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**Executive summary & key recommendations**

**FROM RIO 1992 TO 2012 AND BEYOND:  
20 YEARS OF SUSTAINABLE MOUNTAIN DEVELOPMENT IN AFRICA**

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## **EXECUTIVE SUMMARY**

1. Mountains account for about 20 percent of the world's terrestrial land area and, while they are home to about 10 percent of the world's population, the highland-lowland linkages cannot be ignored without serious consequences particularly on urban populations, plains agriculture and coastal ecosystems, such as hydrological disruption, increasingly intense flooding, siltation of dams and coastal zones, and landslides. Furthermore, these effects have also shown to lead to mass migration of impoverished rural peoples, further adding to the resource pressures of the lowlands and cities, leading to social and economic conflicts, marginalization and further impoverishment and exploitation. In several mountainous areas, the combination of socio-political conflicts with natural disasters often augments the spread of malnutrition and disease.

2. On the other hand, mountains are also characterized by high levels of biological and cultural diversity, and vast untapped natural resources, as well as being key regulators of climate and the storage/source of more than half the world's freshwater resources. Unfortunately, the continued political marginalization of mountains at both the international and national levels in favour of short-term economic growth puts the critical functional attributes and uses at high risk of further degradation, having potentially disastrous effects on the wellbeing of all people and sectors, including ironically economic development.

3. Africa is a huge landmass, covering about 20 percent of the world's land surface area, and has a population of over 500 million people. About 10 percent of Africa's surface area and 50 percent of the countries in Africa consist of highlands, mountains or steep sloping areas. The large mountains in Africa are limited to the north-western, eastern and south-eastern parts, while isolated and relatively smaller mountains are found scattered throughout the continent. Deeply incised valleys or escarpments with mountain-like slopes are also of special interest in Africa (see Figure 1).

4. Although the mountain ranges in Africa are not comparable in size to the Himalayas or the Andes, they are nevertheless of huge importance to the development of many African countries. This is particularly the case in the tropical and sub-tropical regions where the mountain ecosystems have more favourable environmental conditions and greater resource potential than the surrounding areas (although this also depends on historical political development of the countries, current socio-political conditions, and increasingly also foreign economic investment).

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Consequently, the areas tend to have intensive land-use, particularly in terms of agriculture, forestry and mineral extraction) and dense populations; implying that without a clear understanding of the relatively fragile environments of these areas and the political will to redefine national development in terms of a sustainable development framework, continued severe degradation is almost inevitable.

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5. This report gives a synthesis of the mountains in Africa; a chronological account of concrete actions undertaken by different agencies, governments, non-governmental organizations, research institutions, etc. in the implementation of Agenda 21, the Programme for Further Implementation of Agenda 21 and the Johannesburg Plan of Implementation; challenges and constraints in their implementation; and lessons learned and recommendations for enhancing the implementation of Chapter 13 of Agenda 21 on sustainable mountain development (SMD).

6. The report is based on a desk review of existing information obtained from different sources, especially international agencies, national institutions and non-governmental organizations.

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**A. THREATS TO MOUNTAIN ECOSYSTEMS IN AFRICA**

7. Although mountains are generally perceived as areas where the conditions for securing decent livelihoods are difficult, the African mountains have been very attractive for human land-use. They stand out as areas with favourable climatic and ecological conditions, in contrast to the surrounding lowlands that are generally much drier. As a consequence of this, the total average population density in all African mountains is more than double the density of the lowlands (>33 persons per km<sup>2</sup> vs. less than 15 persons per km<sup>2</sup> in the lowlands); these figures are misleading, however, since some mountain regions have densities of up to 500 people per km<sup>2</sup>. Ethnic mountain communities, as in the case of most mountainous regions around the world, are largely indigenous to and dominate particular areas, having lived there for centuries and attracted by the physical environment and security from outside interference.

8. In most of the mountains of Africa, especially high mountains, the uppermost parts have been designated as conservation areas, particularly water catchment areas. Although most of these areas are managed as forest reserves, in some cases where a higher protection status was found warranting, the conservation areas were upgraded to national parks (e.g., Mount Elgon in both Uganda and Kenya and the Rwenzori Mountains in Uganda). Except for rocky surface mountains (e.g., Tibesti) or dry mountains (e.g., parts of the Atlas Mountains), the middle and lower parts of the mountains are normally conducive to agriculture and, therefore, heavily populated and dominated by peasant or small-scale agricultural activities.

9. The major challenges faced by the mountain communities are mainly related to the difficult and sensitive terrain and ecosystems. By virtue of their morphology, mountains have always been barriers to human movement. Consequently, development activities have always concentrated away from the mountains. Thus, in spite of economic growth, the mountains changed rather slowly and remained largely excluded from the dominant global economic processes. Recently, however, the situation in the mountains has undergone rapid changes with the widespread extension of transportation systems and infrastructure, including the use of modern road and bridge-building technologies, except that this development has been mostly determined by the interests of the lowlands (i.e., resource extraction and trade). In this way, while the original, spatial marginality of the mountains has become less marked, new kinds of marginality have emerged: As a result of easier access and transportation, the political authority of the central state over the remote mountain areas (which had so far enjoyed relative autonomy) was consolidated (e.g., the Bakonjo community in the Rwenzori mountains in Uganda). At the same time, mountains have become integrated into the economy of the lowlands.

10. The driving economic forces now have better knowledge about and access to the rich natural resources in the mountains, including hydro-power, minerals, timber and agricultural soils. The roads have become a catalyst to unprecedented mass extraction of these resources. An extra level of exploitation as a result of the new and improved transportation systems involves the rapid movement of cheap human resources from the mountains to work in the lowlands when the latter need them.

11. Thus, in many areas of the continent the relationship between the mountains and lowlands has long been characterized by unequal terms of development opportunities and priorities, and by

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the enhanced dependence of the mountains on the product, service and labour market system in the lowlands.

12. There is a growing contradiction between the marginalization and integration of mountain areas, one process negatively re-enforcing the other. The present critical thinking is that sustainability of any form cannot be achieved under such circumstances and that there is urgent need for a much deeper understanding of the potential and weaknesses of mountains, and the setting of exclusive priorities for sustainable development in mountains. Thus, a new concept of SMD in Africa must evolve – with the interest and sustainable future development of mountain communities and their environment at the core.

**B. KEY CHALLENGES TO ACHIEVING SUSTAINABLE MOUNTAIN DEVELOPMENT IN AFRICA**

13. The **mobilization of sufficient resources** for investment in SMD in Africa remains a major bottleneck, in spite of many countries, and in particular, mountain communities, are still grappling with crippling poverty and its eradication. Financial and technical assistance from the United Nations, World Bank and under bilateral arrangements has been availed to implement programmes and projects in mountain regions, but this remains largely insufficient, considering the scale of need (it is estimated that the number of people affected by mountain-related problems is about 20 percent of Africa's population or about 100 million people, while a further 30 percent or 150 million people depends heavily on water resources originating in mountains). Consequently, communities of these regions remain poor, and in some cases, their livelihoods continue deteriorating, while ecosystem degradation and resource use conflicts are on the increase.

14. **Data and information on mountain regions** remain scattered, unprocessed and unpublished, making its accessibility for use in decision-making and resource management initiatives and practices for sustainable development very difficult. Decision-making thus remains mostly from an uninformed or poorly-informed position.

15. Mountain regions remain isolated and attract less **investment and development**, except for a few cases, such as mountain tourism. Consequently, these areas continue to lag behind in development. While infrastructure development is needed to make these regions more attractive, such development is normally expensive and environmentally risky due to the fragility of the mountain ecosystems, prevalence of conflicts, and impacts of corruption.

16. Mountain regions are typically characterized by high anthropogenic pressure and high very annual rates of population growth. This presents a complex challenge, especially with regard to balancing **resource use capacity and population demands**. Furthermore, this combined factor is largely responsible for increasing resource use conflicts and ecosystem degradation in the mountain regions.

17. Control of **illegal activities in protected ecosystems** of the mountain regions, especially encroachment for agriculture and timber harvesting, as well as poaching, and in some cases, narcotics and human trafficking, remain a huge challenge to the successful management of fragile mountain ecosystems in Africa.

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18. **Political interference and political and civil conflicts** in some mountain areas of Africa, such as the Dafur region in Sudan and the Virunga and Rwenzori Mountains in Uganda, Rwanda and Democratic Republic of Congo, have continued to negate the implementation of well-intended and often potentially effective policies, laws, plans and practices to promote sustainable development and improve the wellbeing of communities. During civil conflicts, for example, rebels against sitting governments often choose mountains as areas from where to prepare and launch attacks on government security forces, often turning the mountain areas into battle grounds and causing serious disruption and damage to both the ecosystems and communities in these areas.

19. In the Democratic Republic of Congo, the continued political unrest has subjected the mountain areas to 'resource wars' for decades, where the disputed resources range from charcoal and timber to supply the neighbouring countries of Rwanda and Uganda where the materials are either in short supply or their harvest or extraction is restricted, to the mining of rare and precious minerals, such as columbite-tantalite or coltan minerals essential for the manufacture of most modern electronics.

**C. LESSONS LEARNED IN THE IMPLEMENTATION OF SUSTAINABLE MOUNTAIN DEVELOPMENT IN AFRICA SINCE 1992**

20. The coordination of issues on SMD at the sub-regional, national and community levels is weak and unclear. In most cases, there are no clear **institutional mechanisms and governance arrangements**, including the designation of key focal points on sustainable development in mountain ecosystems. This has hampered determining the actual progress made on the implementation of Chapter 13 of Agenda 21.

21. Networking through electronic means, such as has been used in the International Year of Mountains and International Partnership for Sustainable Development in Mountain Regions, media and meetings to promote awareness, knowledge and appreciation of SMD are both crucial and effective in catalyzing and promoting discussions and actions on SMD; however, this is largely dependent on the availability of infrastructure, as well as the ability to network and communicate, to facilitate this process. **Networking and communication** capacity between countries and between the national and community levels within countries remains low and hampered by a number of factors, including remoteness of mountain regions and communities, poor investment in infrastructure, particularly electronic, and inadequate organizational skills needed to manage and maintain such electronic knowledge-sharing platforms.

22. Programmes, projects and activities implemented in countries both in development projects and public investment plans are normally listed or provided in aggregate form, making it difficult to determine which components and proportions of these investments are dedicated to or focus on mountain areas. This creates the problem of establishing the level of **investment in SMD**, progress made in implementing Chapter 13 of Agenda 21, and determining the true impact of investments at the community level. There are, however, a few cases where it is possible to establish this information, such as projects focusing on nature conservation; however, even in this case, where it shows that the project implementation is located in a certain mountain region, the proportion of the investment that directly benefits the community, is either not easily known or is comparably smaller, let alone indirect benefits.

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23. **Research** efforts and publications on SMD in Africa have been much lower than in many other mountainous regions of the world. Ongoing research is limited, largely uncoordinated, short-lived and poorly funded. In particular, some of the research methods are not well standardized and are intermittent in implementation, making it challenging to use the data and information for long-term forecasting, thereby limiting the applicability of the research results for effective planning and sustainable development in the mountain regions.

24. The development of a deep understanding and awareness of the benefits of nature conservation, accompanied by the availability of alternative livelihood sources, and the **full involvement of indigenous people and local communities in decision-making processes** pertaining to and the management the ecosystems help to reduce resource-related conflict and promotes sustainable development in mountain regions. Recognition of land use rights and customary laws by all stakeholders also serves to further empower local communities, encourage joint resource management, and improve societal understanding and cooperation.

25. The absence of a **global mountain convention** has made implementation of initiatives on SMD in Africa challenging and largely ineffective. Although mountain ecosystems and SMD form part of various international and regional conventions and protocols (e.g., Convention to Combat Desertification, Convention on Biological Diversity, United Nations Framework Convention on Climate Change), it is apparent that there a lack of specific focus on mountain ecosystem issues, translating into limited economic and political investment. A stand-alone convention on mountain ecosystems would accord mountain issues the attention and priority they deserve.

**D. RECOMMENDATIONS FOR SUSTAINABLE MOUNTAIN DEVELOPMENT IN AFRICA FOR RIO+20 AND BEYOND**

26. Establish **institutional mechanisms and arrangements at the sub-regional, national and community levels**, to promote and coordinate sustainable development initiatives in mountain regions and communities. A database of all stakeholders, beneficiaries, the level of investment and progress made in the implementation of Chapter 13 of Agenda 21 should be developed and used to enhance the SMD agenda.

27. Build and/or **enhance capacity in networking using information and communication technologies (ICT)**, including e-networking, media, publications, indigenous or local, and all other appropriate means to promote SMD-related issues in implementation of Chapter 13 of Agenda 21 among decision-makers, private sector and the public. Priority should be given to investment in e-communication and networking, particularly through innovative ventures and applications.

28. **Disaggregate programmes, projects and activities investments at the sub-regional and national levels** to indicate the proportion of investments for programmes, projects or activities going to mountain regions and communities, to enable **determination of the levels of investments and likely impacts**, and to determine the need to improve on or change the investments.

29. Political leaders and policy-makers should be sensitized and mobilized to appreciate research in mountain regions, and to **promote and prioritize investment in mountain research**, and to use the resulting data and information as appropriate. Furthermore, research institutions

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should be encouraged and supported, including capacity building, to actively undertake the needed research according to standardization protocols, and to share the research results both within and between African countries and beyond.

30. There is urgent need to **upscale and replicate success stories in collaborative management** and other forms of community involvement in ecosystem management in all the mountain regions of Africa, together with the development of effective collaborative knowledge-sharing platforms for all stakeholders in SMD, including communities, private sector, the public sector, decision-makers, international agencies, non-governmental organizations, research institutions, etc.

31. Since it has become increasingly more apparent that mountain ecosystems are increasingly threatened by the harmful effects of climate change, poor decision-making, over-exploitation of natural resources, land-use conflicts, etc., the **development and implementation of a global and/or African mountains convention** to ensure their sustainable development is urgently needed.