

REPORT OF WORKING GROUP 1

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ASPECT	BACKGROUND/JUSTIFICATION	RECOMMENDED ACTIONS	ORGANIZATION
POLICY 1. Participation/Joint management	<p>Inconsistencies or contradictions between policy and traditional/customary arrangements and people's needs from NRM.</p> <p>Lack/ insufficient education of dryland communities especially youth and women</p> <p>Sound policies may exist but (tools, bylaws, etc) are lacking (e.g. Sudan).</p> <p>There is a general insufficient involvement of stakeholders in policy formulation</p> <p>Past and recent examples of participatory approaches exist e.g. from Kenya (CARE-WWF-GEF-UNDP etc.); Sudan (e.g. SOS); Mali (e.g. SIWAA); Burkina Faso (e.g. PATECORE); Niger (e.g. Gueselbedi forest).</p>	<p>There is a need to find out what people do really like and tailor our policies accordingly.</p> <p>Promote education especially for women in skill development, knowledge and communication skills on the resource base and its management.</p> <p>Determine what level of participation can induce reasonable change in dryland management in SSA</p> <p>Recommend more implication of stakeholders in policy development</p> <p>Research is needed to determine effectiveness of policy enforcement instruments</p>	<p>Local (information input),</p> <p>National (Policy formulation and harmonization),</p> <p>Regional/International (Assessment, research, consolidation of experiences)</p>
2. Social responsibility of actors	Individuals, groups and mining companies use natural resources without adequate	Policies should be made to bind investors and resource users to make them responsible for sustainable	National governments, Civil society

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	compensation or responsibility	<p>use and management of natural resources (at least minimum requirement to be ploughed back to the community)</p> <p>Research is needed to identify policy enforcement instruments as to encourage the formation and operation of grassroots resource management associations</p>	
3, Energy saving	<p>Adoption of improved energy saving technologies has been poor in both urban and rural areas.</p> <p>There is a huge potential for alternative sources of energy in dryland Africa</p>	<p>Design of energy saving technologies should be compatible with local traditions and customs.</p> <p>Policies are needed to promote the use of alternative renewable sources of energy (wind, hydro, natural gas, LPG, solar, etc.) and encourage private investors (by lowering the taxes for example).</p> <p>Institute effective communication and extension program to promote the use of energy saving technologies</p>	
4, Water resources	<p>Water is one of the major challenges in SSA</p> <p>Waste water is useful when properly harnessed</p> <p>Water harvesting techniques and better use of harnessed water do exist.</p>	<p>Policies are needed to promote water harvesting techniques</p> <p>Policies and research are needed to promote water harvesting, treatment and reuse of wastewater (irrigation, rehabilitation planting) in urban and periurban areas.</p>	
5. Alien/invasive species	The definition of invasive species has to be contextual as they	Research is needed to guide policy makers on the usefulness and danger of	Scientific community

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	can be advantageous or detrimental	<p>these species.</p> <p>Research on the ecology, soil seed bank of these species.</p> <p>Research is needed on the mechanisms of adaptation to new environments and their effect on natural vegetation.</p>	
<p>RESEARCH</p> <p>1. Production, value adding and marketing</p>	<p>Great importance of trees and NTFP of trees on people's livelihood in dryland Africa (food, fuel, medicines, etc.).</p> <p>Proposed priority species</p> <p>West Africa: Karitea, baobab, tamarind, etc</p> <p>Southern Africa: Amarula, Uapaka</p> <p>East Africa: <i>Acacia senegal</i>, <i>A. seyal</i>, <i>Commiphora</i> spp., <i>Boswellia</i> spp.</p>	<p>Research on assessment (potential production yields and quality).</p> <p>Improvement of these species through domestication and tree improvement</p> <p>Research should concentrate on marketing: aspects of quality control, value-adding technologies</p> <p>Research to enable the organization of producers in cooperatives, improve industrial value for wood and NTFP (karitea, gum Arabic, etc.)</p> <p>Research to generate market information and niches in the producing countries as well as consuming ones.</p>	
2. Interdisciplinary	Recognize the importance of interdisciplinary in dryland management	<p>Research on household livelihood, composition, source of income, strategies to meet needs, access to and control of resources, etc. and how it could affect degradation of drylands.</p> <p>Research on the impact of emerging resources, tenure</p>	

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	<p>Integrated information is needed of all the factors affecting the natural resource management practices</p>	<p>regimes/governance institutional arrangements on dryland management.</p> <p>Research on population change on dryland management.</p> <p>Case studies combining the ecological and social factors which affect people's management practices in different dryland areas are needed</p>	
<p>3. Long-term monitoring, including permanent sample plots</p>	<p>Establishment of permanent sample plots is important in monitoring stand growth and yield as well as in monitoring stand responses to various environmental variables such as fertilization and climate changes. Permanent plots are also necessary to construct management tools such as growth models, volume models and yield tables. As at present many of the exotic and indigenous timber species lack yield and volume tables</p>	<p>Research should be done on constructing volume tables, yield tables and other growth characteristics by establishing permanent plots.</p> <p>How do the stands in plantation grow? How much do they yield under various ecological regimes? When should they be harvested? Thinned? At what thinning intensity?</p>	
<p>4. Traditionally protected areas</p>	<p>Forests provide not only wood and environmental goods and services but also social services. In many places in Africa, forests have been protected purely on their religious services and also for social gatherings</p>	<p>How such uses of trees/forests could be used for extending forest covers to degraded lands? What is the conservation value of such tradition? I.e. what are the tree species composition, density and genetic viability of such (probably) isolated stands for future expansion on degraded lands?</p>	
<p>5. Water relations in</p>	<p>Recognising water the major constraint for</p>	<p>Improvement of the existing water harvesting methods for</p>	

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farming systems	development in dryland, the uncertainty in amount and distribution of rainfall through time and space and impact of the drought spells that frequently prevail and their contribution to the resource degradation, the following issues on water harvesting and use.	<p>long lasting, reducing of evaporation and specify of the site</p> <p>Dynamic of the moisture and plant roots in the soil</p> <p>Selection of the genotype/ecotype that of high capability in water intake, especially at the establishment stage and tolerant to long drought period. This combined in agroforestry system with quick maturing varieties.</p> <p>Utilization of the discharged water for establishing woodlot around the urban areas requires more investigation on:</p> <p>The negative impact of the residuals and precipitation on the plant growth as well as the environment</p> <p>Selection of the tree species that could help in mitigating the pollution and purifying the discharged water</p> <p>Utilization of the seasonal water stream</p> <p>Irrigation/water provided in irrigated areas is unique opportunity for plantation that could alleviate the pressure on the land resource of the dryland. More investigations are needed in this area for quantifying the irrigation regimes and stand management to realize high</p>	

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		productivity, also in this context, as agroforestry is among the cultivation system would be possible, research on the water budget is needed.	
DEVELOPMENT 1. Land tenure	Land tenure is one of the most central issues affecting the use of natural resources. In connection with dryland development through forestry based activities	Actions can be taken at 2 levels: National level: Developing national forest plans including community based management plans of the wood resources. Local level: -Implementing these plans with the participation of all the stakeholders In cases of conflicting views on the use of resources, activities to promote conflict resolution can be promoted (e.g. organising meetings where conflicting views are discussed and agreements sought)	National level (Forest Plans): Governments' forest departments, forest research institutions Local level (Local management plans): National and international development organisations, governments' forest departments, NGOs