% and 66.3% of the minimum nutritional requirements on the average respectively. In the three consecutive production periods shown in the table, the drought prone areas in the region never exceeded to cover 75% of their needs even in the normal cropping year 1996/97. High level of imports mainly in the form of food aids have been exhibited in the table. The food insecurity ,though, seems to be improving in the table, strenuous endeavour need to be exerted than the present level which otherwise undoubtedly signifies the seriousness of the problem. Here, the food supply side is only taken as the appropriate way of determining the level of magnitude of food insecurity in the region. Determining the level of food insecurity from the point view income becomes very difficult due to lack of information.

The food insecure are always the peasants and poor who lack the ability to acquire food either by producing themselves or have the income to purchase it. In our context, the rural poor and landless farmers are the food insecure people and estimated to be about 2466742 households. This accounts around 36% of the total population of the drought prone weredas. The severity of the problem varies by worda. This is shown in the map next page.

CCRDA

2.3. The poor year situation case study

The case study made by sef UK in North wollo and waghimra shows that the poor households don't meet their household needs upto 35%. The details are shown on tables 4 & 5. The conclusion which emerge from the study were the following:

- For the rich and middle class residents of the lowland and highland drought phorn woredas:
  - *Crop purchase is very important source of food, hence marketing aspects of food is very important.*
  - *Livestock is a source of income and wealth, and source of employment* for the poor.
- For the poor / very poor households
  - Labor exchange is very useful source of income and livelihood.
  - Migratory labor is a major source of income for poor householders
  - In case of Waghimra poor households makes most of their income from trade (salt trade).
- For middle class:
  - Petty trade is important source of income and hence non form income opportunities have to be expanded.
  - The poor is excluded from the market in Wag due to low capacity of purchasing power indicating a need for subsided food price package. However, purchase amounts 20-40% for the poor households in North Wollo.

CRDA

	Wagehimra-Low land						North welo- High land						
	Deficit	Purchase	Labor exchange	Milk Meat	Wild fruit	Crops	Deficit	Purchase	Labor	Milk Meat	Wild furit	Crops	Loan 9.7
Wealth groups													
V/ Poor	15-35	0	30-35	-	0-10	25-40		20-40	25-30			30-35	
Poor	15-25	5-7	20-25	0-5	0-5	40-55		5-20				20-40	
Medium	-	15-20	15-20	5-15	0-5	45-55		45-55		5-10		40-50	
Rich	0	15-20	0	20-30	0	55-65		40-50		10-20		35-45	

Source:_ SCF UK: Fooded economy Analysis ;Tekeze lowlands and North wollo High lands.

Notes * - With Relief

CRDA

North Wolo Waghimra

	Wealth class			Wealth class		
Source of income %	Poor	Middle	Rich	Poor	Middle	Rich
Petty trade	5-10	40-50		45-50	50-55	10-15
Cash crops	0-10	5-10	10-15			
Migration	60-70					
Straw or Crops	5-10					
Local labor	0-15					
Live stock production		5-10	10-15			0-5
Livestock		40-50	40-45	10-15	25-30	55-60
Crop sales		5-10	10-20	5-10	5-10	25-30
Donkey hire/trade			15-20			
Other				30-35	10-15	

ARDO

2.4.Vulnerability of peasants and coping mechanisms

People have different coping mechanisms in their respective environment in the prevalence of drought which determines the vulnerability of the peasants to famine. It is now recognized that there is a valuable and practical knowledge can contribute significantly to rural development efforts in general, and to food crises prevention in particular. It is obvious that there could be numerous communities knowledge towards mitigating the vulnerability of peasants and ,therefore, we would like to state some of the practical knowledge prevailing.

- ***Diversified cropping practices and animal rearing***

Due to variations in agro-climatic conditions, peasants grow different types of crops. The diversified cropping practices is an important element in famine coping mechanism of the peasants. The grain growers are endowed with different types of crops which can be planted at different times of the year. If some of the crops grown fail to perform good, then the succeeding crops can take their place. Root crops by their nature are drought resistant and those who grow and depend on such crops have better chance to survive the bad years. The cash crops are also important sources of income to purchase food in the market. Peasants who mainly depend on their livestock both as direct sources of food as well as cash for purchasing grain from the market have better chances of survival. Therefore, the higher the diversity of the crops grown, the lesser the vulnerability of the peasants to drought effects in general.

- ***Migratory labor***

In earlier times, the problem of peasants immobility from place to place could be a factor that increases land degradation and, therefore, the vulnerability of peasants to famine. But in late years large numbers of peasants used to make annual trips to the coffee producing areas of the country during the picking season. This provided them not only with sufficient income to live on but also enabled them to leave their marginal lands fallow for short period of time. Moreover, many peasants after several years of trips may got a chance to settle thus relieving the population pressure on the land in their home areas. For details please refer to figure showing the migration route of poor and ladles farmers.

CCRDA

- ***Off-farm activities***

Many peasants try to avoid transitory vulnerability to famine by leaving agriculture for a period of time or completely engaged in different non-farm activities. Engagement in petty trade or full-time commerce, handicrafts and other rural activities such as beer making could be the rural communities knowledge to ease the drought effects. Many who still invest in rural economy such as livestock merchants and other activities actually become tolerant of the problem. Households who own beehives earn significant amount of income which enables them to withstand the problem associated with drought.

- ***Accumulation of assets***

Most households in the region have the experiences of striving to accumulate assets particularly cattle, shoats, and cash as they expect these can protect them if there were to be another serious drought. This attitude ,ofcourse, would undoubtedly contribute to the significant increase in livestock holdings of the families.

- ***Exchange of labour for food***

Households who have no access to livestock products, any food deficit that it is left after the consumption of their own crops and purchasing grain should be filled by exchange of labour for food. This source comes from either from migrating to the proximity areas where both food and money can be earned or hired as shepherds to rich or better-off households where they will have all their food supplied as well as being paid in cash or kind. Female headed households would also try to fill the gap in their food requirements by increasing the amount they obtain from labor exchange. Locally, they would look for work for better-off households, grinding grain, fetching water and weeding crops.

- ***Wild foods***

Infact this source of food is not widely accustomed to households and not dependable alternative except in the lowlands of the region where poor households pick and consume wild fruits such as cactus during dry season.

CCRDA

3. Problems and constraints of food insecurity Causes for food insecurity

1. *Technological back wardens of Agricultural practices, and recurrent drought*

Recurrence and coverage of drought is increasing over time and is hindering agricultural practices. There was no any single year since 1950 where there was no drought in the Eastern part of the region. This coupled with inability of the population to develop a farming practice that suits the changing climate reinforces rural poverty. Little change in the timing or intensity of rainfall results with huge production loss. However, even in drought years there is adequate rain water to farming, if we had had developed appropriate farming practice. Hence drought is major constraint in long term scenarios. The problem is not the drought itself but the inability of existing institutions to develop appropriate farming systems/ technology which is adaptable to existing realty and potential of these zones.

The attention given to innovative practices in former regimes and the treacherous war which prevailed in that era, in the past has aggravated the problem. The problem related with developing farming shall be seen in detail as follows:

Research

Agricultural research undertakings and especially the efforts made in arid zone agricultural research are very limited. Agricultural research which aimed at changing the agronomic practices according to the changing environment was not conducted.

Efforts are being undertaken to develop new varieties of seed, but it was very scarcely possible to develop new drought resistant varieties within a short period of time. The efforts made to share experiences from well developed arid zone agricultural systems outside Ethiopia was very limited, Research efforts to develop new agronomic practices and technologies is lacking. If it was possible to develop a new technology which requires less draught power or which depends on alternative energy, then farmers could have a possibility to farm grazing lands, improve milk production and require less residuals for cattle feed. Generally the agricultural technology or practice in not appropriate and sustainable to the changing climate and the number of

CCRDA

research undertakings, scope of these studies and the outputs so far were not adequate enough to change agriculture. As the result of this it is in frequent crisis.

Presently there is no any research institute which represents low land agriculture. Research in farming technique, conservation methods and forestry (which have very useful impact on food security) are absent.

The time required for improved seed production is very long and hence alternatives have to be looked at. This includes seed imports, selection of traditional seeds, shorting the seed release bureaucracy, etc. Besides production and collection the seed distribution system has to be improved.

Extension

Extension service is a recent phenomena for the eastern woreda's population. Existing extension packages were not designed for a drought prone woredas.

Farmers mention their interest to use fertilizes , improved seed and other similar inputs but they also mention:

- *The price is too high*
- *The supply system is not reliable*
- *The inputs are taken by flood in draught porn zones*
- *Lack of input credit, to*
- *Improved varieties are very susceptible to drought and brings more loss than the local variety.*

The extension system have to solve all these problems. The extension worker is not very much acquainted with arid zone agricultural technologies. As a result they have no better information for the farmer. This necessitates to design a specialized DA training for arid zone agriculture. Agricultural practice existing in the region and out side the region has to be studied in depth.

CCRDA

2. Inability to use water resource for Agricultural Purpose

The region has vast surface water irrigation potential out of which presently insignificant proportion is used for economic purpose. The ground water is additional source of irrigation. A study made about Kobo Girana valley shows that ground water gave 1-5 times more potential for irrigation than surface water potential. It was also found cheaper than surface water irrigation. Out of 107 hand dug wel constructed in 1996/97 E.C only 4 were unproductive. All others yield sufficient water at an average depth of 10m. But efforts made to use this water as potential source of irrigated agriculture is limited.

Traditional irrigation practices are growing. But the efforts made to increase area coverage and productivity of this section doesn't get due consideration.

Spate irrigation is practiced in Kobo and WAGEHIMRA zones, experiences were not dis-simated to other woredas.

Complete absence of rainfall is not common even in most areas which are severely affected by drought. We say there is drought when onset of rain fall is let, or there is a time gap in the middle or if it stops early in the season. Technological innovation to cope with all these abnormalities (drought) are not studied in detaile and means to increase production given these all abnormalities is not developed.

Generally there is drought. The climate has changed. Hence if we think agriculture we have to see it in the light of changing environment. There are appropriate means to conserve water, use ground water, help expand traditional irrigation diversify the economy . To this end there needs to be a major change in irrigation practices of the region which includes the following:

i. Change in methodology and approach of irrigation

Up to this time efforts were concentrating on small scale irrigation such as earth dams and diversion schemes which were designed, studied and implemented by government or if there is participation it was limited in mobilizing labor from the community as a result traditional irrigation practices were ignored. In the future the Regional food security policy has demonstrated the need:

GCRDA

- *To concentrate on traditional irrigation*
- *Exploit the ground water*
- *Promote moisture conserving practices and household rain water harvesting systems*

ii. Technical capacity building

In the long run all possible water sources have to be used in irrigation. To this end technical capacity for design, construction and management of large scale irrigation has to be developed.

The capacity of existing institutions to change human resource into capital is very limited. The capacity for machinery maintenance and management is quite low. These problems have to be solved.

The second problem relates to the participation of the private sector in irrigation development. The private sector has never invested in irrigation development. Large scale irrigation can never be thought within the frame work of peasant agriculture . The relation between productive forces and productive relation can be sustainable if they can match. Modalities have to be worked out to create this system.

Integrated valley development in these zones of the region can act as a pool factor. This can intern reduce concentration of population on highlands. This has to be seen where there is possibility.

CCRDA

3. Poor Agronomic practices

The agronomic practice of the region is quite under developed . The varieties in use, the plough method and input use are quite in appropriate for the deteriorating Natural conditions. Recent trials in agricultural extension shows that by:-

- ⇒ *Altering the farming practice*
- ⇒ *Introducing high yielding and short maturing crop varieties*
- ⇒ *Increasing fertilizer application and*
- ⇒ *Reducing the pre harvest loses by pests productivity can be enhanced*

This necessitates the need for intensified agricultural extension in drought prone zones. This include input supply package, training and capacity building of technical departments relevant to food security measures and research.

Factors which inhabit fertilizer application such as unavailability of credit, supply constraints and transportation means need to be solved.

4. Natural resource degradation

The level of and decline in agricultural production are highly influenced by soil degradation. It is estimated that soil erosion rate for the high lands of Ethiopia amounts 42t/ha and year on average. However , some information from soil conservation research shows that single soil loss events can be as high as 260t/ha.

Soil erosion is further exacerbated by land use practices resulting in soil mining and distraction of the soil structure. The burning of dung for fuel is estimated to cause huge reduction in the level of grain production. Millions of hectares of grazing land is being distroyed by erosion.

Large scale soil and water conservation efforts have been started in the last five years. But due to low quality of physical measures, absence of well organized land use guidelines, land protection guidelines and lack of maintenance to the conservation undertakings, impacts are very minimal.

CCRDA

Deforestation is one factor for erosion. High population pressure has led farmers to use very steep slops into farming. Due to this much land has been wasted as non-recoverable the gap between the demand and supply of forest products is very high. Most farmers mention that forests resources are useful as sources of fuel, construction , for bee keeping and forage production.

Farmer and professional identifies ownership as a core problem for forest development. Because of this they propose a change in the present reforestation practices. This includes:

- *Mountainous and non-productive lands shall be distributed to individuals, group of farmers and private investors.*
- *create more sense of ownership in forest production.*
- *Government, NGO's and interested parties shall be encouraged to allowed to undertake large scale reforestation.*

The present forestry practice doesn't integrate reforestation with food security. Production and forestry, livestock and forestry, Apiary and forestry etc. needs to be integrated. There is no forestry research undertaking in the region. Like crops drought resistant economical and environmentally acceptable varieties of seedling need to be developed in research.

In the new food security policy farmers, private individuals and groups will be allowed to reforest hill sides . The private investor will be also encouraged to participate in reforestation.

CCRDA

5. Pest attack

Some 475 thousand hectare of land is annually devastated by pest. From this some 665'000 Qt production is lost This covers 51% of total crop loss in the region. Beside pests, parasitic weeds such as striga and congress weed Birds cause much crop loss. Studies show that striga is becaming a serious problem to drought prone zones.

6. Absence of non farm income opportunities

Due to lack of non farm income opportunities farmers are increasingly become dependent on crop farming. This has created a pressure on land. Those who presently undertook the job lacks support in terms of training, credit and hand tools. Diversification of the rural economy will allow an increased opportunities for women.. Available information indicates that women are more involved in non farm activities than male counter parts.

Training, credit and appropriate technology development are the three integrated aspect to be dealt with non farm employment promotion.

CCRDA

7. Problems related with the livestock economy:

Due to feed problems the productivity of existing livestock is quite low than achievable. Besides Genetic problems and disease outbreak undermines the contribution of livestock to food security. Efforts to revitalize the role of poultry and apiary as additional food and income source is small. Integrating livestock with forestry has to be looked at.

8. Population pressure and access to social service.

One evident problem behind the food security issue is population problem. The project area is over populated.

Access to basic health service is 37.2% and enrollment in education 24% low access to health services, family planning and education are factors behind population pressure and concentration in rural area.

Education and training will widen opportunities outside the farming business. Unfortunately most of the rural people are not educated and hence have to turn back to their forefathers business: agriculture

Increasing availability of health facilities, family planning services, and education and training will help to stabilize population, increase income earning opportunities out side agriculture and hence reinforce the food security.

Gender inequality is deeply ingrained in rural societies early marriage is one major problem through out the region. Girls are forced into sexual relations, pregnancy and child birth before their own physical and psychological development is completed. Complications during pregnancy and child birth are therefore frequent and lead to high rate of maternal mortality and infant mortality. Low status of women in the rural areas is one factor behind food insecurity.

CCRDA

9. Rural marketing and credit problems

The massive dominance of the subsistence activity has limited diversification. But with in the given productive forces, there can emerge many possibilities for the development of diversification and economic growth. Markets can play vital role in this regard. Unfortunately there only few markets in drought porne food secure rural words.

This low densities of markets is influenced by the settlement system and road net works. The density of road is very low as compared to many developing countries. The subsistence mentality of farmers, poor road net works, low density of markets has heavily influenced the terms of trade for rural producers. Price level of basic industrial good and inputs and high transportation costs in accessing local markets is high, thus influencing the investment behavior of farmers. Rural service centers which can communicate the rural farmers with the large regional and national markets are badly required. Absence of these local service centers is also impediments for diversification and development of non farm income earning opportunities.

In most woredas the formal finical market is lacking. Due to this farmers are completely dependent on informal financial market. This sector usually provides small scale loans which are not sufficient for input purchase. Because of this input purchase unknown to this farmers.

Recently a local credit and saving institute is emerging. This institute will certainly quench the thirst of small farmers.

Problem of marketing and credit shall be seen very broadly since it affects many aspects of production and consumption. Farmers need cash income to meet certain social and economical obligations. To meet this financial demand they will sell part of the crop produce during harvesting time. Unfortunately this is the time when most farmers have enough stock and small surplus to sell during some favorable years. Limited market means less demand, in a harvesting period will dump prices. During poor years most farmers are ready to sell some of their herds and buy grain, again dumping the price of livestock. Hence the market system is working at the disadvantage of the poor farmers. No food security measure will be successful with out improving the marketing system. Take another example of vegetable growers in rural area. neither neighboring farmers have the capacity to buy and consume it nor there are markets to sell it. Nor were there any mechanism to get inputs on credit basis. production only for household use may be very much uneconomical in the eye of the house hold using such

CCRDA

as hand dug wells. Hence lack of markets has limited the possibility of innovation in agricultural practices. Rural market development shall be seen as a means for further diversification and intensification of agriculture.

Rural service center development, improving road net works, Farmers owned marketing institutions and adequate and efficient credit system will contribute for the attainment of food security objectives.

4. Policy Frame Work

The Region's five year development plan is the basis for analyzing the regional state's development policies and strategies. The document clearly states the objectives and sets specified targets to be attained at the end of the planning period.

4.1. THE AMHARA REGIONAL STATE (DEVEELOPMENT OBJECTIVES AND STRATEGIES)

Economic and political objectives of the region are stated as follows:

a) ***Economic objectives***

1. *Develop the economic and social sectors of the region in order to produce sufficient food and general employment opportunities for the fast growing population.*
2. *Device a suitable economic program to withstand the recurrent drought.*
3. *To create a favorable condition for each citizens of the region to material there personality*
4. *Bring a balanced development capability between woredas and nationalities.*

CCRDA

b) ***Political Objectives***

1. To secure peace

1.1. establish strong and long lasting peaceful atmosphere in Amhara Regional state and neighboring regional states to love in unity and equality.

1.2. Establish place and stability in the ANRS and to secure this objective build a strong institutional base4 especially an police and security force

1.3. Organize the population of the Region to play the leading role in the attainment of place and stability of the region.

2. To secure democracy

2.1 Establish a broad based democratic forum of the Amhara People /nation and nationalities to fully exercise their democratic rights directly in the political, social and economic developments of the region

2.2 enable all nation and nationalities living in ANRS exercise their right of self determination and strengthen their unity and Coexistence

2.3 Organize and motivate the Amhara people to actively participate and contribute in the country's development endeavor

2.4 Build effective democratic insinuations.

4.2 General development Strategies of the region

The region follows conservation based agricultural industrialization strategy. This strategy is further looked down according to the spatial potentials and constraints.

Conservation based agricultural led industrialization strategy gives priority for:

- *Agricultural development*
- *rural infrastructure specially rural rood , health, education and rural market facilities*
- *manpower development and capacity building to lower level executives*
- *Participation of the popular mass*

CRDA

The five year planning document has specifically mentioned 8 strategies to be followed by the region as follows:

1. *follow conservation based agricultural development led industrialization*
2. *Increase production in areas with sufficient rainfall by distributing inputs: credits and expanding extension*
3. *In drought phone areas production and income will be increased through*
    a) *small scale irrigation*
    b) *improved supply fertilizer, drought resistant seeds credit and extension side by side*
    c) *enhanced Natural conservation and reforestation effort's &*
    d) *creation of income generating activities.*
4. *improve rural infrastructure such as road, water supply and rural marketing to enhance agricultural productivity and rural investment*
5. *Create favorable condition for small scale industry, commerce and marketing to effectively use farmers increased production.*
6. *Launch short and medium term human resource development programs to overcome the shortage of skilled manpower.*
7. *encourage the broad participation of the people in all development undertakings from its inception to its attainment*
8. *create favorable condition for private investors.*

4.3. Sectoral Policies and strategies

1. ***Agriculture***

The objective of the five year agricultural development are

- *produce enough food, income and job opportunities for the fastly growing population*
- *Produce enough quantity and quality of industrial raw materials*
- *Rehabilitate and conserve the natural environment*
- *Elevate agriculture gradually from rain dependency*
- *Be a source of savings for investment.*

CCRDA

The Policies and strategies persuaded to achieve these objectives are described bellow

1.1 Crop farming

A spatial approach was adapted in setting priorities strategies and policies to achieve these goals. Accordingly the region was classified into three agronomic zones, namely,

- *Areas with sufficient rain and surplus production*
- *low rainfall an drought phone areas, and*
- *high productive potential areas /low lands/*

Increased production was expected to be achieved on surplus production areas by:

- *Increasing land under cultivation*
- *Improving the supply and distribution fertilizer and selected seeds*
- *expanding participatory extension systems and packages*
- *Strengthening rural credit facilities for farmers to boost their purchasing power of agricultural inputs*
- *Strengthening the role of research centers*
- *Reducing the per and post harvest loss*

The main objective in the high yielding potential areas was to enhance private investment in cash crop production for export and Industrial raw material. Production policies persuaded in these areas are:

- *enhance private investment*
- *make land use planning*
- *promote local food processing*
- *construct and maintain infrastructure facilities (road, health etc.)*

GCPDA

In low rainfall and drought phone areas agricultural objectives were expected to be materialized through

- *Improving supply fertilizer application*
- *Improving supply of drought resistant seed varieties*
- *improving access to credit services*
- *improving agricultural irrigation (in the long-term)*
- *Reducing the pre and post harvest loss*
- *Enhancing agricultural extension based on water harvesting techniques*

1.2 Conservation

The state's commitment to follow conservation based agricultural development led industrialization shows the highest priority given to conservation.

The regional government has adopted a regional conservation strategy. This strategy paper gives at most importance for soil and water conservation effort. Terracing and area closure are seen as major methods of conservation. The new food security program document views conservation as one component for improving production. In this paper the following were indicated

- *diversifying the methods of conservation*
- *Increasing the quality of conservation works*
- *make individual farmers accountable for the physical works constructed on their farm for maintenance and management*
- *Extensive training for farmers and DA'S in conservation methods.*

1.3 Livestock

The livestock development plan concentrates on solving the three interlined problems of animal husbandry. These are the feed constraint, the health constraint and the genetic problems. The strategies persuaded to solve these problems are the following

CORDA

Livestock Feed:

- *enhance the quality and quantity of feed by allocating sites for grazing, reproducing improved animal feed using various methods*
- *improve extension services to farmers*

Livestock health

- *extend livestock health coverage to 62% & improve vaccination coverage*
- *improve the supply of veterinary equipment, medicine and personnel*

Livestock genetic

In this sphere emphasis was given for:

- *enhance productivity of local cows by artificial insemination*
- *Preserve and improve indigenous breeds*

1. 4 Fishery :

The directions needed to use fishery resources effectively. These includes:

- *organize and strengthen commercial producers so as to ensure sustainable market opportunities which*
- *increasing outputs*
- *encourage private investment in the field.*
- *Undertake training programs to upgrade entrepreneur skills*
- *carry out research to elevate the capacity of producers*
- *ensure easy access to necessary production implements*
- *expand transportation and distribution network*
- *provide training for provision of new technologies in the area to be widely adopted by the commercial fisheries; and*
- *develop the fish consumption habits of the people*

CCRDA

1. 5 Reforestation

The demand for forest output has long supposed its supply deforestation is treating every part of the region. To reverse this situation the regional government has adopted the following decisions:

- *Encourage individual plantation around homestead and back yard plantation (by distributing free /or subsided seeding/*
- *encourage community forestry*
- *Maintain existing government and natural forest areas*
- *Reproduce improved seed species*
- *encourage NGO and private investors to undertake reforestation on commercial scales. The policy document mention.*

On its five year development plan the state indicates its readiness to redistribute mountain areas for reforestation for NGO, group of farmers and individuals. The recent food security strategy plainly describes the importance of civil societies group farmers, individual investors and the various government institutes in reforestation. According to this paper all interested parties will be encouraged to participate in reforestation programs.

Agro forestry is very much encourage in the new food security initiative According to the food security program, Forestry shall be seen, not only, in terms of conservation, but also in terms of producing income and lively hood for the rural people.

2. *Irrigation*

The regional government views irrigation as a lever from frequent drought hazards. Because of this highest priority was given to it. The irrigation policy was driven by the following principles.

- ***Participation:*** *beneficiary farmers have to construct and manage irrigation projects during construction and after words WUA is to be established for operation and management of irrigation schemes.*

CCRDA

- ***Area development***: *irrigation system shall not be dependent on single water source but shall explore various source (rain, river, ground etc.), simultaneous to develop the area*

- ***Small scale:*** *The irrigation to be developed shall be mainly small scale*

  Small scale means..... ha (please include the definition's)

- ***Labor intensive:*** *capital is a scarce factor, labor is abundant factor. If the scheme is participatory and requires beneficiary contribution, it shall be labor intensive*

- ***Land redistribution:*** *Farmers, through dialogue among themselves, are providing land for irrigation infrastructure, to accommodate displaced farmers and as many as possible new entrants, land redistribution is thought as the out set*

- ***Catchment treatment:*** *Before a head work is constructed the Catchment has to be treated*

- ***Capacity building:*** *Both the implementing agency and farmers capacity building was considered instrumental for irrigation development.*

The new policy on food security views irrigation not as the only means for food security, but as a supporting effort to achieve food security. In this policy paper emphasize is given to support traditional system such as spate irrigation and low cost irrigation interventions such as exploitation of the ground water. Water harvesting using traditional means was given most prominent place.

CCRDA

3. ***Health and environmental sanitation***

The preventive health policy of the regional government emphasis on promoting

- *environmental sanitation*
- *Health education*
- *potable water supply*
- *improved nutrition*
- *adequate health infrastructure to increase primary and medium level health coverage and make the service socially broad based.*
- *mother and child services*
- *Training of personnel based on the preventive and curative needs of the society.*

Related with irrigation the preventive health policy gives most important weights for malaria control and environmental sanitation.

The regional government has indicated its determination to supply 32% of its population with potable water. Hound dug wells, and spring development is expected to be.

CCRDA

4. ***Education***

- *increase the enrollment rate of primary school age population and make primary education socially broad based*
- *ground the primary education to be development oriented and problem solving*
- *Enable minority nationalities to have their primary school in their mother tongue*
- *establish a secondary educational curriculum of a quality and standard that will lay a strong foundation for higher education*
- *expand secondary education as necessary strength the existing regional and vocational institutes to meet the future demand for skilled manpower*
- *strengthen the teacher training and the higher education institutes to enable them to produce competent and equalized professionals*

5. ***Commerce and finance***

objectives of commerce and finance

- *promote equitable agricultural marketing for farmers*
- *stabilized input supply promote sustainable*
- *continuous, diversified and small farmers centered credit service*
- *mobility savages from petty commodity sector and redirect this savings into investment*
- *capital accumulation for industrial development*
- *strengthen regional income circuit*
- *promote well structured agricultural marketing*

Strategies

- *promote rural service cooperative relatives based on demand and interest of farmers, create a condition through which these co-operatives are translated to commercial institute*
- *make most government purchases inside the region*
- *promote small credit and saving institutes by government non government private and co-operatives individually or in partnership*
- *lead urban development with strategies*

CCRDA

- *increase road infrastructure*

5. The Integrated food security project

5.1 Objectives of the Project

The overall objective of the food security program is to ensure food security within 5 to 7 years for a population of 2.5 million residing in 47 drought prone and chronically food insecure woredas through the following integrated strategies:

1. *Increase agricultural production and productivity sustainable at the house hold level;*
2. *Create diversified and growing employment and income opportunities in rural areas;*
3. *Build the human and institutional capital available to the project woredas;*
4. *Introduce sustainable land husbandry practices;*
5. *Strengthen Rural marketing and credit service available to the rural people;*

5.2 Location

The project will be implemented in 47 drought prone woredas which are found in Waghimra, North Wello, North Gonder, North Shewa, South Wello , North Wollo and East Gojjam zones. The population of these woreda is estimated to be 6.2 million

5.3 Beneficiaries

5.3.1. Resource poor farmers and vulnerable house holds.

Three year average figure of vulnerability shows that 1.7 million people are frequently affected by food shortages even in normal year. In the worst year beneficiaries may increase to 2.5 million . The program is aimed at the resource poor and very vulnerable 2.5 million rural and urban population. The

identification of specific inputs and demands will be made by participatory systems at the woreda and kebele level during action plan preparation.

5.3.2. Rural and urban population who don't have access to basic social infrastructure.

Potable water supply, access and feeder road construction and small urban center development activities and family planning service will benefit the whole population in the woreda.

5.3.3. Technical department staff and civil societies.

Support and training will be provided for technical departments. Civil societies such as women's group, farmers and young associations will be supported to enable them participate in reforestation and conservation activities. As the result of this support service rendering capacities of the woreda technical departments and civil societies will be strengthen.

5.3.4. The private sector

The private sector will be beneficiary of the program. Provision of certain services, undertaking of various buildings and construction works, information through the marketing program and training in the entrepreneurial skill training will directly benefit the private sector.

The program will also benefit the private sector through the possibilities it create for more purchasing power and investments on road infrastructure.

CCRDA

6. Description Of program components (out puts)

6.1. Increase production and productivity on a household level

The dominant economic activity in the project area is agriculture: outside towns nearly all of the population is engaged in subsistence agricultural activity. The farming system can be characterized as rain fed, small-scale, subsistence oriented and family based. A major characteristics of the highly adopted farming system is a very low integration in a larger economic system. Very few modification have yet been made to the traditional, extensive farming system.

The subsistence orientation of the farming system limits cash crop production. Most of the house hold production is used for consumption. If the need for cash arises small ruminants are sold. The extremely subsistence orientation of the farming system in the project area is determined by lack of possibilities for integration into wider market economy (eg. absence of markets, roads, etc.) and by the pre- EPRDF policies which tax farmers on kind.

The second characteristics of the farming system is its combination of crop production and livestock keeping. This is an important household strategy to minimize risks and to take best advantage of the diverse ecological conditions. In times of good harvest crop production meets most food needs while livestock represents a possibility of accumulating reserves or wealth. Combination of livestock and crop production becomes very important in times of stress - eg. in times of inadequate yields - selling of livestock is in such a situations often the only possibility to get cash to buy grain.

The livestock has significant roles in maintaining the dynamism of the rural economy. Every farming family needs a pair of oxen for ploughing. Land is redistributed fairly equal in recent years, the main criterion for wealth differentiation with in the community is ownership of oxen. The availability of oxen has direct implication on income and wealth of a family. Poor farmers who don't have an ox often rent part of their land on the basis of share cropping which is usually up to 50%. Poor and average farmers, therefore all kept in the poverty trap which is directly linked to ownership of oxen.

CCRDA

Livestock is a source of food, in terms of meat, milk, egg etc. and potential income in times of crisis. They can be easily sold to buy grain, although prices collapse in times of famine because all farmers apply the same strategy. An over supply of sheep and goats results in falling prices while grain prices are increasing.

Table : Scf (UK)

Livestock is a basic means of transportation in these areas - people as well as goods are transported on donkeys, mules or horses - ownership of pack animal is an additional source of income either through trading or renting to others. It is also source of energy for ploughing.

The major problems of the mixed farming system is low production and productivity caused by numerous factors. To increase production, productivity and income from agricultural activities the following three sub components are envisaged:

6.1.1 improve crop production practices

6.1.2 improve livestock development practices

6.1.3 improve agricultural irrigation practices

Hence this program will have inter linked program components to increase household production and productivity on a sustainable base.

CCRDA

6.1.1. **An improved and sustainable crop production intervention**

I. situation analysis

The region is highly dependent on crop farming which constitute about 80% of the farmers annual incomes. Though crop farming is the dominant occupation the productivity is remaining very low and its attribution to the house hold income is diminishing from tine to time especially in the drought prone areas of the region, which led to food insecure conditions.

In order to alleviate the problems of food insecure people in the drought prone woredas of the region, implementing on integrated food security

program came to an obligatory response to the prevailing calamity at present and in the future.

Crop production in these areas of the region, is largely influenced by the late onset, early outset and erratic nature of rain fall in addition to the existing low and back ward levels of farming practices, poor existing infrastructures and an ever increasing loss of natural resource bases as relatively compared to the remaining parts of the region.

To improve the existing poor, unreliable crop production and Insecure food supply situation in the drought prone 47 woredas of the region; assessments of the existing potentials and based upon the inherent climatic and weather conditions; development of multiplication and local input inclusive crop production interventions that can enable to improve the existing insecure food supply status has to come in to operation. For this purpose an improved and sustainable crop production component is designed, so that the present highly marginalized situation can be improved after the implementation of this component which can be realized through the strengthening of the extension services and development of appropriate(area related) extension packages on an integrated manner.

CCRDA

Major Problems of Crop Production

1. *Climatic factors*
   - *Poor rainfall distribution*
   - *Drought*
   - *Flood and hail*
2. *Topographic factors*
   - *Big areas are covered by hills and mountains*
   - *Flat areas are often exposed to flooding*
   - *More than 50% of the area have slopes of 73%*
3. *Pest and diseases occurrences*
   - *High infestation of insect pests both under field and storage conditions*
   - *High infestation of parasitic weeds*
   - *Lack of supply of crop protection inputs*
4. *Socio economic factors*
   - *Low capacity of capital investment*

- *Shortage of draught power*
- *Shortage of grazing and farm lands*
- *Absence of limited credit facilities*
- *Food shortage*
- *Poor infrastructure networks especially roads*

5. *Technological factors*
   - *Low to nil access to improved technologies*
   - *Improved technologies are not adequately demonstrated for promotion and adoption*
   - *Lack of improved crop varieties and post harvest technologies*
6. *Institutional factors*
   - *Poor extension services due to lack of transport facilities, in a adequate budget, trained and experienced manpower especially development agents.*

ii. Objective of the component

The major objective of the crop production component is to increase the production and productivity of 400 thousand farming households on a sustainable basis so that an improved food security status could be realized.

This can be achieved through:

- *Assessing and developing the exiting potential resources and under taking supporting improved intervention components of crop production.*
- *Practicing environment friendly and natural resources conservation oriented crop production systems.*
- *Capacity building of farming communities and relevant institutions of the drought prone area in particular and the region in general etc.*

CCRDA

Christian Relief & Development Association
LIBRARY
P.O.Box 5674

iii. Descriptions of the Crop production Components

The component would emphasize the development of improved crop production in sustainable and integrated approach so that food security status could be improved.

Major component outputs and /activities to be under taken:

1. *Improved and clean seed supply mechanisms established*
2. *Trials and demonstration established and existing ones supported*
3. *Moisture conserving agronomic and cultural practices improved*
4. *Variety screening and verifications conducted and demonstrated.*
5. *Meteorological stations established*
6. *Horticulture crops and coffee production developed*
7. *Sustainable and improved crop protection systems enhanced*
8. *Training's given to farmers, development agents and experts*
9. *Technical backups and supervisions given*
10. *Monitoring and evaluations conducted*

Iv. Descriptions of Sub Component out puts

6.1.1.1. Improved and clean seed supply mechanisms established

1.1 *Establishment of 40 new small scale seed cleaning stations and supporting 7 stations already established.*

The seed cleaning service will improve the productivity of crops by minimizing crop seed contamination's from weed seeds, off types and other inert materials.

CCRDA

1.2 Enhancement of informal seeds sector

It is recognized that it takes a long time for formal seed system to gain popular usage in remote rural areas, which therefore, remain deprived of improved genetic material for enhancing crop yields for long. For this, farmers have demonstrated for centuries that they know how to sustain agricultural production, even if at relatively low yield levels, through the adoption and improvement of land races by informal (farmer - to - farmer) seed exchange systems.

The project would build on this strength by training farmers, at selected locations in improved seed production, cleaning and improved storage facilities. This activity would help raise the yields of crops and contribute for improving genetic preservations.

In this regard the rich farmers have to be encouraged to take part in enhancing the informal seed multiplication and exchange tasks. They have to be supported in order to act as seed growers. Hence they can easily facilitate farmer to farmer seed exchange systems if properly addressed technically and economically.

To practice such purpose about 26,115 farmers are expected to be addressed with special supports.

1.3 Establishment of two secondary seed Multiplication centers that can serve as seed sources.

The centers will be implemented by the two research institutes in collaboration with Bureau of Agriculture, MoA and the National seed corporation. MoA will be responsible for the providing technical assistance to the region for study and supply of Basic seeds for these centers. Importing and delivery of seeds from abroad as the case may be is supposed to be handled by MoA. Selection of centers is to be accomplished by the relevant institution in the region. A consultant is to be hired to study the system set up.

ICRDA

1.4 The involvement of private sector in seed production

The private sector will be encouraged to participate in seed production by supporting them with market information's, feasibility studies and business plans for bankable projects. The following supports are expected from the program.

- *Mobilizations of the private sector through work shops seminars, exhibitions and awareness campaigns.*
- *Assistance to potential entrepreneurs in the formulation and the screening of business development proposals that are suitable for commercial bank financing .*
- *Advice on appropriate technologies*
- *Mobilizations of financial sources*

1.5 Sub component costs

Operational costs 4,265082 Birr

Investment costs 9,444000 Birr

6.1.1.2. Trials and Demonstration Sites established and supported

- *12 new trial and demonstration sites established*
- *35 existing sites supported*

Activities

Maintenance's of soil fertility practices improved

- *Assessments and development of natural fertilizer sources (farm yard mouse, compost, crop residue rhizobia bacteria spp. etc) and study of location specific rates for the deferent major crops.*
- *Study the rates of chmical fertilizers on location specific basis under the trial sites and farmer's fields.*
- *Assess the effects of both natural and chemical fertilizer on the yields of crops on Combination and sole rates so at to determine rates for the major crops of the area as under consideration.*
- *Study area related inter cropping and crop rotation practices in the given trial sites and farmer's fields.*

CGRDA

Therefor from the net results of such activities farmer and other beneficiaries can be demonstrated up on the final results and furthers production constraints minimized.

6.1.1.3. Moisture conserving agronomic and cultural practices are introduced (improved)

The major limiting factor for crop production in the drought prone areas is moisture stress. Intervention's that can help to conserve moisture helps the improvement of yields of crops. The major activities proposed in this out put are:

- *Improve the tillage practices by gearing the attitude of farmers development agents to adopt the technology of tieridging using appropriately designed tieridging implements or traditional farm implements by the inclusion of technical assistance's.*
- *Harvest surface flows to agricultural lands on manageable capacities*
- *Practice minimum tillage practices as the case might by applicable.*
- *Inter cropping practices of friendly crop combinations that do not affect crop management practices.*
- *Adjusting the periods of weeding and ploughings.*
- *Introducing location tested and suitable improved farm implements, etc.*

6.1.1.4. Conduct Variety Screening and Verifications /Testing centres/

- *Crop Varieties of different type that are released from different research centers are verified (tested) for the would be agro-eclogues in the trial sites and farmer's fields to be used in the future if they adapt.*
- *Existing farmer's varieties (land traces) with considerable characters are tested against improved agronomic and cultural practices in order to promote as an alternative seed sources for they tolerate the harsh environmental factors..*
- *Demonstrations for farmers, development agents and experts can be made on the successful varieties, for their yields, tolerances to diseases, pests, weeds, moisture stresses and other relevant limiting factors in the trial and demonstration sites before they reach to farms.*

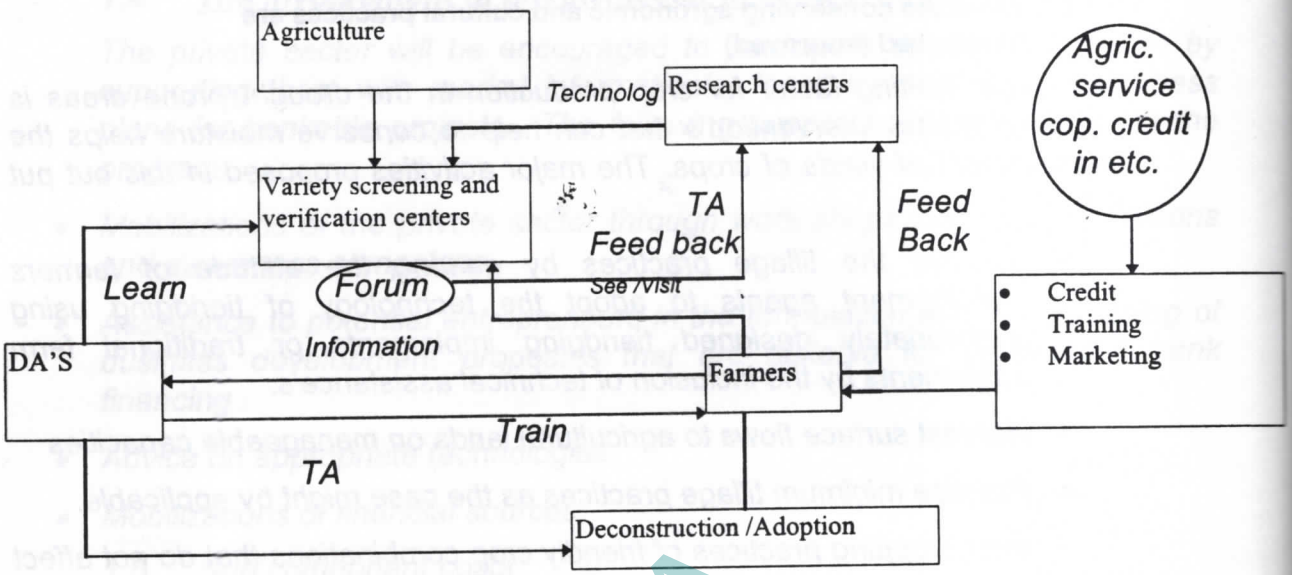
Costs of the sub components (2, 3, 4)

- *Operational costs Birr 843340.00*
- *Investment costs Birr 347620.00*

Sub total *1190960.00 Birr*

CSRDA

There centers are very use full for linking research and extension, make research problem oriented as shown in the table below.



The Idea is this:

At the screening and verification centers woreda agriculture will be at least one experienced staff (at Ba level who have close contact with research centers.

The research centers will produce technology following their normal procedures after which this will be tested and verified in these centers with close collaboration of

- *Testing and verification expert*
- *The research attendant and*
- *The DA*

The DA have no knowledge how to plant what is the problem of each new variety, what problems in may face at different stages in its growth and what packages of solutions are available to farmers. In this model the DA shall measure. Learn and follow at the verification phase make a dialogue with the research. This will build the capacity of both participant.

Farmers will be visiting the farm at maturity and will be taught how it grows. Interested farmers will be asked to participate in demonstration with close support of DA and (If the need ones the verification expert and researches.

CCRDA

The annual forum will create dialogue between all stakeholders researchers will have chances to see problems, farmers and DA'S access to new technology. Comparison of farmers out demonstration and the centers shall be discussed and answers for why questions be answered for farmers

6.1.1.5. Meteorological information stations are established at representative sites

Meteorological data being the basic instrument for the strengthening of agricultural production, the amount of rainfall, its distribution across location and seasons can be evaluated timely if the data can be made available by establishing at representative sites. These stations are expected to con tain the minimum requirement of rainfall ,maximum and minimum temperatures on daily monthly and yearly basis of the areas. This can be achieved in collaboration with the national and regional meteorology authorities. Hence 40 stations are to be established at each representing sites of the words

Sub component costs

The needed cost for 40 stations

- *Birr 112520 for purchase of equipment*
- *Birr 117340 for establishment (construction)*

Sub total 229860 Birr

Technical backups and super visions conducted at all levels for the component of crop production (1,2,3,4,5)

For all the outputs and activities indicated in the component of crop production, there will be seasonal and periodical technical backups and supervisions related to field conditions which is to be held at all levels (DA centers, WOA, ZAD and BoA). This sub component is expected to cost birr 1056000 for time of five years.

Result Assessments and Evaluations conducted periodically (1,2,3,4,5)

CGRDA

Workshops Results assessed and problems encountered are to be discussed by adjusting workshops at convenient times annually which can:

- *Indicate improvement of activity directions for the future implementation*
- *Lead to manpower and material adjustments according to new priorities to be seen (arise)*
- *Evaluations*
- *Midterm evaluations that can be conducted after certain period (years)*
- *Impact evaluations*

6.1.1.6. Horticultural crops and Coffees Development

6.1.1.6.1 Coffee

Coffee is the dominant export item of the country in addition, there is a high demand of coffee from domestic consumers. Coffee is domestically consumed through out the towns and villages of the region. Even though there are suitable areas for coffee production in our region, until recently little attention has been given for it. The demand of improved coffee seeds /seedlings from individual framers is increasing from time to time. One of the major reasons for this, is the wide spread of coffee berry disease that affects the local coffee plantation.

Coffee, being a cash crop plays a big role in individual house hold income increment.

Major activities under coffee development

- *14 nursery sites established.*
- *14 Nursery stores constructed*
- *50km nursery feeder road constructed*
- *25780 farmers trained*
- *14 woreda experts trained*
- *560 development agents trained*
- *70 supervisors trained*

Detailed cost estimates are shown at the woreda level planning costs at regional are and zonal level are estimated at Birr 2,920,554

CCRDA

6.1.1.6.2 Horticulture

Ethiopia possesses favorable conditions for the production of a wide range of horticultural crops especially of sub - tropical and tropical types. The varied climates of the country is also suitable for the production of various species

Horticultural production is carried out :

- *To produce a wide range of horticultural commodities for the internal market.*
- *To produce marketable quantities for export of a quality within corresponds with international standards*
- *To provide the processing industry with raw materials according to the demand and capacity of processing plant.*

The introduction of horticultural production includes the application of improved and intensive production methods, i.e proper field selection and lay out, efficient application of irrigation, adequate plant protection from panting to harvesting, use of improved varieties adapted to local climatic conditions, adequate application of organic and mineral fertilizer and using approved crop rotation systems.

To achieve the objectives of food security program horticultural crop plays a vital role. Major activities under horticultural crop production are the following:

- *280000 seedlings provided*
- *3460 quintals of seeds purchased*
- *300 quintals of potythentube purchased*
- *Training*
  - *100000 farmers trained*
  - *282 experts trained*
  - *1880 development agents trained*
- *300000 land tool purchased.*

All costs are indicated at the woreda level planning costs at regional level are estimated at Birr 1.55 million

6.1.1.7. Sustainable and improved crop protection systems enhanced

6.1.1.7.1 Problems in crop protection

CCRDA

a. *In adequacy of agronomic practices by the farmers like identification, selection and commendation of agronomic practice, shortage of improved storage structures and compatibility of storage structures to the farmers.*

b. *Shortage of inputs and items to develop safe and efficient delivery systems for plant protection chemicals, equipment and safety devices i.e.*

   - *Purchase of pesticides*
   - *Procurement of applicable equipment and safety devices*

c. *Lack of pest monitoring and forecasting, practices*

d. *Lack of consistent and sequentially planned crop protection patterns*

e. *Lack of full information available on the possible negative side effects of pesticide*

f. *Lack of adequate and sever shortage of manpower in crop protection services.*

g. *Lack of adequate training.*

h. *In accessibility of most of the places absence of road net works, and lack of vehicle to immediate of pest out breaks.*

6.1.1.7.2 Major Activities

- *Establishment and strengthening of pest out break forecasting sites (light and pheromone traps)*
- *Study and develop system of controlling the expansion of parasitic weeds.*
- *Addressing shortage of inputs and aims to develop safe and efficient delivery systems for plant protection chemicals, equipment's, and safety devices (purchase of field equipment & chemicals)*
- *Improving grain storage facilities of farmers individual bases.*
- *Training of experts, development agent and farmers in crop protection innovations.*
- *Technical supports and supervision to control pest outbreaks*
- *Improving and promoting traditional crop protection cultural practices of the farmers through the principle of the IPM.*

CCRDA

Project costs are indicated in the woreda level planning. Regional level costs are indicated at the table below.

-

Project Cost (Birr)

No	Activities	Unit	Qua	Unit cost	Type of cost in birr(' 000)		Total Cost A+B
					A Investment	B operation	
1	establishing and strengthening light & phermentraps	No	10	1.0	10.0	-	10.00
2	purchasing spray equipment	No	953	0.5	476.5	-	476.5
3	laboratory equipment's	L.S	-	-	150.00	-	150.00
4	Training Zonal expert	No	24	0.32		7.68	7.68
	• woreda experts	No	94	0.3		28.20	28.20
	• development agent	No	1410	0.12		169.2	169.2
	farmers	No	4700	0.09		423.0	423.0
5	Improving grain storage	No	940	0.25	-	235.0	235.0
6	Purchasing chemicals	-	-	-	-	7000.0	7000.0
7	Conducting loss assessment survey & trials (PHC)	-	-	-	-	150.00	150.00
8	Running costs for pest control	-	-	-	-	141.00	141.00
9	Purchasing motor cycles for woreda	No	47	6.0	282.0	-	282.0
	Total				918.5	8169.08	9087.58

CCRDA

6.1.2. Improve the livestock's contribution for food security

6.1.2. I. Situation analysis

Amhara National Regional state has huge number of livestock population, it is estimated that there are 8.9 million heads of cattle, 3.8 million heads of sheep; 3.7 million heads of goats; and 9.06 million chick in the region.(CSA, agricultural Sample Survey 94/95)

Livestock in the region is an essential and integral part of the overall farming systems serving as source of draught power for the large majority of the rural population, who are engaged in farming. In addition, livestock supply farming families with milk, meat, manure, transport and serve as source of cash income.

The Livestock sub-sector contributes an estimated 40% to the agricultural GDP. If draught power is included the contribution would reach 60%. In the drought affected areas of the region, the contribution is even more significant. A study conducted by SCF- UK, "Making ends meet" have showed the contribution of livestock to the house hold income in the north eastern high lands is about 63 %.

Despite, the importance of the sub-sector to the economic growth and to the self-sufficiency in food production, it is making small contribution to the regional income food production in particular and to the national income in general. To enhance the role of live stock sector there are numerous problems which includes the following:

Problems of Dairy production

- *Poor genetic potential of the local indigenous cattle.*
- *Milk production is largely based on the indigenous zebu cattle, Which are genetically low producers of milk.*
- *The level of livestock husbandry practices among farmers is poor.*
- *Feed resources are scarce over all in terms of both grazing land and improved feeding practices.*

ECRDA

- *There is a high rate of disease and mortality resulting in lack of incentive for farmers to produce more.*
- *An adequate marketing framework is absent resulting in lack of incentive for farmers to produce more.*

Major constraints in sheep and Goat production.

- *Feed shortage.*
- *Absence of organized marketing structure.*
- *High incidence of diseases.*
- *Lack of data on the productivity of local sheep and goats.*
- *Prejudice against the consumption of goat milk and meat.*
- *Rearing of a very large number of unimproved animals for social prestige.*
- *Lack of improved breeding stock for up grading the genetic potential of local sheep and goat.*
- *Traditional and unimproved management system.*
- *Lack of training in improved sheep and goat production.*

Major constraints in Poultry farming.

- *Shortage and high cost of balanced poultry feed.*
- *High incidence of disease.*
- *Low productivity of indigenous poultry.*
- *Lack of attention to poultry production.*
- *Traditional and unimproved management of poultry production.*
- *Lack of training in poultry production.*

Major constraints in natural grazing areas

- *Over grazing of the existing grazing areas.*
- *Expansion of cultivated lands.*

CCRDA

- *Disappearance of the palatable pasture species.*
- *Low forage value of the existing pasture areas.*
- *Water logging of the existing pasture areas.*
- *Poor management of the existing pasture areas.*
- *Too small to support the large livestock population.*

Major constraints in Apiculture

- *Lack of bee keeping knowledge.*
- *Lack of improved working equipment.*
- *Insecticide spray.*
- *Pest attacking.*
- *Lack of attention.*

Major constraints in equine production.

- *Lack of attention to equine production.*
- *In appropriate handling of the equines.*
- *Lack of improved breed in equines.*
- *Lack of detailed study made in equine production.*

These all problems can be categorized in to three major groups. These are the feed problem, health problem and genetic problem. Besides the neglect of small ruminants apiculture and equine is another problem.

6.1.2.2. Existing programs

To alleviate the above mentioned problem savories program support are being undertaken. these includes:

- *Provision of breeding bulls for upgrading of the indigenous animals through Artificial Insemination and natural mating.*

CCRDA

- *Promoting and supporting the livestock multiplication and breeding centers in our region.*

- *Distribution of improved animals to farmers.(improved crossbred pregnant heifer, improved rams, exotic chicken)*
  - *Distribution of improved forage seeds to farmers.*
  - *Distribution of improved forage seedlings to farmers.*
- *Training of farmers and development agents in all aspects of livestock development.*

The programs being implemented presently are basically trying to solve the root causes of livestock sector underdevelopment. However, the intensity of existing intervention is very low. Except animal health interventions all other program interventions are insignificant to bring desired effects with a medium term scenario. beside this non of the above programs are adapted to the drought prone words.

6.1.2.3. Objectives of livestock improvement component

The over all objectives of the livestock breed improvement and Animal health projects are:-

- *To improve the productivity of adapted indigenous livestock breeds inorder to improve the production and supply of animal and animal products.*
- *To alleviate the problem of food insecurity in drought affected areas and attain self- sufficiency in food production.*
- *To Match livestock breed resource to available food and management resources to maximize production and income.*
- *Lay the foundation for an extended and sustainable livestock production system in the drought affected areas of the region.*
- *To maximize livestock production and attain self sufficiency in food by eradicating and controlling animal diseases and training some members of the community in basic animal health care.*
- *To maximize the contribution of the equines, by improving the breeding activities, by feeding and health care.*

CCRDA

6.1.2.4. DETAIL FEATURES OF THE COMPONENTS.

The live stock development program will have five sub components. These are

- *The forage development sub component*
- *The livestock breeding component*
- *Apiculture development program*
- *Improvement of equine*
- *livestock health component*

Description of the major out puts are described below.

6.1.2.41 The forage development component.

1. Improving livestock feed management

The following forage development strategies are proposed

a) Improved management of communal grazing lands
b) Backyard forage production mainly from tree lucern (tagasaste) in the high lands, sesbania in the low medium altitudes
c) Under sowing vetch with maize or sorghum
d) Reinforcement of hill side closures by different herbaceous legumes, multipurpose trees and adaptable grasses
e) production of forage seeds

A Management of grazing lands

Since grazing lands are communally owned and are grazed through out the year by large number of animals, their productivity has been declining. To restore their productivity, different management techniques have to be introduced. The suggested improvement techniques should include the following actions:

- the number of animals should be restricted
- seasonal rest and grazing periods should be fixed and implemented
- alternative grazing and hay making practices should be exercised

CCRDA

- means and ways of taxation of excessive number of grazing animals should be introduced

Expected out put

- the vigour and productivity of the grasslands will be restored
- Improved livestock conditions, productivity and greater draught power will be attained
- natural vegetation cover will be maintained and overgrazing, soil erosion and land degradation will be arrested.

B. Back yard forage production

Forage production at the backyard of the farm house is an easy and quickest way of increasing livestock feed. This system does not require a wide space and the forage plants could be properly protected from any damage by unattended animals Multipurpose areas can also be planted in grass lands or in the crop fields as alley cropping. To ensure success in establishment, it is most advisable to raise seedlings in locations most convenient for distribution.

Strategy

- produce sufficient quantity of multipurpose tree seedlings as recommended.
- Train farmers on how to manage and utilize the forages for livestock feeding
- Support farmers to plant these multipurpose tree seedlings as recommended.

Output

- High quality livestock feed will be produced for critical periods of feed shortage
- The conditions and productivity of livestock will be improved.

C. under sowing /Inter cropping forages with cereals

Experience in southern and eastern part of the country shows that under sowing forage legumes in to cereals have proved successful and farmers readily accept the system because it does not interfere with the existing cropping pattern of the farm. The forage species are shown at the time of the final weeding of the main crop and because initial growth is slow the forage will not compete with the cereal crop. Since the growth of legumes is initially slow and major growth takes place offer the main cereal crop is harvested deep rooting and drought tolerant forage species are preferred.

CORDA

Strategy

- provision of vetch, lablab, cow pea and trifoium seeds
- Under sowing the above seeds with maize or sorghum after the second weeding or holing of the cereal crop.
- the feed will be protected from animals after the cereal crops harvested.

Expected out put

- High quality feed will be produced
- the feeding value of crop residues will be improved
- livestock conditions will improve

D. Forage and pasture crops seeds production strategy

- establishing forage seed multiplication with

using contract system, willing farmers will produce forage seeds

Out put

- high quality seeds of most adaptable grasses, legumes and multipurpose tree
- wide utilization of improved forage crops will be attained
- reduced soil erosion in sloppy lands as a result of planting of forages
- improved crop production when such forages are used in crop rotation.

6.1.2.42. The livestock breeding component.

The following out puts are expected in this component:

i. Strengthening the existing cattle breeding ranches.

To improve the low level of milk production from indigenous breeds or type, cross breeding work is being carried in both ranches. However, the number of crossbred heifers produced per year are few compared with the demand of the farmers. There are many constraints for this inefficiency, and these are already mentioned above.

Therefore, to alleviate the constraints and produce more heifers some strengthening of the cross and indigenous cattle breeding ranches will be

CCRDA

considered. Some of the investment areas are:- Pasture development, communication, farm machinery, development of infrastructure (spray or dipping tanks, cattle holding areas, internal and external fences and internal roads.)

ii. Strengthening the existing sheep breeding ranches.

The program will strengthen the production capacity of the existing sheep breeding ranches in the region.

The major investment required include pasture and water development perimeter and internal fencing, construction of sheep sheds, purchase of equipment, farm machinery, veterinary drugs, animals. Training of experts.

iii. Strengthening the existing poultry breeding branches.

There are two poultry breeding and multiplication centers in our region. The main objective of the centers are production of day old chicks, three month old pullets and cockerels, from improved stock to be distributed to farmers. In each centers there are vital facilities such as an incubator, a setter, brooder houses and a feed mill and mixer. Having all these the centers do not produced the required number of pullets and cockerels.

The main constraints are lack of brooder houses and lack of budget. Therefore, strengthening of poultry breeding will focus on the construction of additional brooder houses, purchase of poultry feeds, Vitamin premix, veterinary equipment and drugs and Development of infrastructure.

iv. Establishment of new sheep and goat improvement centers.

The existing sheep improvement ranches are located in North Shewa administrative zone, which focuses on Menz sheep.

But based on the previous studies made by the ministry of Agriculture there are two important sheep breeds in our region. These are the Tikur sheep

CCRDA

found in Wadla Delanta and Dangla sheep found in Agewawi zone, Dangla Weredas

In order to exploit the potential of these local breeds, one new sheep ranch and one improved goat production will be established in North Wollo zone, Wadla Delanta woreda and in kobo wereda

The major types of investment required to establish these ranches are as follows:-Construction of sheds for sheep, stores, office and residential houses. Purchase of sheep, husbandry and veterinary equipment, purchase of farm machinery.

V. Establishment of satellite Brooding centers

Establishment of satellite brooder centers in our region has many advantages. Some of these are as follows:-To ensure enough supply of pullets and cockerels, to backup extension activities in the zones, to enable the zones to be self-sufficient in pullets and cockerels and strengthening the on- going upgrading program of indigenous chickens. Furthermore, to fully utilize the existing facilities

There will be an establishment of four satellite brooder centers in our region. shewa zones. Each center will be expected to produce 10,000 pullets and cockerels each year.

The major types of investment will be construction of brooder house, purchase of brooder, poultry equipment. Other consumable items like feeds, veterinary drugs will be purchased.

CCRDA

6.1.2.43. Establishment of bee keeping training and research centre.

Apiculture plays an important roll in the cash economy of the peasantry, in the beverage requirements of the population. Specially in the drought affected areas of our region, bee keeping activities plays an important roll, where peasants get a good amount of cash by sallying honey.

However, due to lack of modern bee keeping knowledge, lack improved equipment, lack of credit, lack of improved hives, the yield per hive per season is very small compared with the improved one.

Therefore, to alleviate these constraints and enable farmers to get good yield, one bee keeping training and material producing and research center will be established. The center will train 500 farmers and 50 development agents in a year.

In addition to these, the center will perform some sort of research and trail activities in improved and traditional bee hive.

6.1.2.44. Improvement of equines.

In our region there are quite a large number of equines, which are serving as transport, draught power and as source of cash to the owner through renting and sale. However, the contribution compared with the number is low. The major reasons are low attention, low feeding and less effort done to improve the breed and health care.

To alleviate these problems, major efforts will be done to improve the breeding activities such as bridge of the horse with donkey to get mule. The other efforts will be improvement of feeding and health care.

Project Activities

The livestock breed improvement and Animal health project is designed for five years and it consists the following activities

3.1 strengthening the forage development activities.

3.2 Promoting credit for strengthening bee keeping activities and improvement of equine production.

CCRDA

3.3 *Strengthening of cattle breed improvements centers*

3.4 *Strengthening of sheep breed improvements centers*

3.5 *Strengthening of poultry breed improvement centers.*

3.6 *Establishment of new sheep and Goats improvement centers*

3.7 *Establishment of five satellite Brooder centers in four zones*

3.8 *Establishment of bee keeping training, material production and research center.*

LOCATION OF THE PROJECTS

The envisaged project are located as follows:-

- *Strengthening of existing cattle breed improvement centers are located in Andassa (West Gojjam administrative zone and Metakel in Awi zone)*
- *Strengthening of existing sheep breed improvement centers located in AmedGuya and Deber Berhane of North shewa administrative zone.*
- *Strengthening of existing poultry breed improvement centers located Kombolecha and Andassa.*
- *The newly proposed sheep and goats breed improvement centers will be located in Woldia and Kobo respectively.*
- *The new satellite brooding ceatrels will be established in North shewa, East Gojjam, North Gonder, Wag hemera and North Wollo.*
- *The newly proposed bookkeeping training and material production centers will be located [redacted].*

CCRDA

PROJECT COST SUMMERY

No	DESCRIPTION	COST	Remark
1.	Strengthening cattle breeding centers.	1,049,400	
2.	Strengthening sheep breeding centers.	578,050	
3.	Strengthening poultry breeding centers	1516,416	
4.	Establishing new sheep and goats centers.	3,073,700	
5.	Establishing new five satellite centers.	1,045,726	
6.	Establishing bee keeping center.	2460480	
7.	Supporting the existing forage development activities	505000	
8.	Fund for credit		Show in the credit document
	Total	**10,228,772**	

THE PROJECT BENEFIT AND BENEFICIARIES

The main benefit of the project is to bring a bout a genetic improvement of the local breeds and to produce genetically superior animals as much as possible and distribute to farmers. The other benefit is that mortality will be reduced and productivity of animals will increase.

The direct beneficiaries of the project and the farmers whose animal productivity in term of milk, meat, egg and honey and draught power will increase.

The increase in livestock productivity will bring an increase in food production.

ACRDA

6.1.2.5. Animal health improvement intervention

6.1.2.51. ANIMAL HEALTH SITUATION SYNOPSIS IN THE REGION

The major cause of economic losses and lowered productivity of livestock is the widespread prevalence of different diseases and parasites. Infectious diseases such as Contagious Bovine Pleuropneumonia (CBPP), Black leg, and Lumpy Skin Disease in cattle; Pest Des Petitis Ruminantus (PPR), sheep and goad pox, Contagious Caprine Pleuropneumonia (CCPP) and Pasteurellosis in small ruminants and New castle and Salmonellosis in Poultry... etc are common treats to animals production.

The biggest economic loses are incurred through ecto and endo parasitic diseases. Tick infestation is widespread and tick born diseases such as heart water and babesiosis are prevalent. In addition to their disease transmission role ticks cause incalculable damage to hides and skins. Mange is inflicting major loss of production and damage to skin of mainly goats. In the North eastern part of the region, mange is so serious that it has endangered the goat population. Endoparasitic diseases include gastro-intestinal helimenthiasis, facioliasis and lung worms, and are responsible for notable reduced productivity of livestock. In 1981 E.C in South Wollo dityocaulus led pasteurellosis has caused the loss of 50 - 60,000 sheep in 2 months period.

The direct mortality of livestock due to disease in the country including the region is generally estimated to be in the order of 8 - 10% of the cattle per annum, and 14 - 16% and 11 - 13% of the total sheep and goat flocks respectively. The national value of these direct losses would be some birr 550 million.

The debilitating effect causing losses in lives weight probably leads to an economic loss which is greater than that suffered from mortality. Diseases also affect the capacity of animals to work, a cost which cannot be quantified. Altogether, direct economic losses from animal diseases may be estimated at between birr 1.5 and 2.5 billion per annum, of which the Amhara region shares about a third of the losses.

CCRDA

Besides affecting the quantity and quality of livestock products, the prevalence of infectious and other economically important diseases seriously constrained the efforts of genetic improvement and preclude the country from attractive international markets, there by, greatly reducing the country's foreign exchange earnings.

6.1.2.52.Major Animal Health Constraints in the Project Words

a. ***Inadequate Veterinary Coverage*** *: Although commendable achievements in extending the service have been registered in recent years, curative services are not still available to the vast majority of livestock owners. As of this year only some 37% of the population is getting curative services.*

b. ***Absence of proper disease control measures and surveillance system*** *The absence of an effective and proper disease control measures has greatly enhanced the widespread dissemination of dangerous diseases. Lack of quarantine and active surveillance system has also been found to be the cause for the introduction and dissemination of new diseases from neighboring countries. The recent introduction and dissemination of PPR to all the 6 draught affected zones is a good example to be mentioned at this point in time.*

c. ***Budgetary constraints*** *: Veterinary services delivery, specially disease outbreak management activities, are seriously crippled by budgetary constraints. Very few of the disease outbreaks are managed on time mainly due to poor transport facilities and budgetary constraints.*

d. ***Lack of locally adapted animal health extension packages***.

6.1.2.53 DESCRIPTION OF THE animal health intervention sub component

In the drought affected woredas of the region, the contribution of animal agriculture to the household income of the farm families is significant. On the other hand animal farming in these areas is characterized by low productivity mainly due to health problems. Hence, to realize benefits from the sub - sector, addressing major animal health problems in the project area is indispensable. It is in this context that support to the following activities are requested.

CORDA

(1) *The project would support the expansion of veterinary coverage through construction of 47 station clinics in the drought affected woredas. Equipping and furnishing of these clinics and support to the training of 47animal health technicians who are going to man the clinics are also considered.*

(2) *Support to the two regional laboratories to carry out epidemiological and economic studies and surveys on animal diseases to generate adequate data which will be used for*

- *prioritizing diseases of importance*
- *preparing animal health extension packages*
- *planning cost effective disease control alternatives*

(3) *The project would support the implementation of control measure on some of the priority diseases identified.*

(4) *Financial support to disease outbreak management activities: As it has been noted high above, budgetary constraints in the management of disease outbreaks are major problems encountered through out the region including the project woredas. Financial support to this activities is therefore, imperative if animal health promotion is what is aimed at. From experience an average of 12,000 birr per woreda per year is considered sufficient to contain outbreaks that would occur in a year time period.*

(5) *Ensuring sustainable supply of veterinary drugs: This can be realized by using drug revolving fund scheme. The initial money for the revolving fund, 52680 Birr by woredas is considered in the support program.*

(6) *Promoting farmers participation in animal health services. This can be practical by training of farmers of better educational standard on basic concepts of diseases, their spread and means of transmission and using them as veterinary agents of the respective kebles responsible for reporting disease outbreaks. Hence, training of one farmer by PA in all the project woredas is proposed.*

(7) *Farmers often need credit to carry out animal health care. However, credit facilities for veterinary products are not available particularly in the rural areas. Revolving credit scheme is therefore, proposed until other strong credit organizations assume this responsibility.*

CRDA

6.1.2.54. PROJECT COST SUMMARY

No.	Description	Cost
1	Epidemiological and economic studies on diseases and disease surveillance	346000
2	Priority diseases control	1500000
3	Routine disease outbreak management	564000
4	Veterinary drug purchase	2475960
5	Farmers training	
6	Credit line	
7	Contingency 10%	1024594
8		
	Total	5910554

6.1.3 Irrigation and Household level rain water harvesting practices

SAERAR has on going program in irrigation development. This program has two components. This are the small scale irrigation (usually earth dam and river diversions) which are being constructed through local labour mobilization.

This approach has been found very much taxing and hence is unlikely to expand very rapidly. However, there are some projects studied and being studied which are both economically and technically feasible. This projects will be implemented.

The second type is valley development studies. Co-SAERAR has completed a feasibility study for Kobo Girana Vally Development. Various studies shows that this vally is source of employment for highlanders in North wollo. If agriculture is intensified in this vally it will enhance the food supply and security system of North wollo highlanders.

From this the irrigation component shall have at least the following sub-components:

1. **Support to traditional irrigation practices**
2. **Promot small scale irrigation systems**
3. **Implement Waja Golesha Water irrigation project**
4. **implement the Gelana and megenagna river diversion irrigation Projects**

CCRDA

6.1.3.1. Support to traditional irrigation

There are traditional and small scale irrigation practices in the region. Presently Some 50 thousand hectare of land is cultivated under traditional irrigation. The traditional irrigation system is poorly managed and organized. Farmers have technical, managerial and financial constraints to effectively utilize this irrigation potential.

Promising activities are performed by peasants in diversion and gully crossing mechanisms. The physical exercises seeing as indicated there is misuse of water and inappropriate selection of irrigated crops. Peasants are observed planting the less production Teff over the more productive cereals and vegetable crops and root crops such as onion, potato etc.

To improve agronomic practices and even the irrigation system coffee and fruit development and irrigation cropping programs are implemented currently by the regional government. These programs are constrained by budget. *Up to this date intervention of the government had entirely neglected the importance of traditional irrigation. As a result the progress in irrigation was limited. The new food security policy has given special attention for traditional irrigation. The project will make available funds for technical support, materials and training to farmers.*

Activities of these programs and related activities will get due attention. Such as:

- pond construction
- water pump installation
- construction gully crossing structures
- vegetable seed supply
- construction of small scale diversion
- maintenance of ditches
- training for farmers in irrigation agronomy
- etc.

Co-SAER will establish permanent teams which will assist traditional farmers.

The project will cover the salaries and working capital need of these design teams.

CORDA

6.1.3.2 Implement Waja Golesha Water irrigation project

It is located on both sides of Addis-Mekele road near waja township. At this stage only the highly promising aquifers are planned to be tapped. For this 63 bore holes are needed having a depth of 60 m and varying diameters, of 10 inch and 12 inches. The dependable yield from each well is 108m3/hr. The cultivable command area under this scheme is 1998 ha required pumping head is 40 m with each well operating 12 hours daily and four 200 days in a year.

The design of the ground water for irrigation is phased after determining the location, spacing and yield of discharge of the aquifer are almost balanced without causing an over draft in the area. The tube well schemes may be integrated with the canal irrigation schemes by suitably spacing them along a line between the distributor and drainage line and so designing that the subsoil water level is kept steady at a designed level. The tube well intercept the canal seepage and served as an anti water logging measure and enable the benefit of irrigation facilities to be spread to a wider area.

The introduction of improved irrigation practices thus would increase the cropping intensity to 200% and farmers would also be encouraged to use modem inputs including (fertilizers, improved seeds, chemicals and farm tools) which in-turn increase the yield of crops gradually. Four grain crops, three vegetables, three perennial fruit crops and an industrial crop (cotton) are proposed for cultivation under both rain fed and irrigation conditions. In developing cropping patterns for tube well schemes the intrinsic ability of small holder farmers, the immediate objective of food self-sufficiently and the physical and economic factors all were duly considered. At the beginning of the project year more of food and pulses crops are to be grown, at year-three and onwards more emphasis is given to the growing of high economic crops. In so doing, the estimated total crop production at furl scheme development of both ground water schemes would amount to 114772 tons of grain 667 tons of cotton and 62676 tons of vegetable and fruits.

At the same time livestock component of this irrigation project, by introducing different activities, aims to improve the present level of livestock productivity and there by increasing the income derived from animals, improve the living standard of beneficiary farmers. To this end four main development activities that integrate livestock with crop production at the home stead level have been formulated. These activities are irrigated forage development genetic

ICRDA

improvement of local cows through artificial insemination; and improved cattle and small ruminant fattening activities.

Concurrently the agro-forestry component will integrate trees with food crops in private irrigation form plots mainly to address fuel wood and construction wood shortage. Specific activities of the component include introducing multipurpose tree that can co-exist with other agricultural components on the same unit of land with their own proper lay out and adequate density; introducing appropriate management techniques such as cutting tree/shrub leaf in the right time; upgrading existing tree nurseries; and establishing private on farm tree nurseries and gradually transferring government owned nurseries to individuals and communities.

6.1.3.3 Gelana and Megenangna River diversions

Glean and Megenangna rivers are the source of water where a diversion weir is situated on each river coarse to get water out of the system to irrigate the down stream corresponding areas. It is expected to irrigate about 700 ha of from land based on the available are of water in the streams using both rivers.

Gelana diversion weir

It is located at about 12 km from Addes-woldia road through Girana village. It is localed in Gelan sub-basin on Gelana river. An ogee type weir with length of 37.6 m and hight of 1.30 m is designed. It has catchment area of 366.5 km2 and a moximaum design discharge of 369.9m3 /sec with a potential to irrigate about 500 ha.

Megenagna diversion weir

A 1.35m high weir to irrigate 200 ha is proposed downstream of Addis-Mekele road bridge south of Mersha town and lies 200 m down stream of the confluence of Eba river. Three alternative designs are proposed; two of them are glacis type with 65 M length. The scheme has a catchment area of 60.67 km2 and the maximum design flood in 425m3/sec.

CCRDA

The two projects will assure food security by increasing the cropping intensity of peasant uiltivated lands to 200% there by introducing double cropping. Hence using these diversions, four grain crops, three vegetables and three fruit crops are proposed to be grown annually in both dry and wet seasons. These are maize, tomato, onion, pepper, papaya, banana, and orange covering 21,5,16,31,4,9 and 13% of the irrigable area respectively in the dry season; and sorghum, maize, groundnut, haricot bean, pagays banana and orange covering 17,19,14,24,4,9,and 13 percent of the irrigable area respectively in the wet season. In doing so; the annual total production which was estimated at 2677 tons of cereals, 135 tons of pulses and 1511 tons of vegetables in year 1 will increase to 2600 tons of cereals, 564 tons of pulses, 7402 tons of vegetables and 3752 tons of fruit crops by years 5.

Indicative Cost summery

Costs are indicated in the woreda plan (Final part will give description of this costs). The regional level the project will make funds available for study and design activities. These costs are estimated at 10% of total cost

CCRDA

Christian Relief & Development Association
LIBRARY
P.O.Box 5674

6.3. Introduce sustainable land resource development and reforestation practices

6.3.1. Situation analysis

The Amhara National Regional State is geographically located in the North-Western part of the country between latitude 9°-13°45'N and longitude 36°-40°30'E. It covers an area of 170,752 km² with population of about 14 million. Over 90% of the population live in the rural areas. Population density is estimated at around 1 persons/ha

As a result of various geological phenomenon and geomorphic processes that took place in the past, the region enjoys varied land scopes: steep fault scarps and adjoining lowland plains in the east (an out come of the major rift system); nearly flat plateau and mountains in the center (result of the tertiary basalt), and erosion land forms in the North and elsewhere (Aboyneh, 1995). The high mountains (such as Ras Dashen, Gunna, and Choke) are formed by volcanic piles of quaternary; and the major river basins and dissected landscapes of North Wello and Gonder are caused by erosion.

Around 12 dominant soil types are identified in the region. The mountainous and degraded land scopes are covered with shallow and stony soils; the undulating and gently rolling areas are characterized by dark reddish to brown colored deep soils; depressions and flat plains are covered by black clay soils; and foothill consist of alluvial soils. The very young and shallow soils are found in the mountainous and graded landscape of the region. The soils are usually not suitable for crop cultivation. The deep and relatively fertile soils are found on the flatter plans.

The mean annual rainfall varies between 300 and 2000mm. Majority of the western part of the region are characterized as high rainfall areas exceeding 1200mm annually. The low rainfall areas are found in North Wello and Waghamra. The region experience both uni and biomodal rainfall pattern. Most parts of Wello and North Shewa are characterized by a bimodal rainfall pattern.

Mean temperature ranges from 7.5 to 25°c, however, in the high peaks of the region (Ras Dashen, Abune Yoseph, Guna, Coke) temperature could to below 7.5°c

CCRDA

The region is divided in to 10 major agro-ecological and 24 sub agro-ecological zones. Out of these three major agro-ecological zones constitute about 76% of the total area.

Eleven major land cover/land use types are identified in the region. Out of these around 56% is under cultivation; 25% is under shrub and bush land and grass land is around 12%. The high forest and wood land in the region account to less than 2%.

Agriculture is the main star of the economy. The rural population are predominantly subsistence farmers. Three types of farming systems are practiced: the seed farming complex; shifting cultivation; and the pastoral complex. The seed farming complex is predominant in the region covering around 85% of all agricultural practices (Tiringo 1995). Crops grown are mainly cereals (accounting up to 75%) followed by pulses and oil crops. Shifting cultivation is practiced mainly in the Western part of the region and is estimated to cover around 7%. Sorghum is the main food crop in the system. Maize, millet, seasme, and ground nuts are also cultivated as food crops while cotton is used as a cash crop. Pastoral complex system is reported to be practiced around Debark and Eastern part of the Region.. Around 8% of all agricultural practices comes under this system.

Despite endowment in resources, the population of the Amhara National Regional State lives in abject poverty and is food insecure. Several factors are responsible for making the region vulnerable to food insecurity. Environmental degradation and low productivity; low and erratic rainfall, poor agricultural practices, shortage of livestock feed, and population pressure are among the major factors mentioned by several studies. It has been further noted by different studies that land degradation is perhaps the most serious environmental problem calling for combative action if agricultural development and environmental rehabilitation is to take place in the region.

In the Regional context, environmental issues are primarily issues of land degradation resulting from poor land management. Among other things, poor land management includes inappropriate cutting of the forest resources and there by expose the soil surface to the forces of erosion, exploitative farming practices, the removal of animal dung and crop residues for other uses, and over grazing. At present a considerable portion of the region is seriously threatened by soil degradation. Deforestation and subsequently accelerated erosion, processes initiated and continued unabated by centuries old farming practices which pay little attention to the soil resources, are to blame for the

CCRDA

present state of soil degradation in the region. Other factors which indirectly contribute to poor land management include poverty, insecure land tenure, population growth, inappropriate policies, and weak extension and other social services. The combined effect of these has made the population vulnerable to food insecurity.

Because of favorable conditions (adequate rainfall, moderate temperature, well developed soils) there has been a steady increase in human activity in the region since long. With the concentration of population the demand for resources became very high. To meet the growing demand for food and other basic needs, more areas were cleared for cultivation. Deforestation, over cultivation, and over grazing became wide spread following increasing subsistence demand and competition for resources between various land uses.

At present a considerable portion of the region is affected by soil degradation. It is estimated that around 37 % of the region is identified as not suitable for crop production due to limiting soil depth (Teshome, 1995). These areas are located along the Abay gorge, in most parts of Wello, and in the north eastern escarpment running along the Addis - Dessie road. An erosion assessment made for the region showed that over two-third of the region suffers from moderate to very high rill and sheet erosion (Gizachew, 1995). Much of these areas are also identified as having a high potential for agricultural production with good land management. Current rate of soil erosion of the region is estimated to be around 1 billion ton every year.

Because of competition of the various land uses, area under cultivation was expanding at the expense of forest and grazing land. Thus livestock was forced to be restricted to smaller areas. Consequent to overstocking and overgrazing, the quality and quantity of livestock feed became very scarce forcing livestock to be dependent more on crop residue and aftermath grazing. The shortage of feed in the region has contributed to the low productivity of livestock despite their large number.

Shortage of wood has also forced the population to use crop residues and animal dung as a source of fire wood.

The use of crop residues and animal dung for livestock feed and fire wood has a detrimental effect on the fertility of the soil resource. The depleted soil nutrients were usually replenished through the incorporation of crop residue

and animal waste in to the soil. With the increasing use of crop residue and animal waste for other purposes, the fertility of the soil goes down very rapidly making the land less productive: On the other hand the possibility of replenishing soil nutrients with the addition of artificial fertilizer is low due to several factors.

Consequent to degradation of land, productivity of soil is reported to decline at a rate of around 2-3%. The impact of erosion induced degradation of the soil resource ranges from reducing soil depth and thereby undermining moisture holding capacity to loss of essential plant nutrients. This is without mentioning the off site effects such as deterioration of water quality, flooding, and siltation of water reservoirs.

It should however be mentioned that there is great potential in the region for agricultural development provided proper land management is practiced. The tepid to cool moist zone, which covers around 30 % of the region is a typical example. This zone is characterized by soils with high potential for agricultural production. More over the length of growing period ranges from 121 to 180 days showing the potential for double cropping. Much of Gojam and South Gonder is found with in this zone.

The rate of degradation is still continuing at an alarming rate. This high rate of soil lose can be primarily attributed to lack of appraise land management practices with rapidly expanding population. The highlands of the Amahra region suffer from sever soil erosion and degradation with the result that annually there are considerable areas of cropland which are no longer able to provide reasonable crop production levels, and some even having to be abandoned due to this soil erosion. It has been estimated under the national erosion hazard assessment 1.1 billion tones soil (58% of the nations total losses) are lost from the region each year.

To combat the problem the government assisted by various international organizations has launched a spectacular campaign to soil and water conservation activities under various approaches like catchment management, minimum planning LLPA (Local level participatory planning and mass mobilization.

CCRDA

During the last five years only, 284878 ha of land is treated by different bunds and terrace. 4,247 kms of checkdams, 3443 kms of cut off drain, 437 ponds were constructed and area closure on 61,710 ha or severely degraded land area were carried out. The top down planning approach used, lack of sufficient technical knowledge and in appropriate land use system have found to be the major constraints to under take a sound and effective soil and water conservation activity in the region.

This trend has to be reversed. It should be emphasized time and again that unless the issue of soil degradation in particular and that of natural resources degradation in general is properly addressed, sustainable development in the region is unthinkable.

Farmers have long been aware of the problem associated with soil degradation and have realized the need to take measures to counter the process. The traditional land use systems which include some elements of soil conservation practices is a clear evidence of this recognition. With out the necessary resources and opportunities however recognition alone did not help much. As Kebede and Hurni (1992) put it rightly, for the poor farmer the survival of his family far out weighs other considerations.

Agro-forestry is a collective name for land-use system in which trees or shrubs are grown in association with crops or pastures, in spatial arrangement or a rotation, and, in which there are both ecological and economical interactions between the trees and other components of the system.

Traditional agro-forestry in one of the major activities exercised by the rural peopled in different integrated system of Agricultural activities systematized agro forestry system has to become the major technology that should be enhanced. In the past few years, some demonstration trials on Alley cropping multi story cropping bund stabilization plantings, homestead and bounder plantation were carried out especially in West Gojam, Awi, and South Gondar zones.

Lack of financial resource and training facilities and, basic researches at field level and lack of simple understandable demonstration projects are the main constraints.

CORDA

On the other hand the scarcity of three seed supply (both in quality and quantity) greatly influenced not only the agro-forestry activities but also as a whole the Afforastation and re-forestation activities.

On the other hand the region has abandoned Incense and gum forest resources on the many parts of the region. The regional government, after having receiving rapid deterioration on incense forest, has made a serious attempt replateady to collect technical information about the incense forest. A reconnaissance survey was under taken for the last 3 years consequently and basic information like extent of the area, composition of the forest, physiogrphic nature of the forest area, edaphic condition, incense tree species identification and major constraints, are collected and proposed of what should be done in prepared. This incense forest areas are located on the extreme Western low lands and on along Abay and Tekeze river gorges. On this recent studies the incense forest in the region is identified in nine Zonal areas covering 34 woredas, and 151 peasant Association. The total area covered by incense forest is over 600,000 ha. Thus, the proper utilization of this incense and gum forest resources will have a significant role for the growth of the regions economy.

In the regional level the land use planning and regulatory team have been made different studies for various objectives. The studies were made on 1:50,000 map scale which enables the regional government to formulate polices and guidelines to prepare long, medium and short term plan.

The efforts made are minimum compared with the regional area. above all the planning can't be conducted as the grass root level due to certain limiting factors.

Lack of strategic land use planning policy, Lack of well trained manpower and lack of inter sectoral integration are among the various problems and constraints which hindered to undertake grass root level land use planning.

6.3.2. PROJECT OBJECTIVE

The overall objective of the project is to increase land productivity in a sustainable manner in drought prone woredas of Amhara Region by developing the land resource.

Specifically the project is aiming at the following objective

CCRDA

I. OBJECTIVE OF LAND USE PLAN GUIDE LINE FORMULATION

Land use planning is a multi-disciplinary approach which requires the involvement of may disciplines. Because of the limited trained and experienced man power and the very large area extent of the region it was very difficult to follow the already conventional approach. Hence there was a need of changing the Approach.

In this regard, by training the zonal , land use planning team together with the concerned woreda experts and subsequently by training the development agents (DAS) and farmers on the fundamental of land resource data collection and land use plan procedure, a simplified approach will be developed which easily be carried out jointly by DAs in collaboration with farmers. The Guide line shall at least answer the following questions:

ii. OBJECTIVE OF GRASS ROOT LEVEL LAND USE PLANNING

Land use planning in the scientific way of studying and assessing the natural resources of piece of land or a surrounding area, the evaluation and finding of different development options to the constraints and potentials of these resources and thereupon on drawing of a land use plan to achieve a sustainable production.

Basically when doing a land use plan of peasant association, farmers participation is very essential if the standard of living of the peasant farmers is to be improved on sustainable basis.

Therefore, by changing the typical top-down to bottom-up situation farmers participation from the start of collecting the basic data to the final land use plan preparation and implementation is the corner stone of this approach.

iii. OBJECTIVE OF SOIL AND WATER CONSERVATION

The regional government has placed increasing emphasis on enhancing people participation in rural development as well as addressing the root cause of land degradation and poverty. This majority shift implies the effects should

CURDA

be directing towards introducing, disseminating and supporting participatory planning improved technical packages for conservation based development and sound utilization of food and financial resources for implementation whenever they are required. The specific objective of this program is to identify:

1. *How to use mountain areas, individually, communally and group basis. How to divided the land for different stake holders*
2. *for what purpose shall be used specified community land*
3. *What communal grazing systems to be adopted*

implement soil conservation measures that will further soil erosion and land degradation and rehabilitation of degraded land and restoring land productivity by creating public awareness about soil conservation problem

iv. OBJECTIVE OF AGRO-FORESTRY DEVELOPMENT PROGRAM

The main objective of agro-forestry program is:-

Increasing long term productivity of fuel wood, construction wood, fodder food crop and animal products.

To initiate, develop and disseminate culturally adaptable, Agro-forestry practices

Rehabilitation of the environment by means of vegetative cover of Agro-forestry system

Upgrading the nurseries, traditional Agro forestry system by providing sufficient quality seeds, materials and hand tools.

V. OBJECTIVE OF INCENSE AND GUM DEVELOPMENT PROGRAM

Biological Resources are not only to be conserved but they must also be used sustainably. The incense forest are naturally grown on sloppy and marginal lands and on the other hand they are exposed for clearing and burning of the expansion of farm land without having any sustainable plan of use. And when

CCRDA

this fragile land is getting eroded and all the life support system are gone, it will be out of production in less than 2-3 years.

Before this type of hazardous environmental degradation is taking place, it is important that this forest area should be conserved, new plantation on the already degraded areas should be carried out and the forest resource is restored on the hand, and the incense resource should also be systematically be tapped, harvested by the same members of the community who are encroaching the forest for various unplanned uses, and should be brought upto the market to support our national economy on the other.

The incense and gum resource is totally wasted for so many generation. It has been observed for a long time that this waste full deforestation has been generating economic losses including the permanent depletion of a renewable resource. The objective of this project is the develop a systematic and sound management plan and formulating a guide line for proper utilization of the incense and gum forest resources in sustainable manner.

iv. TREE SEED PROCUREMENT AND IMPROVEMENT OBJECTIVE

Trees and shrubs play a vital role in maintaining un ecological balance and improving the livelihood of the people. In this context large scale Afforastation program in greatly varying ecological condition should receive very high attention in the regional development plan, which, in turn, calls for a large quantity of quality seed supply. To meet the demand for the required amount of quality tree seeds a well organized seed procurement and improvement is a necessity. And these enables the region to secure and increase the provision of adequate supply of genetically suitable tree and shrub seeds and also assists to establish permanent self supporting organization, capable of meeting the future need for tree seed for the region.

6.3.3. ACTIVITIES OF THE PROJECT

The land resource development project is designed for five years and it consists the following activities

CRDA

6.3.3.1 FORMULATION OF LAND USE PLAN GUIDELINES

The regional land use planning and regulatory team in collaboration with other resource experts are responsible for the preparation the grass root level land use plan manual and guidelines. A national consultant will be employed to assess the land use system and land use policy. Terms of reference for the study will be prepared by a short term consultant.

6.3.3.2 IMPLEMENTING GRASS ROOT LEVEL LAND USE PLANNING ON PA LEVEL

Once the guideline formulation is finalized, training of trainers (Zonal and Woreda experts) on the application of the grass root level land use guideline will take place.

This assured sustainability in using the approach with an additional advantage of replicating at a relatively low cost with less requirement of highly trained man power

6.3.3.3.PROPOSED ACTIVITIES ON SOIL AND WATER CONSERVATION PROGRAM.

In this program different soil and water conservation measures (Both Biological and Physical measures) will be implemented. At one hand structural soil conservation measures:- Cut-off drains, waterway, Bunds, Terrace, Checkdams, Microbasin, and Biological measure: re-afforestation, re-vegetation of structures, Grass strip, area closure at the other hand. Pond construction, spring development, shallow water well digging will be carried out in all draught prone areas.

Farmers and woreda and DAs training one of the project activity which will be carried out during the course of the project. Hand tools will be distributed to keble administration for soil and water conservation practices.

CCRDA

6.3.3.4. ACTIVITIES ON AGRO-FORESTRY DEVELOPMENT PROGRAM

The following activities will be carried out in all drought affected weredas:-

- *Destabilizing and upgrading agro-forestry nurseries in 47 drought affected woredas*
- *Establishing multipurpose plant species /fodder trees, grasses, legume and fruit production./*
- *Agro-forestry demonstration on different systems/ alley cropping, inter cropping, homestead, boundary plantation, pond side plantations, ... etc.*
- *Upgrading indigenous agro forestry system.*

6.3.3.5. ACTIVATES OF INCENSE AND GUM DEVELOPMENT PROGRAM

Both natural and man made forests have economic, social and environmental benefits in they play un important role in economic development, providing employment, income and foreign exchange. The economic benefits arising from the use of non wood products such as incense products on sustainable basis can be substantial. To materialized this objective:-

- *102 incense and gum forest nurseries in 34 woredas will be established.*
- *A guide line will be formulated to enhance proper utilization of incense and gum forest resources.*
- *A short term training on the technique of incense and gum production will be conducted for the peasants and concerned woreda experts.*

6.3.3.6. ACTIVITIES ON SEED PROCUREMENT AND IMPROVEMENT PROGRAM

- *Strengthen the seed collecting capacity, identification and selection of seed sources and species*
- *Establishment of more easily accessible seed stands*

CORDA

- *Provide mechanical equipment's for seed collection transportation, processing and handling*
- *Communal, private and demonstration nursery activities*
- *Seedling plantations*
- *Large quantity and quality supply of seeds.*

6.3.3.7. Forestry development enhanced

Based on the problem analysis made earlier the past development efforts and the problems and need of the people of the study area, two development programs have been designed to address the following set of objectives.

a) Increase production of forest products on a sustainable basis, including fuel wood, construction wood, and fodder
b) increase agricultural production by reducing land degradation and improving soil fertility
c) conserve forest ecosystem, including genetic and wildlife resources
d) improve the well fare of the rural population

The goal of this component is to effectively integrate trees into privet farms and home gardens for the production of wood, feed and home use. Trees will also be used as a wind break to protect agricultural fields against erosion and to enhance land fertility.

An equally important benefit is land protection and replenishment either through organic matter addition to the soil nutrients by their roots. Protection and giving shade to live stock and farmers are other important benefits to be derived from the output.

Farm forestry options

- homestead tree planting
- farm boundary tree planting
- Farm wood lot

CCRDA

Commercial forestry development

- to solve the existing fuel wood and construction wood deficit in rural and urban areas
- To limit the governments role in commercial forest production and favour private sector involvement; this sub output is suggested to be conducted on land with a slope range of 35.50% where land is not to be cultivated.

Specific activities for commercial forestry

- locally preferred and environmentally suitable species will be identified
- Specific areas for planting will be identified and demarcated.
- Tree seedlings will be raised
- Planting, maintaining and other similar activities will be carried out
- Effective and sustainable extension support will bee provided
- Monitoring of the evaluation of progress will be carried out

Conservation forestry development

Under this, lands with a slope of 50+ percent but not suitable for tree planting will be allocated for area closure plantation in conservation forestry would be at a density of about 1,600 trees per hectare. Planting a mixture of spices would be preferred to planting single species, because failure of one species would not leave an area devoid of cover. More focus will be given to indigenous species suitable to the specific area to bee covered objective of the sub out put.

- conserve the fragile ecosystem
- Minimise future environmental damage
- conserve the genetic diversity of flora and fauna.

To achieve the objectives the following activities will be performed

- Identify the location of land steeper than 50% slope and determine their extent
- Identify areas suitable for tree planting activity in this land category
- production of tree seedlings (from collected seeds)
- planting and maintaining tree seedlings

ECRDA

- effective and suitable extension support
- monitoring and evaluation activities

Based on the land use guideline farmers, groups and NGOs will be allowed to reforest hillside . Detail plan is available at the woreda level planning.

6.3.4. LOCATION OF THE PROJECT

As a whole the project will lie on 47 drought prone Woredas in North Wello, Wagehimra, South Wello, Oromia, North Shoa, North Gonder, South Gonder and East Gojjam Administrative zones.

But the component of the project entitled tree seed procurement and improvement will be carried in Gubalafto Woreda in North Wello Administrative zone. In addition the component entitled proper management and sustainable utilization of incense and gum forest resources will be implemented in 34 Woredas where the resources actually exist.

6.3.5. PROJECT COST SUMMARY

No	Description	Cost
1	Conducting a reconnaissance survey and formulating a land use plan guideline	1095841
2	Establishing 102 incense and gum forest nurseries and provision of incenses producing materials to the state holders	708000
3	Collecting indigenous agro-forestry tree seeds	487500
4	Upgrading agro-forestry nurseries	482200
5	Incentive promotion for model farmers who are engaged in agro-forestry practices	29110
6	Establishing seed procurement center	2812654
7	Establishment of seed stand	272000
8	Training and study tour	1500000
	Total	7387305

CCRDA

6.3.6. BENEFICIARIES OF THE PROJECT

The beneficiary of the project is the farming community as a whole in the farming affected woredas

6.4 Improved potable water supply

6.4.1 EXISTING RURAL WATER SUPPLY AND SANITATION CONDITION

- *More than 85% of the population of Amhara Region live in the rural areas. Of this large Section of the population only about 10.46 %, whies very low, has access to safe drinking water.*
- *The water supply coverage's of 47 woredas, which are included in this program, are even less than the regional average.*
- *Water born, water related and water washed diseases are the one among the top ten diseases which highly affect the health status of the population.*
- *In most cases water sources are not available in the near by vicinities; because of this women and children travel long distances and wait for long hours to fetch water from unprotected sources.*
- *Dry up of traditional water sources, in most parts of the region, cause migration of farmers with their live stock in search of water or obliged to sell many heads of their cattle.*
- *Considerable amount of water supply facilities which were constructed in the past years also require rehabilitation and maintenance.*

CCRDA

6.4.2 OBJECTIVES

The objective of this Rural Water Supply Program Would be to:-

- *Benefit 2466742 rural population of 47 Woredas by constriction 1211 hand dug wells, 387 Shallow wells, 265 Deep wells with distribution systems and developing 328 Springs.*

- *Increase the water supply coverage of the region.*

- *Reduce the morbidity and mortality rate emanating from the various infant and childhood diarr hoea caused by unsafe water.*

- *Reduce the burden and cut the time spent by women to fetch water over long distances and allow them to use one other productive activities.*

- *Ensure the sustainability of water supply schemes by strengthening the construction operation and maintenance capacity of rural communities through training and provision if necessary hand tools.*

6.4.3 Activities

- ***Constriction***

- *1211 hand dug wells would have been constructed*
- *328 springs would have been developed.*
- *387 shallow wells would have been constructed*

265 Deep wells with small distribution systems would have been constructed.

Hand pump will be fitted for all hand dug wells and shallow wells. Deep wells will have motorized pumps.

- *Supporting activities*
- *Training*
- *385 Artesians will be trained*

CCRDA

- *3633 Rural water supply care taken i.e. (water community participation promoters and pump attendants) will be trained.*
- *Provision of hand tools.*
- *404 set of required tools for hand pump repair will be provided.*

Summary of Water supply schemes to be constructed & / or maintained (1998 - 2002)

Se. No	Zone	Number of water sources to be constructed					Remarks
		Hand dug wells	Spring dev't	Shallow well	Deep well with distributes	Total	
1	Wag Himra	109	46	40	21	216	
2	North Wollo	238	85	88	60	471	
3	South Wollo	280	53	75	53	461	
4	Oromiya	66	12	11	11	100	
5	North Shoa	158	46	54	39	297	
6	North Gondar	130	34	49	29	242	
7	South Gondar	199	47	60	47	353	
8	East Gojjam	31	5	10	5	51	
	G/Total	**1211**	**328**	**387**	**265**	**2191**	

GCRDA

6.5. Human resource development and Institutional capacity building

The ultimate end of development is human resource development., Well nitrated, health, literate, democratic and self reliant citizen is the goal of development so do the IFSP.

Institution are vehicles for development participatory and well strengthen institutions will enhance development

People Institutions and systems of work are the three interrelated variables which determines the pace and sustainability of political and social progress. So integrated food security program would be unfnsitful with out giving due attention for these variables

6.5.1 Existing levels of institutions and human resource conditions

I. Human resource

The Amhara national regional state have a population of 14.5 million. Most of this population are clliterati. Literacy rate stands at _____ % Health coverage rural potable water supply stands at 37% and 9%

The women's role in the economy is dominated. They are donied many of their economic and social rights women's access to major social service and such as education, health employment is by far less than men, However, their tripartite role in production, reproductive and Household care are quite immense.

High population growth rate is one major problem taking the region. Many factors contribute to this but low economic status of women, absence of family planning service and low literacy rate can be mentioned as basic .

Basic skill training facilities a5re limited. Rural people are not trained how to make farming. The extension agent is trying to disseminate new technologies in the absence of basic knowledge's in farming. Opportunities in non farm activity can be enhanced if well is a possibility for integrated training.

CCRDA

The problems to be addressed in the food security program are:

- *increase the literacy status of the people*
- *enhance the role of women in development*
- *Activity the effectiveness of the existing Health institutions in preventing major lowland disease*
- *introduce family planning*

ii. Institutions

A decentralized program such as IFSP requires a well founded and participatory grass root level institutions. The types of institutions existing in the region can be grouped into 5. These includes

- *government institutions*
- *community level formal and informal institutions*
- *local NGOS*
- *International NGO'S*
- *private institutions*

Government Institutions

The government Institutions are existing upto woreda level. These government institutions have adequate manpower, equipment and facility as well as budgetary resources at a regional level. At a zone and woreda level all these capacities are not adequately met.

At a woreda level the professional capacity is low, the facilities and equipment's are limited. This have a limiting effect on development. It limits the implementing capacity.

Training of staff is urgently required. Refreshment courses, Libraries and reading rooms are required. One evident short coming of the GO'S is their inability to integrate partners into the development framework. Development as a process needs a dialogues. process which is lacking now.

CCRDA

Local NGO'S

There are two major local NGO'S in the region. These NGO'S have very limited contacts with inter national NGO'S . Their financial capacity is limited. However, they have high social base and trust as dependable NGO's

Capacity building in training and international relation, office management, financial mobilization and reporting in urgently required by these NGO'S.

International and National NGO'S

There are many international and National NGO'S involving in the development of the region. These NGO'S have better personnel and experience in project planning, appreciable international links and huge resource base.

Deficiencies in these NGO relates to Development impacts. With beautiful project ideas, and intensive capital outlay the assets or human resource they build or the development effects they bring is quite minimal.

NGO'S are expected to innovate effective and efficient methods of intervention. Experience in the region don't show this the third deficiency relates to integration. The interest of these NGO'S to implement community initiative such as woreda plans is limited. They prefer to work individually with out any inter linkage.

The logic of integration is synchronization of slate holders activity towards and agreed objective lack of co-ordination may be the cause. First the GO's don't consult NGO'S as partners when they plan second capacities of GO'S in integration is low. The project shall solve these problems for sustainable results.

ORDA

iv) *community Organization*

Community level organizations may be formal and informal.

The formal institutions includes kebele administration Kebeles are very vital institutions for all sorts of development.

The regional government has tried to train above 30,000 kebele executives. This has created better capacities in planning and management.

The informal institutions are much more localised and established for specific tasks. Such as burial events. These institution are mostly based on kinship than determined objective for this type of institution if the kinship relation is treated or if the social hierarchy is going to be changed by any intervention, they are not very much interested to participate most of these institution are expletive. They differentiate against women, children and the poor. Most 9of them doesn't allow the poor as member such as mahiber, senbete etc but cares for the poor. Generally they cannot be used as a means for an overall intervention channels but are potential sources of additional energy for awareness creation broad participation and specific types of intervention which are mostly cultural.

Community institutions also includes mass associations such as farmers, women, youth unemployed etc. These are formal institutions which are very useful in development. These institutions are organized at a woreda level and would be important channel to address some major issues such as gender. The IFSP will use these association for gender, population and environmental issues. Major bottlenecks of these organization is lack of office supplies and equipment's, training facility and funds to conduct training.

V) ***Private institutions***

As stake holder and active force for economic growth, the private sector shall assume dominant place in implementing and planning IFSP

In collaboration with outher stakeholders.

ECRDA

The private sector is, however, not vary much informed is not organized lacks enter prenderal skill and appropriate support from other development agents. The private sector lacks financial access and basic skills in running their business.

In integrated food security program private sector is heavily required to implement const4ructtion activities, marketing of grains, supply of imputes, transportation service. The regional income circuit will be strengthen if purchases are made with in the region. Hence strengthening capacity of local private sector is required in various capacities. The problem to be addressed in the program includes

- *enhancing the entrepreneur skill of private sector*

6.5.2 Objective of the intervention

- *enhance the human resource capacity by increasing access to literacy class, opening training gender awareness seminars, and population creation measures*
- *support the development of participatory institutions*
- *create a system of co-ordination and integration among stake holders existing in the region.*

6.5.3. Major component descriptions /outputs

6.5.3.1 Human resource development

A. Literacy class support

Support will be made to literacy classes through out the project area. Through this some _____ people are expected to participate. The project will make funds available for employment of _____ teachers on a contract basis and supply of literacy books, black boards and chalk. Through this project employment opportunity will be created for 12 grade graduates. These teachers will also act as community based distributors for family planning contraceptives.

B. Enhance availability of family planning services

CCRDA

presently the family planning service is provided only through the health institutes. This was a limiting factor for expansion of the program. The literacy class teachers will be dually responsible for the distribution of contraceptives for chancel diagnosis and method selection, the health professionals will have a programmed and sustained support to them. The training of community based distributors will be made by responsible specialized professionals. Through this program _____ women are expected to participate. The total cost of the program is grossly estimated at Birr.

The project will also make funds available for immunization supports, control of most widely distributed communicable diseases such as malaria. The health intervention summery page is shown on next page.

C. Gender development

The women's affairs bureau has a strategy which details the type of activities required to liberate women. The IFDP will be instrument to implement this strategy. The major activities envisaged in this program includes.

- *awareness creation siminars*
- *Strengthening women association*
- *promote appropriate technologies (in the credit component) grinding mill, cooking stoves etc.*

D. Farmers training

The existing farmers training is not sufficient to prepare the farmers for innovation. The majority of them are ignorant about modern farming practices with out a broad consensus and under standing of what extension is, farmers are required to take advantage of it. They are not well informed even about the use and benefits of most agricultural intervention. The present health education is given only to those who go to clinics. If a farmer goes 20 day in clinic the same farmer is counted as 20 in reports because he was present in the 20 day lecture which is provide before actual treatment of patients. So there needs to be a forum where by a general understanding of the professionals view, and farmers conception of reality can be brought nearer or together.

CCRDA

The use of paraprofessionals is accepted and will be enhanced but farmers shall be ready to accept extension service or they need to have knowledge which can lead them to demand extension. New training program for farmers encompasses the following ideas:-

- *training at the sight*
- *training which emerges from existing reality*
- *paraprofessional are required to help the DA*
- *The development agent provides seasonal training*
- *Use of Audio visual*

Even in slack seasons farmers have to look after their cows milk them and feed them. This tasks are taken care by children's in day time. Adult farmers are required in the evenings and morning. Making this training with in the kebele make possible to combine both. Training and work

Costs can't be covered if training is organized in training centers. The capacity of the training centers is limited. Both of them will limit the number of beneficiaries. Effectiveness in IFSP shall be measured interms of beneficiaries. Hence training at site is essential.

The training materials will be designed by BOA and zone agricultural departments, women affairs bureau, culture bureau and Health bureau, after a common understanding is reached about the content and type of training. Though a detail need assessment is to be made (to make it based on existing reality) the training shall include at least the following.

- *Crop production /Agronomic practice*
- *livestock production*
- *pest management*
- *conservation*
- *Forest production and agro-forestry*
- *preventive health /hygiene and specially preventing malaria*
- *Gender awareness and harmful cultural practices*

CCRDA

Training of trainers will be conducted at zone level. Training will be given by woreda subject mater specialists supervisors and development agents .

Through this training 100 farmers are expected to be trained in one kebele in one year. In five years time 50% of households will pass through this training. The number of farmers expected to participate in 47 woredas is planned to be 491 000. NGO'S interested to take part will be given specified woreda. specialized NGO-in training is encouraged to take the responsibility in collaboration with woreda offices and local NGO's.

The training is expected to increase extension demand, hence there needs to be a matching increase in the supply of these professionals. However. Increasing the number of DA'S is not sustainable response to the problem. The sustainable response to the problem will be the use of para professionals. These are farmers who are trained in a specialised field to assist DA'S in disseminating extension practices. The training of these para professionals will be held at farmers training centres in combolcha or merto Lemariam .

Through this program some 50 farmers are expected to be trained in one kebele in five years time. Total number will be ___. The assumption is one para professional per ten farmers.

The development agent, assisted by para professional will provide seasonal and intensive training in various fields both on program base and demand base. The idea is that farmers shall demand extension, and when they demand they shall not be dissatisfied.

It is not possible to make all class room training practical. Hence there is a strong need for a visual aid - or films.

In this program it is envisaged to produce an actual projector films and use this as training aid. The project will made founds and specializes personnel for audio visual equipment's, generators etc. to organize at least one projector film in every zone.

Mass training of farmers will make them responsive for radio messages (programs), and also written materials can be used as extension aid for literate.

CRDA

Indicative budget for Human resources (million birr)

	activity	1998	1999	2000	2001	2002
1.	literacy rate support	0.1	0.21	0.22	0.23	0.24
2.	Gender Development	0.50	0.10	0.20	0.30	0.40
3.	Family planning support	0.47	0.94	0.94	0.94	0.94
4.	Farmers training (Basic training 100 per farmer)	7.0	10.00	10.00	10.00	10.00
	Paraprofessionals	0.47	0.47	0.47	0.47	0.47
5.	Health and education	Shown in the woreda plan				
6	Audio Visual	1.0	6.0	1.0	1.0	0.5
	Total	8.37	16.56	11.25	11.24	10.28

CCRDA

6.5.3.2 Institutional capacity building

The institutional capacity building includes the following

A) strengthen the capacity of technical departments related to food security measures:

The detail demand of lack woneda is show in the Annex reports capacity building for zone and Bureau level organizations are expected to be dependent on the need of the woreda in service training for professionals in planned. Major interventions at woreda level are capacity building for access road constructions such as tractor, trailer, hand tools, carts etc. Capacity building of related spring development potable water supply and maintenance activities.

The zone level organizations will be strengthen to enable them maintain roads and design trails as well as some machinery capacity to assist labour and strengthen urban development.

b) strengthen woreda based community institutions

Women's association, youth association and farmers association will be encouraged to present projects to be financed through these program the type of projects expected are

- *reforestation*
- *income generating activities*
- *libraries and books*
- *training*

The new food security policy coverage's mass or ganisations to involves in reforestation activities.

c) NGO, GO interactions

A technical assistance will be employed to design a system where by the works of NGO'S, GO can be synchronized. The possibility for contracting out service to NGO'S has to be worked out. The activities to be contracted NGO'S will be determined in the study.

All NGO'S are presently implementing activities. Sustainability can be ensured if the local community takes responsibility of implementation. All NGO'S shall form a forum through which they can create gradually a system wheel by international NGO'S are supervising, funding and providing technical assistance and the responsibility for planning and implementation is taken by local institutions i.e. GO'S, community institutions and local NGO.

Appropriate institutional mechanism will be created for co-ordination and integration.

d) Support to private Institutions

Large scale entrepreneur training will be conducted through out the project management. The competence based economic model entrepreneur training of GTZ is going to be adopted in the region. Similar models can be applied without rigidity to models.

CCRDA

Training of trainers will be organized at regional level and training for private sector will be organized at woreda level. Interested participants will have a chance to get credit through ACSI.

Indicative Budget for capacity building '000' Birr

	1998	1999	2000	2001	2002
Strengthen Zone level organization	28000	1000	450		
Strengthening woreda GO'S	Indicated in the woreda plan				
Woreda based Institutions	Indicated in the woreda plan				
NGO& GO Interactions	100	200	300	400	500
Support to private sector	400	500	560	600	65
Total	28500	1700	1310	1000	5565

6.6 Rural Marketing

The market shall at least:

- *Provide effective and efficient link between producers and consumers*
- *Establish marketing margins which cover the marketing cost*
- *Give sufficient incentives to producers*

Presently Agricultural marketing systems are not well developed. Because of this it is playing non-of the above functions.

High price margins between producers and consumers, great difference of prices between towns in the region, quality problems etc. are observed. In some cases surplus may co-exist with deficit because of inefficient marketing. Major problems related with agricultural marketing are:

a/ Accessibility problem.

b/ Settlement related problems.

c/ Information and support problems.

d/ Institutional problems .

CCRDA

Hence to tackle this problem a well organized road system, functionally interrelated settlements and well organized market information system and participatory rural marketing institutions.

To this effect, the IFSP will have interventions in the following economic sectors:

a/ Road rehabilitation and maintenance

b/ Institutional capacity building /to be dealt in institutional building/

c/ Rural service center development program.

d/ Information and Food security monitoring systems.

e/ Strengthen Farmers co-operatives

6.6.1.The Road Component

I. Connections between food security & the road sector

One factor contributing to food in security is the non-availability and /or untimely arrival of food (in which ever form distributed) for beneficiaries. This is frequently caused by insufficient or unavailable access to the relevant areas. If access can be secured, the cost of transport is usually high. Currently, it is estimated that only 20% of the regions area is with in km of an all weather road & that only 40% of with in RR.

Access is further complicated by the advanced stage of deterioration of the road network.

This also leads to an insufficient integration of food markets within the region . In effect extraction and redistribution from existing surplus to deficit areas is severely inhibited, if not totally disrupted during parts of the year. Difficulties due to lack of access have also been experienced surfing the E.C & WFP local purchase operations. Therefore integration of surplus producing food markets with those in food deficit areas is one important pillar of a comprehensive food security strategy for the region

Recognizing the connections between an underdeveloped rural road and transport system, & persisting food insecurity of significant parts of the population. The regional government has formulated the major goal of road

CORDA

security development program. One of the major benefits of road security development program will, thus, be the reduction of vulnerability of food insecure parts of the region's population by way of increased national production & improved internal market integration.

ii. The food security related rural roads program

The project has embarked on a comprehensive strategy to combat the causes of the food insecurity & vulnerability. The strategy is composed of three major elements.

- *Increase of agricultural production and stimulation of food supply, mainly through local purchases, improvement of access to in putes & technical advice, & encouragement of commercial imports.*
- *Improvement of crisis & disaster management, mainly through assistance to the IFSR & improved information systems, and*
- *Improvement of access to food, manly through Employment Generation schemes (EGS)*

In order to complement these approaches The regional government intends to embark on a five year program to rehabilitate or upgrade major bottlenecks with in RR Network. These bottlenecks currently prevent all year round access to food surplus and for deficit areas and inhibit internal redistribution. They are major obstacles for the achievement of the objectives of the overall strategy.

iii. Beneficiaries and parties involved

The direct beneficiaries of the IFSRRP mainly comprise those groups of the population which

CCRDA

- *produce and market surplus food or*
- *are food insecure and vulnerable. The latter factors, intern are mainly functions of the absolute poverty of the people concerned.*

Additionally , there are other groups which will benefit from the planned program. They comprise.

Local traders:- Traders are intermediaries for the local purchase of food grains. Purchases are usually effected through tenders on the open market. If access to surplus area is improved through better roads the potential for surplus marketing in enhanced, and as a result, also the volumes handled by traders. If a reasonable degree of competition is assumed this will not significantly raise the profit rates of traders, How ever, an increase of turnover can raise their absolute volume of profits, as well as employment & value added.

- *Transports currently few transports are engaged in the provision of rural services. Cost for transport services are relatively high due to very poor road conditions, and infrastructure, workshop, gos stations is very sparse.*

Although transport rates are usually significantly higher in rural areas than on main roads, estimates indicate that cost recovery can hardly be achieved. Improved road conditions through rehabilitation or upgrading will lower costs of transports and contribute to improved profitability higher transport volumes will also encourage additional employment, and raise value added & investment in the sector, which will contribute towards renewal of the region's aging transport fleet.

- *Storage providers warehousing is currently provided through a multitude of government and non-governmental agencies (mainly. EFSR, MOA, DPPC, NGOS) Increased volumes of local purchases will help to increase their capacity utilization and levels of cost recovery.*
- *Providers of imputes to agricultural production and to all the above groups an increase of business volumes of the groups mentioned above is also likely to enlarge markets for all other providers of services like transport brokers, credit institutions etc. and goods.*

CCRDA

- *Donors cost of food purchase & redistribution, & related operations, will decrease.*
- *Contractors the market for companies engaging in road rehabilitation & upgrading is widening . This will, among all effects, also raue experience of the concerned companies, which have been weakened and underdeveloped for various reasons over the post decades.*

Other parties involved include :

RRAS of the Amhara region which are responsible for planing and management of the interventions.

- *DPPC and DPPBS at regional , Zonal and woreda levels who is responsible for c0-ordination of interventions aimed at reducing food insecurity and vulnerability.*
- *Planing Bureau being the responsible organ for CO-ordination of foreign assistance to the region.*
- *All those involved in organization and /or implementation of labour intensive works and who have responsibilities for maintenance of rehabilitated or upgrading roads. They include woreda Administrations, local peasant or development associations NGOS, as well as Zonal offices of the Regional Roads Authorities*

iv. Problems to be addressed

Problems of the direct beneficiaries to be addressed . The main problem of the direct beneficiaries to be addressed by the program are:-

⇒ *Insufficient integration of food markets within the region*

⇒ *Fluctuating demand for surplus food due to difficulties of extraction and access to markets, and therefore, reduced incentives for surplus producers*

⇒ *Lack of all-year access to food for vulnerable people in rural areas*

⇒ *Low purchasing power of vulnerable groups in rural areas*

⇒ *Insufficient national resources to upgrade or rehabilitate the RR net work*

⇒ *unavailability , or untimely arrival & high cost of supply of food to beneficiaries*

CCRDA

Other problems to be addressed

In order to achieve the intended result and ultimately, guarantee their sustainability the following problems will have to at least partly be addressed by the program

⇒ *Insufficient co-ordination between actors in the food security and roads sectors, improved co-ordination will mainly be necessary in order to determine priorities for the intended program, and to gain commitment of all parties for the organization of labour intensive implementation of works and future maintenance of the roads.*

⇒ *Unclear definitions of responsibilities, especially between RRAs and weredas regarding so called village roads*

⇒ *Insufficient planning of the national road network and current works on it, proposals of RRA for RRDP, and planing for works on the national roads with in RSDP are not sufficiently linked.*

⇒ *In sufficient or completely missing data for planing purposes especially data regarding rural road is at best patchy, and important data, e.g. on areas of influence, production, traffic flows, etc. is frequently unavailable.*

⇒ *Insufficient capacities of RRAs to fully maintain the RR network this is as much due to the lack of financial resources as to the lack of technical and managerial capacities for implementation of necessary works. Additionally, heavy emphasis is currently placed on the extension (and rehabilitation) of the network while insufficient resources allocate to maintenance*

⇒ *Insufficient capacities and experience of contractors for handling of large contracts and also regarding labour intensive modes of work*

⇒ *Insufficient knowledge and experience about labour intensive methods of road rehabilitation and especially, maintenance in region in general.*

CRDA

v. Overall objectives of Interventions

To improve food security through better integration of grain markets

Program purpose

⇒*enhance agricultural production through better chances for marketing, and input supply.*

The purpose of the FSRRRP will be to :-

⇒*Secure improved conditions for internal redistribution of food from surplus production to deficit areas and of imported food grains*

⇒*Provided all year access to food in particularly food insecure areas.*

Program results

The program will achieve the following results

⇒*Selected priority roads upgraded and / or rehabilitated, and constructed*

⇒*Capacities of selected RRA's for planing and implementing of rehabilitation and upgrading as well as maintenance of rural roads are strengthened.*

⇒*communities are able to undertake RR_{10} by themselves*

Program activities

The program will implement the following activities to achieve the expected results

- *Contacts companies for surveys and establishment of detailed design*
- *Elaborate tender documents, tender and award contracts for upgrading and rehabilitation.*
- *Carry out civil works*

CCRDA

- *Supervise implementation of civil works*
- *Establish a maintenance schedule and carry out preventive maintenance on rehabilitated or upgraded RR*
- *build the capacities of woredas to undertook trails and RR10 road construction*
- *Enhance the capacity of zone to rehabilitate roads /This component is dealt in institutional building/*
- *Train selected RRA staff*
- *Procure necessary equipment*
- *Study possibilities to include selected village "connector" roads in future activities of FSRRRP in co-operation with the respective woreda administration and other relevant local organizations.*

vi. Cost estimate and financing

Estimated cost of the project

NO	PROJECT NAME	LENGTH (KM)	LOCATION		Population of the woreda	Programme Year	Project cost) (Birr
			Zone	Woreda			
1	Dessie-wegeltena	85.2	S.wollo	Dessie zuria delanta Dauent	346834		12780000
2	Kobo-Lalibela	99.5	N.wollo	Kobo,Bugna	346891		5970000
3	Kemissie-Bora	27.5	Oromiya	Deway,chefa	164622		1650000
4	Hayek-Arabati	51	S.wollo	Tehuledere	119240		3060000
5	Alewha-chifra	63	N.wollo	Gubalafto	139151		3780000
6	Lalibela-Ayna	26	N.wollo	Bugna	171333		1560000
7	Teleyayen-Gishenmariam	18	S.wollo	Abmasel	111172		1080000
8	Kabe-wereilu-jama	75	S.wollo	Wereilu,lama	227558		4500000
9	Gugeftu-Mekanesalam	142	S.wollo	Debresina	125126		8520000
10	Segnagebya-weinamba	30	S.wollo	Woreilu	120193		1800000
11	Dessie-Guguftu	45	S.wollo	Sayent	193616		2700000
12	Busso-Sayent	49	S.wollo	Tenta	193616		2940000
13	Ambamariam-Masha	26	S.wollo	Tenta	137412		1560000
14	Addiszemen-Ebinat	33	S.Gond	Libokemkem - Ebinat	383827		1980000
15	Nefasmewcheya-Arbe Gebya	25	S.Gond	Lie gayent-Tach goyent	251280		1500000

CRDA

NO	PROJECT NAME	LENGTH	LOCATION		Population of the	Programme Year	Project cost)
16	Gundewayne-Martolemariam	30	E.Goj.	Gonchoseseo enese,Enese sarmider	115412		1800000
	Wokin - seragums	30	N.G.	Adarkay			6000000
	Bira - chichiki	50	N.G	Wogera			1000000
	Chichiki -Guara	25	N.G	Wogera			5000000
	Mwkwana - Birhan - Asenge	40	NG	Jana Mora			8400000
	Dabat - Karha	30	NG	Dabat			6000000
	Wokin - Deramamou	20	NG	Wokin			4000000
	Bora Afar	60	Oromia	DewaChefa			15000000
	Bati Cheleka	50	Oromia	Bati			10000000
							112580000

Indicative budget for RR10 roads and trials is shown in the woreda road plan

CCRDA

N.B Depreciation cost of the equipment does not include

Mainly the following items will be financed by RRAS

- *Personnel for management, co-ordination & implementation of the program.*
- *Maintenance of the roads rehabilitated (at an estimated cost of 15-20 % of the rehabilitation works per annum for gravel roads)*

Use of appropriate technology

One of the main factors contributing to food insecurity and vulnerability is the lack of income earning opportunities, and therefore purchasing power. RR maintenance & rehabilitation can help to alleviate this situation by using labour intensive methods of work involving the (able-bodies) population of the respective areas in works. The percentage of these types of work varies between 30 and 80% of the total rehabilitation work However, there can be trade-off between maximization of use of labour intensive works for income generating purpose and the need to use machinery in order to achieve technically sustainable results. This trade-off especially concerns the compassion of roads (and their bases) in mountains and difficult terrain careful choice have to made by design engineers to determine the extend to which labour works are appropriate.

Maintenance of the roads can to a large extent be carried out by labour intensive modes of work one of the systems currently used in Amhara Region is the so called" Lengthment system" In this approach responsibility for certain works on defined sections of road is contracted to person living in the vicinity of the road. These person ideally are selected from the labours employed during (labour intensive) construction or rehabilitation of the road.

CCRDA

Environmental protection

The environment is affected by road rehabilitation or upgrading mainly in the following ways.

- *Quarrying or depositing of materials which both can lead to alterations or destruction of the natural environment.*
- *Construction of drainage systems which concentrate and accelerate the speed of run off waters and can lead to damages "downstream" through creation of guilles, soil erosion and invndations.*

Upgrading of roads can lead to larger impacts on the environment of alterations are made to the original design, However the works planned under food security related to rural road program at present do not envisage such types of work rather compromises have been suggested regarding the design standard (Use RR 30 instead of RR 50) due to cost-effectiveness, but also environmental considerations.

Potential damages cannot be entirely avoided, especially in the case of gravel roads which need periodic resurfacing & depend on adequate drainage systems for their longevity However, in the areas selected the abundance of construction materials helps to avoid depletion or opening of new quarries careful design & appropriate accompanying measures can help to alleviate the impact of the other issues (deposet damages through run off water). They should be explicitly taken into consideration in the formulation of the terms of reference for the surveyors & design engineers Additionally, the population residing and farming along the selected roads should be involved in discussion on the appropriate design wherever feasible.

Impact on women

If labour intensive works are used a model of rehabilitation. It should be guaranteed that women are given a fair share of the workplace available women will benefited from the project

CERDA

Involvement of the private sector in financing of Rural road (maintenance)

Most of the works will be carried out by private sectors and support will be given to this sector

Conclusions

The following conclusions can be drawn.

- *lack of a suitable road infrastructure and lack of access to markets have been identified as a major bottlenecks to the overall development goals of the region RSDP and with in it RRDP are efforts of the region to overcome present shortcoming and bottlenecks in the existing road network.*
- *RRAs are responsible for extension, rehabilitation & maintenance of the rural road network, However, currently they are not fully able to cope with their tasks.*
- *Lack of suitable all-year access rural road in a major obstacle to improved food security & further integration of regional food markets. There fore improvement of access to surplus producing and food deficit areas is a suitable approach to alleviate food insecurity. This has been and is stressed by multitude of policies and strategies formulated during the post years with a view to reduce food security in the region.*

- *At present extensions of the RR network should have a lower priority than rehabilitation of existing roads given the very poor state RR are generally in and existing resource constraints regarding maintenance of the RR network*

CRDA

Proposals

It is proposed that

- *The survey, design, rehabilitation & supervision of the rehabilitation works for selected priority roads, in order to improve conditions for internal redistribution of food from surplus production to deficit areas and of imported food grains, & to secure all-year access to food in particularly food insecure area.*
- *Food surplus producing areas are initially excluded from the program proposal due to the lack of detailed knowledge on their location and the functioning of the relevant markets and transport systems.*
- *The project will implement with and through the concerned RRAS and in close co-ordination with ERA during the entire implementation of the program.*
- *All civil works be carried out by private contractors, and all efforts be made to promote labour based methods of rehabilitation wherever feasible.*
- *The project assists the concerned RRAS in efforts to strengthen their present capacities for management of such rehabilitation works and future maintenance of the rehabilitated roads.*

Estimated cost of the project

Total cost - 112,580,000 (Birr)

Total road length - 825.2

CCRDA

6.6.2 Enhance the Spatial Integration of the Rural Economy

Objective- *Enhance economic diversification and access to social services by better organization of the spatial system.*

Most rural areas have no access to urban centers. A preliminary scalo-gram analysis shows that there is a huge gap in urban services. Lack of urban services means.

- *Lack of information*
- *Lack of markets*
- *Lack of higher order social and economical services. Such as*

hospital, health station, banking etc.

- *Lack of adequate transportation means*
- *Absence of off-farm employment opportunities*
- *Far from technology etc.*

In most draught phorn words the settlement system is not functionally related. There are very few higher order urban centers and a very low intermediate rural service centers. One of the limitations in most food security programs is the neglect of the urban system in their analysis. A study conducted about small scale industrial promotion strategy shows that promotion of non-farm and small scale industry in rural areas is fruit less with out a wel organized intervention in the urban system. The study further indicates that small scale and non farm activities are labour intensive the payment they give is very low that the urban unemployment are not ready to accept it which creates better jobs for rural migrants. This, however, reinforces urban poverty and unemployment by adding more people to the unemployment and low income pool. Since it serves as a pull factor of migration. Economic diversification comes with specialization this could happen with sufficient markets for specialized products . Markets, however, are not well developed. Creating Rural Service Centers wood create a better hope and initial stage for diversification.

The concept of the Rural service center development initiative is simple by concentrating existing NGO's and government resource and civil societies effort together, create a possibility for concentration of settlements which plays functions such as:-

- *Markets*
- *-Education*
- *-Health*
- *-Administration*
- *-Transportation*
- *-Rural credit*
- *-Extension*
- *-Service co-operative*
- *-Floor mill.*
- *-Relief distribution*

Later Post station

CCRDA

Electricity

This is how settlements can be created. The settlement is expected to be linked to the nearest road in RRIO. Additional Investment required is quite low. The above mentioned services are now provided in rural areas. The idea now is to locate all there together and create a settlement. The woreda Administration of file's capacity for maintaining and construction access roads will be increased.

Once we are able to create concentrated settlement, small shops and derive institutions will be established to serve the government their vegetables, milk and similar products which is a serious problem now Retailers and crop collectors will be interested to construct houses and stores. Hides and skins are homely used because of lack of markets. Rural service centers will create hope for this types of markets.

Rural service centers will be effective and efficient if the next higher order level is dynamic playing its function. The function shall be generative not expletive. A hypothetical example is shown how organizing the space is possible. The possible functions will be also indicated in table-below.

CCRDA

Proposed function for rural service centers.

Settlement level	*Functions*
Keble	• .Health post .Literacy station • Education(1-4) . Keble court • Service co-operative • Extension office /house • Potable water • Small markets/shops • Road(RRIO) • Some services • Grinding mill
Sub woreda	• All functions in the keble plus • Relief distribution center • Credit institution • Health center • Education(5-8) • Road RRIO • Trucks/Vehicles • Rural drugstore • Police • Veterinary clinic • Farmers, training place, some stores
Woreda	• All the above functions plus • Secondary school • Postal and Telecom service • Energy, • Bus transport • Woreda Administration offices • Bank /Credit Branch office • Courts • Longrun-Hospital • Stores-various types

CCRDA

Major activities to be performed in this component are:

- *Study the spatial system*
- *Mapping existing social service situation*
- *Propose a new diagram for spatial*

a/ Study the spatial system

The spatial system of the woreda's will be studied in detail and mapped. Once a detail survey is undertaken, a slew spatial master plan will be drawn by spatialized experts. The spatial diagram will be discoursed and commented by the public, before finalization. Based on this dialogue a final spatial diagram will be prepared for implementation.

b/ Capacity building

The rural service centre development approach is and shall be a low-cost intervention. To do this the woreda's capacity for of lower level administration. i.e. woreda would be strengthen. Capacity building related to this program includes:

- *Tractors and some simple earth moving equipment's to construct access and feeder roads*
- *Hand tools*
- *Training of personnel .*

c/ upgrade some settlements into rural service centre

The actual implementation of the Rural service centre is expected to start one year after the common centre of the program. Some investment lists such as Access road, health, education, DA house construction will be undertaken. All building and construction activities of the program and all other woreda program will be implemented guided by the master plan to be prepared.

CCRDA

CCRDA

Indicative cost estimates for the Rural service center intervention is show on table:-

'000'Birr

	1998	*1999*	*2000*	*2001*	*2002*
1. Study cost	*100*				
2. Capacity building	*2000*	*1000*	*1000*		
3. Implementation		*4000*	*4000*	*4000*	*4000*
4. Monitoring and follow up		*50*	*50*	*50*	
Total	*2100*	*5500*	*5500*	*4050*	*4000*

Monitoring, Evaluation and follow up

Monitoring and follow up will be conducted by the IFSP unit staff-for Evaluation local consultants will be employed.

6.6.3 Market information and Food Security Monitoring system and emergency reserves.

6.6.31. Food security monitoring system /FSMS/

Objective: Make available adequate information about access to food.

DPPC has an earily warning system which relay heavily on crop production systems. The information is collected from Development agents which pass to woreda, Zone and then to the Region. This type of earily warning has limitation in that it doesn't have full information about access. It relays on supply side.

For food security, there needs to be regular information about access to food. Hence there is a need to establish a system of monitoring which concentrates on assessing access to food. The emphasis on collecting information at a local level and through household surveys allows the monitoring of coping strategies. Such as distress sales, particularly of productive assets, consumption of famine foods, out migration, and Nutrition status.

CCRDA

There is a system of monitoring which is run by SCF(UK) which is more similar and useful. The project would mobilise funds for adoption of similar monitoring system through out the 47 words.

Major activities to be executed are

- *Undertook a study how to operational about sustainable monitoring system.*
- *Establish/strengthen the FSMS unit, Training and preparations.*
- *Operationally the monitoring system. This includes training, system set up etc.*

Indicative budget is shown on the table below.

'000' Birr

	1998	1999	2000	2001	2002
Research	200				
Institutional building		1000			
Monitoring		500	500	250	250

CCRDA

6.6.32. Marketing information system /MIS/

Objective:- Objective of this component is to increase effectiveness and efficiency of private gram merchants(and the Market) by creating access to information which are vital for decision.

Presently market information dissemination and use is very limited. This has caused high margins between different centres in the region. Competition is less and efficiency is hindered. The SIDA supported Rural Development program has similar objective. Negotiation will be made to widen area coverage of the market information system which is planned by the project.

6.6.4. Food Reserve

The project area is chronically food insecure. To meet short term food deficits maintains reserves and food subsidies are required.

a. Maintain public food stocks

Until sustained increase in production is achieved a regular public food stock is required. The main objective of the food stocks will be to ensure that food requirements are met incises of natural and or man-made disasters. The detail reserve system needed capacity is planned but the management will be integrated.

6.6.5 Support to co-operatives

Co-operatives are community owned marketing institutions. The basis of these co-operatives is to achieve economies of scale in transport and other services, and to raise the bargaining power of farmers over the price and other conditions. Farmers co-operatives are also channels in mobilising financial credit, input delivery and supply of basic industrial outputs. The project would make credit available to them, support in training and auditing and similar demand base project supports.

CCRDA

6.7 Proposal on Non-farm Activities for Drought prone Areas

The Region's intervention at this point has of course brought better living condition in the population of the region as a whole and in the rural people in particular compared with the past gloomy years. However, due to the existing vulnerable natural calamities prevailing in a total of 47 Woredas of ANRS, the picture of the agriculture sector in these areas seems gloomy. If this situation persists for some periods in the region, people will be endangered. For this and other reasons, people will have to move out of agriculture.

To minimise this acute problem, the ANRS recognizes the absolute necessity of creating employment and other income creating opportunities for the population that will be forced to move out of agriculture. In this respect, small businesses, which are a replica of Micro - enterprise project types being implemented in the Region can play a great role and will be more successful than large enterprises in minimizing population pressure under a situation where capital is the scarce resource like for the case of Ethiopia in general and ANRS in particular. This is due to the fact that, small businesses have much greater potential for employment creation than large companies.

The project will embrace eight Administration zones of ANRS namely, wag Himra, North Wollo, South Wollo, North Gonder, South Gonder, North Showa, Oremia and East Gojjam. In these zones a total of 47 drought prone Woredas with a total of 2466742 beneficiaries are identified, out of which 3.65% of the total beneficiaries are expected to benefit from " Food Security Program of Non-farm Activities". The rest are expected to be embraced by other schemes identified by Bureau of

CCRDA

Agriculture, Rural Road Construction Authority etc. Summary of the beneficiaries is shown in Annex 1.

B. Objective

The objective of the project is to create non farm and off farm income opportunities for rural residents presently who doesn't have the potential for increasing household production.

C. Benefit of the project

The envisaged project will assist beneficiaries to support their life in some income generating schemes out side the agriculture sector. The project will benefit a total of 47 drought prone Woredas in eight administrative Zones with a total of 50000 beneficiaries. The beneficiaries will either be a head of a family or land less youths.

Since the schemes small scale industrial & commercial level, they require less start-up capital than large enterprises. They also employee indigenous resources & technologies for the production & service processes that they could provide for the people. By and large, the activities under consideration in this scheme are quite evidently manageable by the beneficiaries and possibly sustainable.

D. Types of Non-farm activities

Non-farm activities under the context of ANRS, are types of small scale industrial and micro-enterprise activities which have much better potential for employment generation than capital intensive Ones. Accordingly, a total of more than 30 schemes are identified and ranked into four levels such as Most likely Feasible (MLF), Just feasible (JF), Low feasibility (LF) and Non-Feasible (NF). The criteria such as market opportunity, employment opportunity, resource availability, sustainability etc. are used to categorize each activities into these levels and the result is depicted in the following table below.

CCRDA

Table No. 1

S/N	Type of activities	MLF	JF	LF	NF
1	Repair and maintenance				x
2	Carpentry	x			
3	Masonry	x			
4	Pack animal transportation			x	
5	Cart			x	
5	Black smithing				x
6	Weaving				x
7	Pottery			x	
8	Carpet		x		
9	Mud block	x			
10	Compressed concrete block	x			
11	Wood Works (Rope chairs)		x		
12	Bricks making		x		
13	Bamboo works				x
14	Spinning (wool)		x		
15	Tannery			x	
16	Leather Products		x		
17	Horn processing		x		
18	Mill stone				x
19	Tailoring		x		
20	Embroidery		x		
21	Fishing				x
22	Spliced pulses and cereals		x		
23	Malt making		x		
24	Aggregate		x		
25	Cut Stone			x	
26	Sand Production		x		
27	Gum Production	x			
28	Honey Processing	x			
29	Lime Production				x
30	Bee Hives making	x			
31	Retail trade	x			
	Hides and skin				
	House hold items				
	Agricultural inputs				
	Grain trading				
	Fuel and oil				
	Produce marketing etc.				

CCRDA

E. Training

E1 Training needs

It is evident that, training needs of micro-enterprise activities have to be designed based on the result obtained from assessment. The activities to be promoted and the training arrangements will be worked in detail during action plan preparation and implementation phase.

E2 Training arrangement

Technical and training centers can provide skill training for the aforementioned training types listed in part E1. Technical colleges and vocational schools could have also the capability to provide training if we made some special arrangements. In addition DAHSI (Development Agency for Handicrafts and Small scale Industries) can extend training up to the residence of beneficiaries (with out traveling trainees from their village) through its own mobile workshop. Therefore, the training arrangement can be made flexibly by resorting to different training centers according to the types and nature of the training. But most training intervention is expected to be undertaken at woreda skill training sites or commonly known as the community skill training centers.

F Credit Arrangement

The financial intermediaries for this credit scheme must be the one which can meet the following two important points. One that,

- *can reach the beneficiaries at their gate (residence) and*
- *shall improve credit and saving culture of the beneficiaries.*

The Credit will be handled by the Amhara Credit and Saving arrangements. The detail of credit arrangement is attached in the separate program document.

G. *Indicative cost*

'000,000' Birr

			Year			
Particular	*1998*	*1999*	*2000*	*2001*	*2002*	*Total*
Training	*2.0*	*.2.0*	*2.5*	*2.5*	*2.6*	*9.80*
Constancy	*0.50*					*0.50*
Administration	*0.05*	*0.06*	*0.07*	*0.08*	*0.10*	*10.3*
Total	*2.55*	*2.06*	*2.57*	*2.58*	*2.61*	*20.50*

6.8. Rural credit

With out efficient credit system the envisaged program will not be sufficiently implemented. Hence, the project will make credit funds available as initial capital. the Credit program will be implemented by ACSI. The Total Seed Capital of 53.68 million Birr. the detail planning of the program is attached separately.

CCRDA

7. Implementation

7.1 Physical & non-physical means

The various physical and non-physical means are given in the individual intervention cost summaries. However, summarized physical means includes:

- *Finance*
- *Labor*
- *Equipment*
- *Tools*
- *Seeds*
- *Vehicles*

Non physical means

- *Training*
- *Technical support etc.*

7.2 Implementation procedures

a) *Steering committee will be establish at regional, Zonal and woreda Level. The steering committee will be a forum for annual and quarterly planning and monitoring. Implementation will be undertaken by various buearx and departments. Woreda executives will take the over all responsibility for implementing the program.*

b) *A food security unit will be established at regional level which will have a supervisor at a woreda level and core unit at the woreda level closely related at the woreda executive. The organigram is shown below. This unit and the various staff at woreda, regional and Zonal level is absolutely essential for uninterrupted flow of information, finance and job performance.*

An accountant will be employed at a woreda level to assets flow of funds and reports. The woreda executive expert will work as coordinator to the program with a top up to it salary.

At a regional level a food security unit will be established for the over all coordination of activities at the regional level. Its main task will be planning, reporting, fund release and evaluation. The regional coordinating unit will be accountable to the regional steering committee.. It will be accountable to the regional steering committee. It will be located at regional government office.

CGRDA

7.3 Time table

The IFSP will be Multi annual program commencing operation in December 1998 and terminating at the end of 2002. All project level activities will be planned around the seasonal calendar of the woreda.

7.4. Financial Plan

The total cost of the program is estimated at Birr. The cost of the program goes above 1.6 billion is it was a lateral summation of the woreda plans. but the woreda plan includes private costs such as fertilizer as a cost which are included in input supply. at regional level this duplication is avoided.

Costs are indicated by out put as follows. This cost estimate is by no means an end but will be properly estimated at the stage of implementation.

		1998	1999	2000	2001	2002	Total
1	Support to woreda level institution	11534	7082	5559	5666	4836	34677
2	crop production	11557	12034	11301	11376	10989	57257
3	Irrigation	13531	17076	32096	31679	27343	121725
4	Improve live stock	9278	9943	8578	8437	7897	44133
5	Soil conservation	6128	5159	4032	3231	3124	21674
6	Reforestation	1862	2037	1621	1879	1786	9185
7	Income generating	2550	2060	2570	2580	2610	12370
8	potable water supply	9253	8488	8836	8034	8645	43256
9	Support to Trails (Road)	5813	6031	5171	5325	4140	26480
10	education	4658	4899	4946	5298	4983	24784
11	Health	5164	5484	5584	5701	4689	26622
12	Cooperatives	0	0	0	0	0	
13	Spatial Integration	2100	2100	5500	4500	4050	18250
14	Human resource development	7370	10560	10250	10240	10230	48650
15	Capacity building at zone and regional level	28500	1700	13100	100	5665	49065
16	Natural resource						14407
17	Food security Monitoring	200	500	500	250	250	1700
18	Feeder and main road	0	0	0	0	0	57630
19	Program Monitoring	4500	1600	1600	1700	1800	11200
	Total						200902

Road credit
Not added since credit will cover the whole issue

7.5 Special conditions

Special conditions will be detailed after discussion is made with the donor. These special conditions refers to:

- *The size of coordinating unit at regional level*
- *Salary payment to employees*
- *the top-up required*
- *par-diem rates for experts, and trainees*
- *technical assistance is required*
- *establishing implementable goals*
- *labor rates*

8. Factors ensuring long term food security

Activities are being implemented today in the woreda. Most of these activities are basically trying to solve the food security problem long-term sustainability requires integrating existing activities and IFSP.

8.2 Markets and production

The program is aimed at increasing production of both agriculture and non-agricultural components. To check unfavorable terms or inflation of trade interventions planned on market information, construction of access roads, strengthen the capacity of service cooperatives program implementation is not expected to inflationary.

8.3. Environmental Aspects

The conservation activities planned, the intervention in family planning and environmental sanitation, catchment treatment related with irrigation schemes and reforestation all positively related to environment besides, intervention in literacy program will enhance social awareness of the problem, since these programs have many environmental coarsens.

8.4 socio /cultural and gender aspects

The introduction of new agricultural inputs, farming techniques and crop varieties are and beneficial to the society of existing traditions. The food security initiative emphasis on indigenous specious. Such as livestock and traditionally better known local seed varieties. The program has also arranged an intervention on civil societies. Such as women's group. This is both gender responsive and culturally acceptable intervention.

CCRDA

8.5. Management capacity

The woreda is implementing similar activity. The capacity building element of the program will boost management capacity of the woreda.

8.6. Accompanying measures

IFSP will a part and parcel of the Regional Plan. The program will be implemented in close collaboration with other NGO programs operating in the region. Besides the regional government will pass some policy decisions about

- *Soil and water conservation*
- *land use planning*
- *about the participation of civil society in reforestation and many other essential and favorable and required decision*

The commitment of the regional government to undertake development program. This is one and major favorable policy for program implementation.

9. Feed back

9.1 Reporting requirements

a) *In collaboration with the specific donor a standard project cycle management formats for reporting will be used. In the absence of this the regional coordinating unit will prepare a report format. Reports will be based on this format.*

- *The support by every implementing department will be compiled by the woreda coordinator and submitted to the woreda steering committee.*
- *The woreda steering committee will discus and approve it. The approved report will be send to the Regional food security core.*
- *The regional food security core will comment and present to steering committee at regional level.*
- *The regional committee chairman will report to the donor. /completed report/.*

b) *there will be bi-annual reports to donors. This report shall include re-planning strategies..*

c) *Mid term review and final evaluation will be arranged. Evaluators will be external to the woreda. Evaluators shall use participatory practices.*

The program super visor will be the regional food security unit head and its staff to be employed. All monitoring and evaluation indicators will be developed in a workshop where all actors are participating.

Conclusion

The program is aimed at solving the food security problem on a sustainable base. It will be refined through dialogue between all stake holders and beneficiaries.

CGRDA

CCRDA