

**POPULAR VERSION OF  
NATIONAL AGROFORESTRY STRATEGY**



**NATIONAL AGROFORESTRY STEERING COMMITTEE  
(NASCO)**

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## **PREFACE**

Agroforestry Research and Development was initiated in Tanzania during the early 1980's. Several Agroforestry technologies that address different problems of soil fertility depletion, food security, shortage of fuel wood, fodder, and land degradation have been developed. The developed Agroforestry technologies have the potential of addressing food security, improving nutrition, alleviate poverty and sustaining the environment. Having realized positive contributions of Agroforestry the Ministries of Agriculture and Food Security (MAFS) and Natural Resources and Tourism (MNRT) saw the justification of coordinating Agroforestry Research and Development which was being undertaken by various actors.

In 1993, National Agroforestry Steering Committee (NASCO) was formed in order to coordinate Agroforestry Research and Development in Tanzania. Since its formation, NASCO has been representing the country in Regional and International fora on Agroforestry issues and organising Agroforestry and environment workshops.

In April 2002, the NASCO conducted a workshop in Morogoro, which formulated the National Agroforestry Strategy (NAS), in order scale-up dissemination of appropriate Agroforestry technologies.

In November 2003 the strategy was presented in a stakeholder's workshop to have stakeholders' inputs. The document was later in 2004 presented to a six members task force to put it in a simplified language (The popular version of National Agroforestry Strategy).

L. Nshubemuki

Chairman, NASCO Secretariat.

**Morogoro, 2006.**

## EXECUTIVE SUMMARY

Tanzania with a population of 34.5 million has one of the world's lowest per capita income of 210 USD. This is attributed to low agricultural productivity. Other problems facing the population include poverty, poor nutrition, food insecurity and environmental degradation. There have been strategies aimed at overcoming the mentioned problems. The strategies include the Poverty Reduction Strategy, Rural Development Strategy 2001, the Agricultural Sector Development Strategy 2001, the Tanzania Development Vision 2025, the Tanzania National Forest Programme 2001 and the National Beekeeping Programme 2001. They all focus on the improvement of livelihoods of the rural poor who are more than 80 percent of the country population.

Agricultural sector, which is the backbone of the economy, contributes about 50% of the Gross Domestic Product. However, its productivity is very low. Agroforestry offers several technologies that can contribute to agricultural and livestock productivity improvement hence improving food security, nutrition, poverty alleviation, and sustaining environment. Nevertheless, they have had limited adoption and impact. There is a need to identify the limitations in scaling up agroforestry technologies, and therefore, work out promotion strategies in close collaboration and partnership with private sector.

Recognising the importance and potential of agroforestry technologies in improving productivity, the MAFS and MNRT have formed NASCO that formulated the National AF Strategy with the following vision: “ **By 2025 at least 4 million rural farming households adopt and benefit from agroforestry interventions sustainably**”. The Strategy will achieve its vision in phases. The vision is divided into a goal and purpose to be achieved by 2020 and 2010 respectively. The target is to reach at least 60% of 4 million resource poor families by 2020 and 30% of those households by 2010.

The Strategy will address several components in order to achieve its objectives among them establishment of a strong public-private sector partnership, improve networking and awareness creation. There will be efforts to create favourable policy and legal environment, development of farmer responsive technologies, securing adequate quantity and quality germplasm, capacity building at local and district levels. Participatory dissemination of technologies and promotion of market access to farmers will receive due considerations. The priority areas for the strategy in five years (2002-2007) will be the Lake, Northern, Southern Highlands, and the Western zones. The implementation of the strategy will be addressed through respective district councils.

NASCO will be assisted in co-ordination, networking and information dissemination by a Secretariat that will invite relevant stakeholders to meetings and establish a national agroforestry database. The NASCO Secretariat will solicit funds for implementation of the strategy. The initial estimated annual cost is approximately TAS 1.925 billion and a total for five years is TAS 9.625 billion.

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## LIST OF ACRONYMS

HASHI	Hifadhi Ardhi Shinyanga
RFPP	Ruvu Fuelwood Pilot Project
NAS	National Agroforestry Strategy
NASCO	National Agroforestry Steering Committee
HIMA	Hifadhi Ardhi Iringa
SCAPA	Soil Conservation and Agroforestry in Arusha
DNRO	District Natural Resource Officer
DALDO	District Agricultural and Livestock Development Officer
TTSA	Tanzania Tree Seed Agency
DAFSCO	District Agroforestry Steering Committee
ICRAF	International Centre for Research of Agroforestry
TAFORI	Tanzania Forestry Research Institute
MAFS	Ministry of Agriculture and Food Security
MWLD	Ministry of Water and Livestock Development
MNRT	Ministry of Natural Resources and Tourism
SUA	Sokoine University of Agriculture
HADO	Hifadhi Ardhi Dodoma
NGO	Non-Government Organisation
PO-RALG	President's Office – Regional Administration and Local Government
FBD	Forest and Beekeeping Division
DCD	Department of Crops Development
DLD	Department of Livestock Development
MVIWATA	Mtandao wa Vikundi vya Wakulima Tanzania

## **INTRODUCTION**

Tanzania, with population of 34.5 million (Census, 2002), has one of the world's lowest annual per capita income (210 US\$), which is lower than the average for Sub-Saharan Africa (500 US\$). This is due to low production and productivity of the agricultural sector, which is the backbone of the economy. The low production and productivity is mainly due to use of inefficient and poor farm implements and low soil fertility. In addition, environmental degradation manifested as deforestation, soil erosion, bush fires and depletion of water sources also contributes to low productivity. Poor rural infrastructure and marketing systems for agricultural crops are the other bottlenecks. Tanzania government has prepared several strategies to address the problem. They include the Poverty Reduction Strategy (2000), the Rural Development Strategy 2001, the Agricultural Sector Development Strategy 2001, the Tanzania Development Vision 2025 (2000), the Tanzania National Forest Programme 2001 and the National Beekeeping Programme 2001. The strategies aim at improving livelihoods of the rural poor whom account for over 80 percent of the population through poverty alleviation and food security.

Although, inorganic fertilisers have been proved to increase productivity, they are expensive and the majority of farmers cannot afford them. Current research findings have indicated that agroforestry systems and practices improve productivity and conserve the environment. It is, therefore, important that, agroforestry technologies affordable by farmers be seriously promoted. Recognising the importance and potential of agroforestry technologies in improving productivity, the MAFS and MNRT have formed NASCO that formulated the National AF Strategy to guide scaling up of agroforestry technologies.

### **1.0 ROLE AND POTENTIAL OF AGROFORESTRY**

Agroforestry involves all practises, which combine trees or shrubs with crops, animals and/or pasture. This combination is both ecological and economic interaction between different components, in the same place and at the same time. It also offers several options that contribute to increased food security, improvement of nutrition, alleviation of poverty and sustaining the environment leading to improved livelihoods.

Agroforestry evolved with agricultural development in most communities, however, agroforestry research has been introduced to Tanzania over the past twenty years to improve productivity of agroforestry practices. Research results have shown that agroforestry plays a great role in increasing soil fertility, reducing pressure on natural forests, providing fodder and food. In addition, agroforestry has a potential in rehabilitation of degraded lands and environmental conservation.

Agroforestry also contributes to poverty alleviation and food security through processing of indigenous fruits into products like jam, juices and wine that have helped some rural women improve nutrition of children and increase household incomes. However, this potential has not been fully exploited.

### 3.0 EXPERIENCE ON AGROFORESTRY TECHNOLOGIES

#### 3.1 Soil fertility replenishment

Agroforestry offers different options for soil fertility replenishment, which are more affordable than inorganic fertilisers. These include improved fallows, intercropping and relay cropping of crops with nitrogen fixing trees and shrubs like *Sesbania sesban*, *Tephrosia vogelii*, and *Gliricidia sepium*. For example, research results from farmer's trials in Tabora, indicated that two-year *Sesbania sesban* fallows can double maize production (Table 1). Similar results have been observed in *Sesbania*-maize relay cropping and *Gliricidia*-maize intercropping systems in Southern Malawi and Zambia.

Table 1. Maize grain yield from 10 farmer-managed trials in Tabora District

Treatment	Maize grain yield Kg ha <sup>-1</sup>
<i>Sesbania sesban</i>	1725
<i>Tephrosia vogelii</i>	1004
Natural fallow	882
Fertilised	2253
Unfertilised	780
<b>SED</b>	<b>157.6</b>

#### 3.2 Fodder and fodder banks improvement

One of the major constraints to livestock production is shortage and poor quality feed, particularly during the dry seasons. Agroforestry research has identified suitable fodder trees and legumes that has improved fodder quality and quantity. The fodder bank technology and improved *Ngitiris*, using fast growing fodder trees and shrubs such as *Leucaena pallida*; *L. diversifolia*, *L. collinsii*, *Acacia angustissima* and *Gliricidia sepium* have shown great potential to meet the needs of livestock in the dry seasons. For example, supplementation of dairy diets with 2 - 4 kg of *Leucaena* leaves resulted in 30% increases in milk production in Shinyanga. Table 2 shows the effect of supplement feeds on milk production in Shinyanga. It was observed that tree leaves could be substituted for the expensive and unaffordable cotton seed cake.

Table 2: Effect of feed supplements on milk production (n = 38)

Type of Supplement	Quantity/day (kg) (average)	Milk/day (lt) (average)
Cotton seed cakes	3	12
Cotton hulls	4	8
Maize bran and fodder leaf	6	11
Maize bran (No supplements)	4	7

#### 3.3 Fuel wood production

The use of fuel wood as a major source of energy for the majority of Tanzanians has resulted in high pressure on natural forests. In 1999, 95% of the wood consumption in the country estimated at 42 million cubic metres was fuelwood. In order to offset fuelwood demand from natural forests, several AF technologies were developed and tested. These include woodlots (pure stand and rotational), alley cropping, boundary planting and wind breaks. Rotational woodlots have shown greater potential in alleviating fuelwood shortage. Rotational woodlots involve three phases; a tree establishment phase (2 – 3 years), where trees are planted with crops; a tree fallow phase; and a post

fallow phase. Fast growing and high yielding tree species suitable for rotational woodlots have been identified. Some of these include *Acacia crassicarpa*, *Acacia julifera*, *Acacia leptocarpa*, *Senna siamea*, *Leucaena leucocephala* and *Acacia polyacantha*.

### **3.4 Domestication of indigenous fruit trees and fruit processing**

The Miombo forests in the country contain indigenous fruit trees. The fruits are rich in minerals and vitamins. At present the technologies for domestication and propagation of indigenous fruits is at initial stage. Indigenous fruits are under utilised due to insufficient knowledge on how to process and raise their market value. Currently processing for juice, jam, butter, pickles and wine at small-scale has started.

## **4.0 DISSEMINATION OF AGROFORESTRY TECHNOLOGIES AND ADOPTION**

There are several government and non-government institutions that are involved in dissemination of agroforestry technologies. Major activities in dissemination have been sensitisation of some farmers and policy makers through seminars, workshops, field days, field visits, training materials (manuals, leaflets, bulletin), video shows, radio and TV programmes.

The number of farmers testing and benefiting from agroforestry interventions in Tabora has increased steadily from 1992/93 to 2001 (Table 3).

**Table 3: Number of farmers testing agroforestry technologies in Tabora District\***

<b>Technology</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>	<b>95/96</b>	<b>96/97</b>	<b>97/98</b>	<b>98/99</b>	<b>99/00</b>	<b>2000/01</b>
Rotational Woodlots	-	5	20	160	382	572	880	961	1380
Boundary Planting	5	6	6	100	260	427	427	440	440
Fodder Banks	-	-	-	9	78	139	164	212	628
Improved Fallows	-	-	4	18	68	150	241	291	953
<b>Total</b>	<b>5</b>	<b>11</b>	<b>30</b>	<b>287</b>	<b>788</b>	<b>1288</b>	<b>1712</b>	<b>1904</b>	<b>3401</b>

**\*The data include both researcher designed farmer managed and farmer designed and managed.**

So far about 725,000 rural farmers have been reached (Appendix 1). The percentage of farmers adopting the technologies ranges between 12-35, the highest adoption rate of 35 being in the Western zone (HASHI) followed by 32 in the Eastern zone (RFPP). Regardless of the efforts towards disseminating agroforestry technologies, the number of farmers reached and adoption are minimal.

## **5.0 CONSTRAINTS IN THE DISSEMINATION OF AGROFORESTRY INTERVENTIONS**

In spite of several interventions at household level, agroforestry technologies have not had a widespread impact. The major constraints and limitations in dissemination of the technologies include:

### ***5.1 Inadequate co-ordination of research and development activities***

Different Institutions and organisations are undertaking agroforestry research and development activities in the country. These include Government ministries (MNRT, MWLD and MAFS), SUA, NGOS and bilateral projects such as HASHI, HADO, HIMA, SCAPA and many others. However, research planning, execution and dissemination of findings are done without close collaboration leading, in most cases to limited sharing of experience and results, and duplication of efforts. Therefore, there is an urgent need to establish mechanisms for co-ordination and linkage between these organisations and projects.

### ***5.2 Inadequate awareness of agroforestry technologies***

The smallholder farmers in the country are the major recipients of agroforestry technologies. Unfortunately, few farmers and other stakeholders involved in agriculture and natural resources management have been exposed to agroforestry technologies. A common strategy to disseminate agroforestry and other natural resource conservation technologies needs to be developed and implemented.

### ***5.3 Inadequate financial and human resources***

Funding for agroforestry research in the country is minimal. In addition the extension services in the ministries (MAFS, MWLD and MNRT) are allocated limited funds for dissemination. Besides limited funding, there is few trained and experienced staff in both research institutions and extension services. Therefore, there is a need for a well-formulated agroforestry strategy to attract funding from the government and donors for capacity building and dissemination.

### ***5.4 Inadequate use of existing dissemination channels***

Ineffective utilisation of existing channels (newsletters, workshops, meetings and field days) due to inadequate budget allocations, shortage of trained staff, and lack of political support has resulted to limited dissemination of agroforestry technologies and adoption. Therefore, there is a need to sensitise high level policy and decision-makers in the government institutions in order to allocate adequate resources.

### ***5.5 Weak legal framework***

Some of the government policies have implications on agroforestry activities. These include policies relating to land tenure for instance, whereby most women do not have ownership of land. By the fact that they do not own land, they are discouraged from tree planting or even managing land sustainably. This is a disincentive for investment in tree planting. There are conflicting sectoral interests and mandates, which lead to competing interests (cash crop versus food crops).

### ***5.6 Inadequate supply of quality seeds and seedlings***

Shortage of tree seeds, seedlings and other propagation materials is one of the most important constraints in dissemination and adoption of agroforestry technologies in Tanzania. This is due to limited capacity to produce and supply seeds to meet the demand. Inadequate seeds and seedlings availability to farmers is also attributed to high prices and lack of information about the germplasm.

## 5.7 Problems of Markets and Information Access

Increased adoption of agroforestry has led to increased products, which need markets for their disposal. Currently, these markets are few and information about them is inadequate.

## 6.0 NATIONAL STRATEGY FOR SCALING UP OF AGROFORESTRY INTERVENTIONS

The overall national level target of the Tanzania Development Vision states that:

*“By 2025, a high quality livelihood for all Tanzanians in terms of food self-sufficiency, food security, gender equality and empowerment of women with an absence of abject poverty.”*

This can be compared with the goal of the Tanzania Poverty Reduction Strategy Paper (PRSP) which is to *“reduce income poverty, improve quality of life and social well-being, and reduce vulnerability amongst the poorest groups”*. The Agroforestry Strategy aims at contributing to these macro level national goals by achieving its vision, which states that:

*“By 2025, at least 4 million rural farming households adopt and benefit from agroforestry interventions in a sustainable manner”.*

2025	Vision of the Tanzania Agroforestry Strategy	By 2025, at least 4m rural households adopt and benefit from agroforestry interventions in a sustainable manner
2015 – 2020	Goal	By 2020, agroforestry technologies adopted and contribute to improved livelihood of 60% of resource – poor households
2010	Purpose (medium term objective)	By 2010, at least 30% of rural households adopt and benefit from agroforestry interventions
2002 - 2010	Components of the Strategy	<ol style="list-style-type: none"> <li>1. By 2010, adequate and sustainable supply of diverse and quality germplasm ensured</li> <li>2. By 2010, location specific and farmers' responsive technologies developed</li> <li>3. By 2010, capacity of community and district level stakeholders (Public/NGO/Private sectors) to implement AF interventions increased</li> <li>4. By 2006, awareness of farming communities, local leaders, NGOs and policy makers on the importance of agroforestry increased</li> <li>5. By 2007, participatory agroforestry technology and information disseminated to farming communities</li> <li>6. By 2005, national agroforestry network involving stakeholders e.g. farmers, local institutions, NGOs</li> </ol>

		<p>private sector, policy makers etc. established</p> <p>7. By 2006, policy and legal framework modified to ensure:</p> <ul style="list-style-type: none"> <li>• Equitable access to land</li> <li>• Private sector participation</li> <li>• Consistency on policies</li> <li>• Product quality</li> </ul> <p>8. By 2010 rural farmers access to competitive local and export market for agroforestry inputs and outputs ensured.</p> <p>9. By 2004 Strategy implementation, strategic partnerships, and M&amp;E made operational.</p>
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The Tanzania Agroforestry Strategy aims at achieving its vision in ***phases***, divided into a goal and purpose, which are to be achieved by 2020 and 2010 respectively. The target is to reach at least 60% of resource poor households (from the overall figure of 4 million rural farm families) by 2020 and 30% of these households by 2010. Currently, various programmes, projects and agroforestry interventions being undertaken by government and private sector institutions have already reached at least 725,000 farm level target beneficiaries. The average adoption rate is currently 20-25%.

## **7.0 ESSENTIAL COMPONENTS FOR THE Agroforestry STRATEGY**

The successful implementation of the identified ***components*** is important for achieving the purpose and goal of the agroforestry strategy. These are elaborated below:

### **7.1 Adequate and Sustainable Supply of Diverse and Quality Germplasm**

To meet seeds and seedlings demand a sustainable farmer-based germplasm production, delivery and marketing system involving public institutions, NGOs, CBOs, private sector entrepreneurs and farmers should be created. In the short term, NGOs and large-scale farmers need to be sub-contracted to produce bulk seed. In the medium term, existing seed centres should be strengthened by opening satellite seed distribution centres in each district. The DNROs, DALDOs should in collaboration with TTSA ensure provision of quality seeds. In addition, establishment of Agroforestry Development Fund through which some percentage accrued from natural resources collection be set aside for scaling-up of AF interventions.

### **7.2 Location Specific and Farmer Responsive Technologies**

Technology development should continue to focus on-farm and involve farmers' participation from the beginning. Research should focus on the study on nutrient and water dynamics in agroforestry systems, testing a wide range of agroforestry technologies in different agro-ecological zones to address farmers' preferences. In the short term, biophysical and socio-economic evaluations are necessary to document adoption rates and the type of benefits accruing to the farmers.

The technologies currently available and being adopted by farmers are woodlots, boundary planting, improved fallow, relay cropping, fodder banks, alley cropping, and use of non-wood products for medicinal and nutritional values such as indigenous fruit

trees. The strategy emphasises at promoting technologies that are responsive to farmer needs.

### **7.3 Capacity Building**

In order to scale up and make impact at a national level, capacity building at all levels is advocated, particularly at district level. Efforts should be directed to field extension staff, district councils, policy makers, researchers and multisectoral AF teams (e.g. Agriculture, Forest, Livestock and Community Development). Current centres of research in agroforestry (e.g. HASHI) should provide training to assist Districts in their capacity building efforts. Agroforestry as a subject will be promoted in primary, secondary schools, colleges and universities. Emphasis should be put on farmers' training in the form of seminars, workshops, field days and farmer-to-farmer visits.

### **7.4 Awareness Creation**

Demonstration trials at village level, field days, seminars and workshops involving stakeholders (farmers, researchers, extensionists, policy makers and NGO) should be conducted at village, district and national levels. The use of dissemination channels such as mass media (radio/TV), leaflets, brochures, posters, organising and mounting dances, dramas and theatre and video shows should be fully utilised in creating awareness.

### **7.5 Dissemination of AF Technologies**

Developed technologies should be disseminated to stakeholders for adoption. Different participatory dissemination approaches such as farmer-to-farmer extension, multidisciplinary extension teams, farmer groups and NGO partnerships, and selected farmers (as seed multipliers and traders) should be used in the process.

### **7.6 Networking**

The Secretariat of the NASCO should lead in communication, co-ordination and networking, of agroforestry activities. The networking should include all stakeholders promoting and practising agroforestry in the country, and also links to regional and international networks. At the district level, the flow of agroforestry information should be through relevant district sub-committees, which will trickle information down to village level. An annual stakeholder meeting should be organised to discuss and disseminate results of agroforestry scaling up activities and share experience.

### **7.7 Policy and Legal Framework**

Sectoral policies (agriculture, environment, land, forestry, and livestock) and regulations need to be harmonised in order to address issues related to land tenure e.g. access to land, particularly for women. In addition, village and district authorities are encouraged to formulate/enact and enforce by-laws pertaining to AF adoption. The emphasis is to harmonise sectoral policies in order to create favourable environment, which will attract and facilitate investment in AF.

### **7.8 Market and Information Access**

Availability of markets and access to market information is a prerequisite for a successful scaling up of agroforestry interventions. Markets for different agroforestry products are incentives to farmers for adoption of agroforestry technologies. The strategy is to build capacity of local marketing institutions, improve access to market information services, and provide market skills such as processing, packaging, storage, and pricing. Private sector should be encouraged to play the leading role in marketing.

### **7.9 Implementation, Monitoring and Evaluation**

Relevant stakeholders should be invited to implement scaling up of agroforestry technologies. The NASCO should oversee monitoring and evaluation of AF activities. For effective monitoring and evaluation, zonal co-ordinators of AF should be appointed. The NASCO should request the responsible authorities to appoint the co-ordinators.

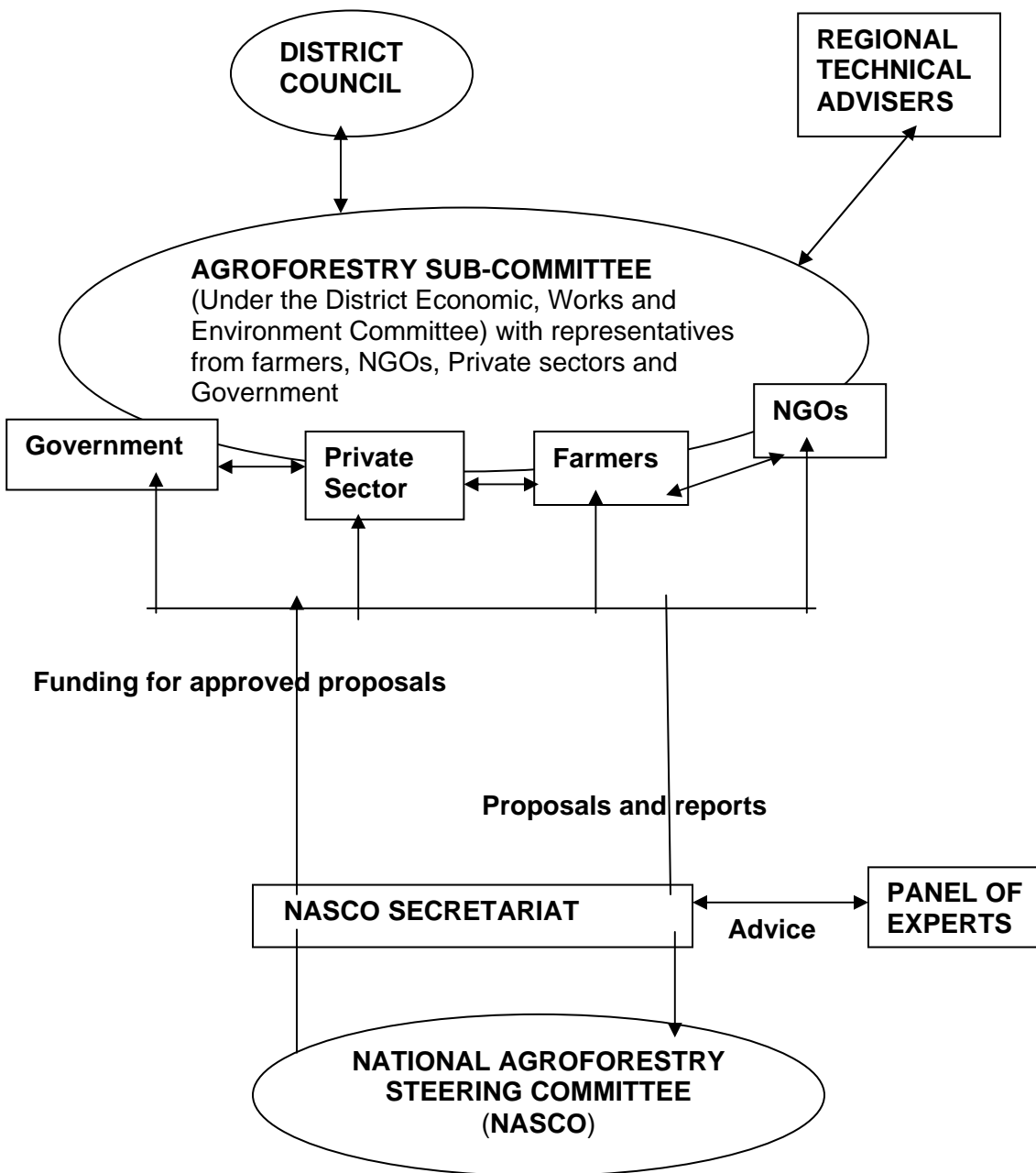
### **8.0 GEOGRAPHICAL COVERAGE FOR FIVE YEARS (2002 – 2007)**

Technically, there is potential for applying promising agroforestry technologies in several regions of Tanzania. However, due to limited financial and human resources, starting priority zones were selected using the following criteria:

- High impact of socio-economic factors (such as pressure on resources, population pressure etc.)
- Decline in the use of traditional fallow
- Deforested areas
- High soil erosion
- Presence of positive scaling up factors (pre-conditions: e.g. tested technologies, farmers who have adopted at least one technology, innovative farmers etc.); and
- Availability of agroforestry partner organisations or collaborators.

These criteria were applied to eight agro-ecological zones using a scoring system. The ranking exercise indicated the Lake (Shinyanga, Mwanza and Mara) and Northern zones (Arusha, Tanga and Kilimanjaro) to be the highest priority areas, followed by the Southern Highlands (Mbeya and Iringa), and Western zone (Tabora). The four zones are proposed as geographical focal areas for investment in five years (2002-2007) and where NASCO will concentrate its efforts.

## 9.0 INSTITUTIONAL SET-UP TO IMPLEMENT THE NATIONAL AGROFORESTRY STRATEGY



The focus of implementation of the agroforestry scaling up strategy is the District Council. It is proposed that the Economic, Works and the Environmental Committee sets targets and review implementation of agroforestry activities in the district. The representative members in the Sub-Committee should directly submit project proposals to the NASCO through the NASCO secretariat and on approval, receive funding directly. The implementers should submit progress reports to the District Council and the NASCO Secretariat.

## **9.1 The National Agroforestry Steering Committee (NASCO)**

The NASCO will be an overseer and governing body, reflecting the spirit of public-private-partnership in its composition. In this context “private sector” includes farmer group representation, NGOs and commercial interests (traders, suppliers etc.). Its members will elect the chairperson for a period of three years and this position will alternate between the public and private sector. Its composition will comprise the following members:

- 1 MNRT – DFB
- 1 University - SUA
- 1 Representatives from Farmers Networking groups (user groups) e.g. MVIWATA
- 1 Representative from PO – RALG
- 1 Representatives from private sector to be requested from the Private Sector Foundation
- 1 Representatives from NGOs (NASCO to identify active NGOs working on AF)
- 1 MAFS – DRD
- 1 TAFORI
- 1 ICRAF
- 1 NAFRAC

### **9.1.1 Terms of reference for NASCO**

The terms of reference for NASCO should be to:

- oversee strategy implementation and undertake agroforestry policy development
- review and approve research, development and implementation proposals emanating from public and private sector partners
- solicit funds from internal and external sources
- co-ordinate national agroforestry programmes and projects
- link with district level agroforestry committees
- monitor and evaluate the strategy
- provide annual performance reports on agroforestry strategy implementation to government, donors and the public at large
- network with regional and international organisations
- undertake any other AF issues of national interest

### **9.1.2 NASCO Secretariat**

The NASCO shall be assisted in fulfilling its terms of reference by a Secretariat, which will be provided by TAFORI.

#### **9.1.2.1 Terms of reference to NASCO Secretariat**

The Terms of Reference of the NASCO Secretariat shall be to:

- act as secretary to NASCO and assist it in fulfilling its terms of reference
- liaise closely with the chairperson of NASCO and convene meetings twice a year
- receive proposals, arrange for review and submit to NASCO for approval
- disburse funds to partners on receiving approved proposals from NASCO
- organise and ensure AF related data collection, data management and documentation

- maintain books of accounts, prepare statements, and organise external audits
- publish and disseminate strategy implementation information to stakeholders
- organise and conduct impact monitoring reviews on a regular basis, and
- prepare half-yearly and annual reports and submit to NASCO

## **9.2 The Expert Panel**

An **expert panel** will be attached to the NASCO Secretariat. The panel will assist the Secretariat in reviewing project proposals; advice on technical matters, and make recommendations to NASCO.

### **9.2.1 Members of expert panel**

The members of the Panel of Experts will come from:

- Agricultural Extension
- Forestry Extension
- Livestock Extension
- DRD (Directorate of Research and Development)
- SUA
- TAFORI
- ICRAF, and
- Any other Expert/Institution

### **9.3 The District Agroforestry Sub-Committee (DAFSCO):**

The DAFSCO is synonymous to the Agroforestry Sub-Committee, and will carry out its AF activities under the Economic Works and Environment Committee (EWEC) in the district. Its members will be as stipulated in EWEC. In addition to EWEC members, DAFSCO will have its members as stipulated below. When the EWEC meet to deal with agroforestry matters, its secretary should be Agricultural or Forest officer and the meetings should be approved and paid for by NASCO. The sub-committee will have an advisory and monitoring role and will submit reports to NASCO Secretariat with a copy to District Council.

The composition of this Sub-Committee is as follows:

- 2 Model Farmer representatives (1 male and 1 female)
- 1 NGO/CBO representative
- 1 Private sector representative
- 1 Councillor
- Technical representatives from:
  - ❖ 1 Agriculture
  - ❖ 1 Forestry
  - ❖ 1 Research
  - ❖ 1 Livestock
  - ❖ 1 Community Development, and
  - ❖ 1 Planning
  - ❖ 1 SIDO
  - ❖ 1 Co-operatives

### 9.3.1 Terms of reference for DAFSCO/EWEC

The terms of reference for DAFSCO/ EWEC shall be to:

- Co-ordinate agroforestry activities
- Promote and disseminate technologies preferred by farmers
- Ensure data collection, analysis, and dissemination
- Ensure annual and semi-annual reports are submitted
- Liase with Regional Administration and the NASCO Secretariat
- Mobilise resources and solicit funding for District activities AF related
- Carry out training needs assessment as and when required
- Set annual targets and review progress
- Submit half-yearly and annual reports to NASCO Secretariat with copies to the District and Regional Administration.

### 9.4 Regional Technical Advisors

Regional Technical Advisers (from Agriculture/Forestry/Livestock) shall be an advisory on co-ordination and policy interpretation to the district sub-Committees.

## 10.0 PRELIMINARY ESTIMATE OF COSTS

Although the strategy spans over a period of 20 years, budget estimates indicated in Table 4 is only for the first five-years (2002 - 2007). The estimates include the costs for NASCO Secretariat and scaling up agroforestry activities in 4 zones.

Table 4: The budget estimate for the five-year period (2002 – 2007) in M. Tshs.

Items	Year 1	Year 2	Year 3	Year 4	Year 5	Totals
1. NASCO Secretariat	165	165	165	165	165	<b>825</b>
2. Lake Zone	440	440	440	440	440	<b>2,200</b>
3. Northern Zone	440	440	440	440	440	<b>2,200</b>
4. Southern Highlands Zone	440	440	440	440	440	<b>2,200</b>
5. Western Zone	440	440	440	440	440	<b>2,200</b>
<b>Totals</b>	<b>1925</b>	<b>1925</b>	<b>1925</b>	<b>1925</b>	<b>1925</b>	<b>9625</b>

## 11.0 EXTERNAL FACTORS (ASSUMPTIONS)

The following external factors (assumptions) must remain favourable if Strategy implementation is to succeed.

<p><b>2025</b></p> <p><b>2015 – 2020</b></p> <p><b>2010</b></p>	<p><b>Vision</b> By 2025, at least 4m rural households adopt and benefit from agroforestry interventions in a sustainable manner</p> <p><b>Goal</b> By 2020, agroforestry technologies adopted and contribute to improved livelihood of 60% of resource – poor households</p> <p><b>Purpose (medium term objective)</b> By 2010, at least 30% of rural households adopt 2 benefit from agroforestry interventions</p>	<p><b>External Factors/Assumptions to achieve Vision, Goal, Purpose:</b></p> <ul style="list-style-type: none"> <li>- stable political environment</li> <li>- policy support for agroforestry continues</li> <li>- favourable weather</li> <li>- increased propagation by farmers</li> <li>- improved marketing infrastructure</li> </ul>
<p><b>2002 - 2010</b></p>	<p>Components of the Strategy</p> <ol style="list-style-type: none"> <li>1. By 2010, adequate and sustainable supply of diverse and quality germplasm ensured</li> <li>2. By 2010, location specific and farmers' responsive technologies developed</li> <li>3. By 2010, capacity of community and district level stakeholders (Public/NGO/Private sectors) to implement AF interventions increased</li> <li>4. By 2006, awareness of farming communities, local leaders, NGOs and policy makers on the importance of agroforestry increased</li> <li>5. By 2007, participatory agroforestry technology and information disseminated to farming communities</li> <li>6. By 2005, national agroforestry network involving stakeholders e.g. farmers, local institutions, NGOs private sector, policy makers etc. established</li> <li>7. By 2006, policy and legal framework modified to ensure: <ul style="list-style-type: none"> <li>• Equitable access to land</li> <li>• Private sector participation</li> <li>• Consistency on policies</li> <li>• Product quality</li> </ul> </li> <li>8. By 2010 rural farmers access to competitive local and export market for agroforestry inputs and outputs ensured.</li> </ol> <p>By 2004 Strategy implementation, strategic partnerships, and M&amp;E made operational.</p>	<p><b>External Factors/Assumptions to achieve Strategy Components:</b></p> <ul style="list-style-type: none"> <li>- Favourable weather</li> <li>- Farmers preferences positively support seed multiplication of types propagated</li> <li>- Free germplasm donation by NGOs and international organisations</li> <li>- Improved infrastructure (roads etc.)</li> <li>- Conflicting and competing interests amicably resolved</li> <li>- Committed farmers and farmer groups</li> <li>- Accessibility improved to markets and market information</li> <li>- Willingness to share information (transparency)</li> <li>- High level of commitment of partners and collaborators</li> <li>- Favourable price structure for farmers</li> <li>- Access to credit facilities</li> <li>- Favourable tax structure</li> <li>- Availability of funds</li> </ul>

## **12.0 REVIEW OF STRATEGY IMPLEMENTATION**

An annual review of implementation of the strategy will cover all implementing stakeholders. A standardised format for gathering information on farmers reached, adoption rates, technologies preferred and funds invested will be established and information disseminated on an annual basis. External and internal reviewers will be invited from international, regional and national institutions to conduct peer-reviews and provide feedback. A mid-term review will be conducted in 2004 to assess progress and take corrective action, where required.

## **13.0 SUSTAINABILITY**

Sustainability of agroforestry practices will depend on farmers' acceptance and adoption, the favourable policy support, market and information accessibility and good weather. It is also important to have a close collaboration and network amongst stakeholders and stable political environment.

## ANNEXES

### ANNEX 1: CURRENT AGROFORESTRY ACHIEVEMENT IN THE COUNTRY

- 1.0 TECHNOLOGIES AVAILABLE
- 1.1 ROTATIONAL WOODLOTS
  - 1.2 FODDER BANKS e.g. *Ngitiri* conservation
  - 1.3 IMPROVED FALLOWS
  - 1.4 INDIGENOUS FRUIT TREES
    - Propagation
    - Processing e.g. *Sclerocarya birrea*
  - 1.5 BOUNDARY PLANTING
  - 1.6 ALLEY CROPPING
  - 1.7 RELAY CROPPING
  - 1.8 MIXED INTERCROPPING

PROJECT	DISTRICT/ REGION	FARMERS (HH) REACHED	ADOPTION RATE (%)	DONOR	COLLABORATORS
Bukoba District Rural Development Programme	Kagera Region Bukoba	71,083	29	Netherlands	District Council ELCT
CONCERN	Iringa Region - Iringa - Mufindi - Lindi	29,081	27	ODA, EEC COMIC RELIEF	District Council
FRMP – Mwanza	Mwanza Region - All Districts	45,000	26	WB (IBRD)	District Council
Gairo AF & LU	Morogoro Region - Kilosa	15,000	30	IRISH DEVELOPMENT COOPERATION	District Council
Hai Afforestation Scheme Project	Kilimanjaro Region - Hai district	3,830	28	JICA (WB)	District Council
Handeni Intergrated Agroforestry Project	Tanga Region - Handeni District	15,000	25	GTZ	District Council
Kwimba Reforestation Project	Mwanza Region - Kwimba District	16,670	26	African Evangelistic Enterprise (Tanzania) - Australian government (AIDAB)	District Council
LAMP	Arusha Region - Babati, District - Simanjiro, Kiteto Rural	30,500	22	SIDA	District Council
Mbinga District Agroforestry	Ruvuma Region	38,810	25	EU	District Council

project	- Mbinga District				
HADO SCAPA	Dodoma Region - Kondo, Mpwapwa Districts	37,300	18	SIDA	District Council
ICRAF	Tabora Region - Nzega - Igunga - Sikonge - Urambo	15,000	22	CIDA, GTZ	Moravian church, District Councils, Africare, TAFORI World Vision (Nzega)
HASHI/ICRAF	Shinyanga Region - Kahama - Maswa - Meatu - Bariadi	4,800	62.5	NORAD	World Vision, VI Tree Planting (Musoma), District Council
HASHI	Shinyanga Region - Kahama - Maswa - Meatu - BARIADI	72,000	35	MNRT	OXFORM, World Vision, Netherlands, District Council
Ruvu fuel Wood	Coast Region - KIBAHA	400	53		District Council, ICRAF, SUA (FoFNACO), TAFORI
Vi Tree Planting (Musoma)	Mara Region - Musoma - Bunda - Tarime - Mwanza	20,000    12,000		OLOF PALME Foundation SIDA	ICRAF, District Council
SECAP	Tanga Region - Lushoto			GTZ	District Council
HIMA	Iringa Region 3 Districts	16,667		DANIDA	District Council
MAF	Mbeya Region All Districts	90,000		EU	All District Councils
CATIRAS Village Afforestation	Mwanza Region - Mwanza - Kwimba - Magu - Ukerewe - Sengerema	17,400		CARITAS	

## ANNEX 2: COMPONENTS

COMPONENT	JUSTIFICATION	ACTIONS
1. Adequate and sustainable supply of diverse and quality germplasm ensured by 2010	<ul style="list-style-type: none"> <li>• Lack of adequate germplasm</li> <li>• Germplasm delivery pathways system inadequate understood</li> <li>• Centralised delivery system do not meet farmers requirement</li> <li>• Lack of information on availability of germplasm</li> <li>• Lack of capacity to forecast germplasm requirement</li> <li>• Germplasm prices unaffordable by farmers (centralised)</li> </ul>	<ul style="list-style-type: none"> <li>• Sub-contract NGOs and large scale farmers to producer bulk seed (ST)</li> <li>• Strengthen existing seed centers by opening satellite seed distribution centers in each district (MT)</li> </ul>
2. Location specific and farmers' responsive technologies developed by 2010	<ul style="list-style-type: none"> <li>• Current on-farm technology development activities conducted without adequate farmers' characterisation</li> <li>• Current AF technology spectrum is narrow</li> <li>• Current AF technologies tested in a few locations</li> <li>• Poor involvement of farmers in technology development process</li> </ul>	<ul style="list-style-type: none"> <li>• Technology development should mainly be on-farm focused, and should involve both</li> <li>• Biophysical and socio economic evaluations (ST)</li> <li>• Technology testing be done in all agroecological zones (MT)</li> <li>• Testing a range of agroforestry technologies to meet farmers preferences and constraints (S-M)</li> </ul>
3. By 2010 Capacity of community and district level stakeholders (Public/NGO/Private sectors) to implement AF interventions increased	<ul style="list-style-type: none"> <li>• Lack of appropriate skill and knowledge</li> <li>• Inadequacy of trained human resource</li> <li>• Inefficient resources utilization</li> <li>• Misappropriation of staff (Human Resource)</li> </ul>	<ul style="list-style-type: none"> <li>• Training needs assessment for AF</li> <li>• Reviewing manning level (ST)</li> <li>• Training in capacity building for AF (ST)</li> <li>• Development of staff (Human Resource) (ST)</li> </ul>
4. Awareness on the importance of AF to farming community, local leaders, NGOs and policy makers. Increased	<p>Low awareness on agroforestry benefits (products and services)</p> <ul style="list-style-type: none"> <li>• Socially</li> <li>• Economically</li> <li>• Biologically</li> </ul>	<p>Mass Media</p> <ul style="list-style-type: none"> <li>• Conduct 156 Radio programs by year 3</li> <li>• Publish 20 topics; in leaflets 6 in brochures, 8 in posters</li> </ul>

	<ul style="list-style-type: none"> <li>Environmentally</li> </ul> <p>Low mass awareness on agroforestry options and technologies</p>	<ul style="list-style-type: none"> <li>Conduct 312 video shows in rural areas</li> </ul> <p style="text-align: center;"><b>Training</b></p> <ul style="list-style-type: none"> <li>Conduct seminar by the 3<sup>rd</sup> year to local leaders, policy makers</li> <li>Conduct 7 national workshops; 200 District workshops by the 3<sup>rd</sup> year</li> </ul> <p>Establish 100 Demo/Trials at village level by the 3<sup>rd</sup> year.</p> <ul style="list-style-type: none"> <li>Conduct 36 TV programme by 3<sup>rd</sup> year</li> <li>Conduct 600 public meetings in villages by the 3<sup>rd</sup> year</li> </ul>
5. Participatory Agroforestry technology and information disseminated to farming communities	<p>a. Low adoption due to limited involvement of farmers in technology development</p> <p>b. Most farmers' experiences and indigenous fruit technology not used in technology development</p> <p>c. Lack of information on technologies and options</p> <p>d. Many agro-forestry technologies are not widely adopted by farmers.</p>	<ul style="list-style-type: none"> <li>Conduct participatory meetings to identify problems, solutions and plans on agroforestry technology development at village level</li> <li>Conduct a study to document existing indigenous fruit technology and integrated into technology development</li> <li>Conduct 100 field days 50 study tour involving farmers, field extensionist and policy makers by 3<sup>rd</sup> year.</li> </ul>
6. National agroforestry network involving stakeholders e.g. farmers, local institutions, NGOs private sector, policy makers etc. established	<p>a. Limited experience sharing among stakeholders</p> <p>b. Lack of coordination of agforestry activities at national and community level</p>	<ul style="list-style-type: none"> <li>Conduct stakeholders workshop to establish mechanisms for agroforestry experience sharing network.</li> </ul>
7. Modify policy and legal framework to ensure: <ul style="list-style-type: none"> <li>Equitable access to land</li> <li>Private sector participation</li> <li>Consistency on policies</li> <li>Product quality</li> </ul>	<ul style="list-style-type: none"> <li>Conflicting sectoral interests and mandates</li> <li>In accessible feeder roads</li> <li>Insecure land tenure for women</li> </ul>	<p>Co-ordinate and Harmonies sectoral policies/regulation on</p> <ul style="list-style-type: none"> <li>Tree production, harvesting and marketing of agroforestry products</li> <li>Sensitise women and the communities on the village land activity 1999</li> <li>Right of women to acquire and own land</li> </ul>

<p>8. By 2010 rural farmers have access to competitive local and export market for agroforestry inputs and outputs</p>	<p>a. Constrained licensing and trading in agroforestry products</p> <p>b. Lack of information on local market</p> <ul style="list-style-type: none"> <li>- Product demands</li> <li>- Form and Quality</li> <li>• Most agroforestry products are not processed. To add value and meet consumers, demands and easy storage</li> </ul>	<p>Review existing</p> <ul style="list-style-type: none"> <li>• Licensing and trading rules and regulations to remove unnecessary restrictions</li> <li>• Support the Development of market information bureau at Ministry of Co-operative and Market to include agroforestry products</li> <li>• Dissemination of appropriate pressing techniques</li> <li>• Identify and adapt appropriate processing techniques. (ST)</li> </ul>
<p>9. By 2004 Strategy implementation management, M &amp; E made operational</p>	<ul style="list-style-type: none"> <li>• Lack of baseline data</li> <li>• Lack of information on programme impact</li> <li>• Lack of facilitation</li> <li>• Weak central co-ordination among AF actors</li> </ul>	<ul style="list-style-type: none"> <li>• Establish data base</li> <li>• Strengthening co-ordination of AF key players</li> <li>• Undertake M &amp; E (ST)</li> </ul>

**ANNEX 3: TASK FORCE MEMBERS PARTICIPATED IN THE FORMULATION OF AF POPULAR VERSION**

<b>NO</b>	<b>NAME</b>	<b>POSITION</b>	<b>INSTITUTION</b>	<b>ADDRESS</b>
1	Dr. Ngatunga, E. L.	PARO I	DRD, MAFS	Box 2066 Dsm; <a href="mailto:drd@ud.co.tz">drd@ud.co.tz</a>
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3	Mr. Meliyo J. L.	SARO I	ARI - Mlingano	Box 5088 Tanga; <a href="mailto:jmeliyo@yahoo.com">jmelियो@yahoo.com</a> or <a href="mailto:milingano@kaributanga.com">milingano@kaributanga.com</a>
4	Ms. Msuya T.	FRO	TAFORI	Box 30072 Kibaha; <a href="mailto:tmsuya@yahoo.com">tmsuya@yahoo.com</a>
5	Mr. Ngailo, J.	ARO I	UAC – Uyole	Box 400 Mbeya; <a href="mailto:jjerryn@hotmail.com">jjerryn@hotmail.com</a> ; <a href="mailto:uyole@drd.co.tz">uyole@drd.co.tz</a>
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