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Reference :

Date :

**STRATEGY FOR THE IMPLEMENTATION OF THE PLAN OF ACTION FOR THE
ACCELERATED INDUSTRIAL DEVELOPMENT OF AFRICA**

Final Draft

September 2008

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EXECUTIVE SUMMARY

“It is Africa’s Turn”

No country or region in the world has achieved prosperity and a decent socio-economic life for its citizens without the development of a robust industrial sector.

As Africa emerges as an industrializing continent in this century, African leaders are determined to seize emerging opportunities to foster industrial development as an effective, socially responsible and sustainable means towards economic transformation.

This is evidenced by a series of proclamations and declarations at major summits and meetings. The 10th Ordinary Session of the African Union (AU) Assembly of Heads of State (HOS) and Government held in Addis Ababa, Ethiopia, in January 2008 was devoted to the theme of African Industrialization. The dedication of the Assembly to this theme demonstrates the high priority accorded to industry as a dynamic force in converting commodities into high value-added products. The consensus was that: “It is Africa’s turn”.

During this Assembly, Heads of State and Governments took an important decision by adopting the *Action Plan for Accelerated Industrial Development of Africa (AIDA)*. In doing so, the Assembly directed the African Union Commission (AUC) to establish operational priorities, programmes and projects in close co-operation with key stakeholders, to further assist in the implementation of the Plan. The Heads of State and Government further directed the AUC to urgently convene a meeting of the Conference of African Ministers of Industry (CAMI) and industrial stakeholders with a view to rationalizing, prioritising and operationalizing the activities listed in the Action Plan. Accordingly, the First Industrial Stakeholders’ Meeting was held in Cairo, Egypt, on 12 April 2008. This document is a result of the need to deliberate and to act.

“The Time is Now”

Despite constraints many African countries have been experiencing an unprecedented growth-rate, partly linked to a “commodity-boom” and partly due to sound economic governance. Nevertheless, there has been a subdued industrial supply response to several years of macro-economic stability. This is ascribed largely to a number of supply-side constraints: the lack of the required industrial capacities and capabilities, inadequate entrepreneurship and institutional support, energy and infrastructure bottlenecks and demand constraints due to the low purchasing power of the vast majority of the population and a low aggregate demand from the public sector.

Supply-side constraints have constituted a persistent problem for African industrial development requiring emphasis on creating a conducive and coherent policy environment. Crucial too was the need to generate skills, stimulate productivity, promote investment, provide infrastructure and transport facilities, upgrade enterprise operations, transfer technology, reduce the costs of doing business and introduce appropriate standards to enable products to compete in international markets. Supply-side constraints also existed and continue to exist outside the manufacturing sector: a lagging agricultural sector has constrained industrial production and competitiveness in many countries due to an inadequate or irregular supply of raw materials. This in turn, has constrained the growth of manufacturing based on agro-products or processing.

Although serious problems persist, as the document argues, none of them are insurmountable: the ever-diversifying global economy and its industrial value-chains, and the growth of industrial dynamism in the South create as many opportunities for participation as they produce new

challenges. Most importantly they create an urgency to act decisively by strengthening local capacities, activating dynamic Regional Economic Communities and acting co-operatively at a continental-level.

What Can Be Done?

Following the decision to prioritize Seven Clusters under the auspices of the “*Action Plan for Accelerated Industrial Development of Africa (AIDA)*”, the document provides an “*Implementation Strategy*” under the following Programme Clusters:

- Programme Cluster 1: Industrial policy and institutional direction
- Programme Cluster 2: Upgrading production and trade capacities
- Programme Cluster 3: Promote infrastructure and energy for industrial development
- Programme Cluster 4: Human resources development for industry
- Programme Cluster 5: Industrial innovation systems, R&D and technology development
- Programme Cluster 6: Financing and resource mobilization
- Programme Cluster 7: Sustainable development

Cluster 1: Sound industrial governance is a pre-condition for Africa’s success. The Implementation Strategy of the Action Plan addresses how to create coherent Industrial Policy Frameworks at national, regional and continental levels that are well-focused and sensitive to local endowments.

Cluster 2: To achieve successful participation in the global industrial value-chains in a highly competitive world economy, the Implementation Strategy addresses how to upgrade economic performance, upgrade the quality of processes and products, and upgrade trading capacities.

Cluster 3: Socio-economic constraints in Africa are not insurmountable. The Implementation Strategy addresses how to create a dynamic response to infrastructure and alternative energy needs and guarantee their efficient management and maintenance.

Cluster 4: People’s creative and productive powers are a vital component for success in Africa’s endeavour to industrialize. The Implementation Strategy addresses how to redress skill shortages and respond to the training and the skilling of people in key areas of industrial growth.

Cluster 5: Technology, innovation and the capacity to innovate are not a choice but a “must” in the global economy. The Implementation Strategy addresses how to create well-focused innovation systems that generate the necessary know-how for industrial development.

Cluster 6: The mobilization, availability and wise allocation of financial resources to enhance industrialization are a priority. The Implementation Strategy addresses how to create an enabling financial architecture made up of internal and external sources to invest in key industrial developments.

Cluster 7: The continent’s biodiversity and plentiful natural endowments are a key aspect of the long-term endurance of the industrializing effort. The Implementation Strategy addresses how to create a sustainable development framework that guarantees responsible industrialization.

The Implementation Strategy has singled out a total of 16 Programmes and 49 Projects (see **Table 1: Annexure 1, p 71**) that have to be taken up for the success of the Action Plan.

Urgent Priorities and Sequencing

The Document divides the Projects to be undertaken into **immediate**, **mid-term** and **long-term**. This division was predicated on their logical sequencing and the availability of resources to be mobilized.

There are 21 Immediate, 17 Mid-Term and 11 Long-Term projects. As can be seen from the Table below, some of the Immediate ones need to start now but they will only mature and become enabling for growth in the longer term.

Table 2: PROJECT PRIORITIES AND SEQUENCING

Key: Pr: Programme
P: Project

Clusters	Immediate	Mid-Term	Long-Term
1. Industrial policy and institutional direction	1. Development of country-specific industrial policy and strategic directions (Pr 1, P 1) 2. Strengthen institutional support services for industrial development (Pr 1, P 3) Capacity-building and technical assistance for industrial policy management (Pr 2, P 1) 3. Capacity-building and technical assistance towards industrial data collection and monitoring (Pr 2, P 1)	1. Re-orienting Regional Regulatory Frameworks of an enabling environment for industrial complementarities (Pr 1, P 2)	
2. Upgrading production and trade capacities	4. Diagnostic analysis of priority industry sectors (Pr 1, P 1) 5. Upgrading supply-side capacities and enhancing competitiveness (Pr 1, P 2) 6. Enterprise and business incubators development (Pr 2, P 1)	2. Establishing and upgrading of technical support institutions 3. Technical assistance to meet international standards and technical regulatory requirements (Pr 3, P 1) 4. Regional Framework to coordinate quality activities (Pr 3, P 2)	
3. Promote infrastructure and energy for industrial development	7. Development of conducive policy, regulatory frameworks and renewable energy resource mapping (Pr 2, P 1)	6. Innovative financing and capacity-building for scaling up of renewable energy projects (Pr 2, P 2) 7. Sustainable biofuels	

	8. 5 Responding to the AU's Infrastructure Priorities (Pr 1, P 1)	industry development in Africa (Pr 3, P 1) 8. Removal of barriers for promotion of industrial energy efficiency in Africa (Pr 4, P 1)	
4. Skills Development for Industrial Development	7. Diagnostic analysis of industry-related skills gap (Pr 1, P 1) 8. Revamp/establish institutions for industry and skills development (Pr 1, P 2) 9. Develop skills transfer and retention strategies (Pr2, P1)	9. Valorizing 'informal skills' of the workforce (Pr 1, P 4)	1. Industry-driven skills development (Pr 1, P3) 2. Establish or strengthen specialized regional Training Centres (Pr 2, P 2)
5. Industrial innovation systems, R&D and technology development	10. Establishment of university chairs on innovation in African universities (Pr 1, P 1) 11. Establish regional Technology Transfer and Diffusion Centres (Pr 1, P 2) 12. Establish Technology Incubators (Pr 1, P 4) 13. Implementing the Africa Technology and Innovation Initiative (Pr 2, P 1)	10. Establish regional centres for technology foresight (Pr 1, P 3) 11. Fostering South-South co-operation to utilize biodiversity and commercialize existing research findings (Pr 1, P 5) 12. Facilitating FDI spillovers on domestic innovative capability (Pr 2, P 3)	3. Fiscal and non-fiscal incentive systems for adaptive R&D and non-R&D routes to innovation at the enterprise level. (Pr 2, P 2)
6. Financing and resource mobilization	12. Re-invigorate Finance Institutions (DFIs and Regional Institutions) (Pr 1, P 3) 13. Improved policy and business environment to attract Diaspora resources (Pr 4, P 1) 14. Accessing credit and private financial resources (Pr 1, P 1) 15. Consolidating the African Industrial Development Fund (Pr 2, P 1) 16. Development of portfolios of bankable investment Projects (Pr 2, P 3) 17. Develop domestic capacity to monitor and	13. Attracting Foreign Direct Investment (Pr 3, P 1) 14. Establish network of national supplier benchmarking and partnership exchanges (SPXs) (Pr 3, P 3) 15. Diaspora Investment Fund for Industry (Pr 4, P 2)	5. Facilitating the strengthening of regional and national stock markets (Pr 1, P 2) 6. Establishment of National Sovereign Wealth Funds for Industrialization (Pr 1, P 4) 7. Consolidate Regional Investment Funds (Pr 2, P 2) 8. Investor networks to facilitate Diaspora investments and communication (Pr 4, P 3)

	facilitate foreign investment into priority industry sub-sectors (Pr 3, P 2)		
7. Sustainable development	<p>17. Establishment or strengthening of a Pan African network of national cleaner production service providers/Centres (Pr 2, P 1)</p> <p>16. Integration of sustainable development in Broad Governance Frameworks (Pr 1, P 1)</p> <p>21. Conservation (ecological efficiency) and sustainable use of resources (Pr 3, P 1)</p>	<p>16. Minimizing environmental degradation (environmental stresses) and waste management (Pr 3, P 2)</p> <p>17. Regional networking for the achievement of a contextually-grounded CSR Agenda (Pr 1, P 2)</p>	<p>9. Thematic and sector Initiatives to strengthen CREP (Pr 2, P 2)</p> <p>10. Policies and finances for CREP consolidation (Pr 2, P 3)</p> <p>11. Compliance with international environmental standards and legislation (Pr 3, P 3)</p>

ACRONYMS

AAC - African Academy of Sciences

ACP - Africa, Caribbean and Pacific

ACSF – Africa Corporate Sustainability Forum

AFDB – African Development Bank

AFRACO – Inter-African Co-operation for Accreditation

African 10-YFP - African 10-Year Framework Programme on Sustainable Consumption and Production

AFRIMETS – Inter-Africa Metrology System

AfrIPANET - African Investment Promotion Agency Network (AfrIPANet)

AfT – Aid for Trade

AGOA – Africa Growth and Opportunity Act

AICC – African Institute of Corporate Citizenship

AIDA – Action Plan for Accelerated Industrial Development of Africa

AIO – African Industrial Observatory

AIR – African Industrial Report

AMCEN – African Ministerial Conference on Environment

AMCOST – AU Ministers Conference on Science and Technology

AMN – Africa Mining Network

AMP – Africa Mining Partnership

AMSEN – African Materials Science and Engineering Network

ANSTI – African Network of Scientific and Technological Institutions

APCI – African Productive Capacity Initiative

ARFTECREG – African Technical Regulations Co-operation Committee

ARSCP – African Roundtable on Sustainable Consumption and Production

ARSO – African Organization for Standardization

ASTF – Arab Science and Technology Foundation

ATII – Africa Technology and Innovation Initiative

AU – African Union

AUC – African Union Commission

BITs – Bilateral Investment Treaties

BRIC – Brazil, Russia, India, China

CAAST-NET – Network for the Co-ordination and Advancement of sub-Saharan Africa-EU Science & Technology Co-operation

CAMI – Conference of African Ministers of Industry

CASM – Communities and Small-Scale Mining

CDM – Clean Development Mechanism

CEMA – Central Europe and Middle East and Africa

CIS – Commonwealth of Independent States

COEs – Centres of Excellence

COMESA – Common Market for Eastern and Southern Africa

CP – Cleaner Production

CREP - Conservation Resources Enhancement Programme

CSR – Corporate Social Responsibility

D-MADE – Development Marketplace for the African Diaspora in Europe

DAC – Development Assistance Committee

DBSA – Development Bank of Southern Africa

DFIs – Development Finance Institutions

DNAs – Designated National Authorities

DRC – Democratic Republic of Congo

EAC – East African Community

EBA – Everything But Arms

ECA – Economic Commission for Africa

ECCAS / SEMAC – Economic Community of Central Africa States

ECOWAS – Economic Commission for West African States

EDB – Economic Development Board

EDIP – Enterprise Development and Investment Promotion

EFW – Economic Freedom of the World

EIB – European Investment Bank

EIF – Enhanced Integrated Framework

EPAs – Economic Partnership Agreements

EPZs – Export Processing Zones

EU – European Union

FDI – Foreign Direct Investment

GDP – Gross Domestic Product

GI – Geographical Indications

GNI – Gross National Income
 GRA – Global Research Alliance
 GSP – Generalized System of Preferences
 GTZ – Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (German Society for Technical Co-operation)
 HACCP – Hazard Analysis Critical Control Point
 HDI – Human Development Index
 HEIs – Higher Education Institutions
 HIV/AIDS – Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
 HOS – Heads of State
 HRD – Human Resource Development
 IAF – International Accreditation Forum
 IBRD – International Bank for Reconstruction and Development
 ICSU ROA – International Council for Science Regional Office for Africa
 ICT – Information and Communication Technology
 IDC – Industrial Development Corporation
 IF – Integrated Framework
 IFAD – International Fund for Agricultural Development
 IIED – International Institute for Environment and Development
 ILAC – International Laboratory Accreditation Co-operation
 ILO – International Labour Organization
 IPAs – Investment Promotion Agencies
 IPCC – International Panel on Climate Change
 IPR – Investment Policy Review
 IPRs – Intellectual Property Rights
 ISO – International Organization for Standardization
 IT – Information Technology
 ITPOs – Investment and Technology Promotion Offices
 JPOI – Johannesburg Plan of Action
 LCA – Life Cycle Analysis
 LDCs – Least Developed Countries
 MDGs – Millennium Development Goals
 MFA – Multi-Fibre Agreement
 MFIs – Microfinance Institutions

MIGA-Multilateral Investment Guarantee Agency
MVA – Manufacturing Value Added
NAPAs – National Adaptation Programmes of Action
NBG – NEPAD Business Group
NBFCs – Non-Banking Finance Companies
NCPCs – National Cleaner Production Centers
NEPAD – New Partnership for African Development
NGO – Non-Governmental Organization
NICs – Newly Industrializing Countries
NRM – Natural Resources Management
NUSESA – Network of Users of Scientific Equipment in Eastern and Southern Africa
ODA – Official Development Assistance
OECD – Organization for Economic Cooperation and Development
PCT – Patent Co-operation Treaty
PPP – Public-Private Partnerships
PSD – Private Sector Development
PTA Bank – Eastern and Southern African Trade and Development Bank
R&D – Research and Development
REACH – Compliance with External Environmental Standards and Legislation
REC – Regional Economic Community
RPL – Recognition of Prior Learning
RSA – Republic of South Africa
RTTDCs – Regional Technology Transfer and Diffusion Centres
SABINA – Southern African Biochemistry and Informatics for Natural Products
SADC – Southern Africa Development Community
SANE – South Africa, Algeria, Nigeria and Egypt
SC – Sustainable Consumption
SCP – Sustainable Consumption and Production
SI- Small Industry
SICC – South Industrial Co-operation Centres
SIG – Science Initiative Group
SP – Sustainable Production
SMEs – Small- and Medium-sized Enterprises
SPV – Special Purpose Vehicle

SPX – Sub-contracting and Partnership Exchange
SQAM – Standards, Quality Assurance and Metrology
SQMT- Standards, Quality and Metrology Testing
SWOT- Strengths, Weaknesses, Opportunities and Threats
TBs – Barriers to trade
TBTs – Technical Barriers to Trade
TICAD IV – Fourth Tokyo International Conference on African Development
TIS – Trade Integration Strategies
TNCs – Transnational Corporations
TRIPS – Trade-Related aspects of Intellectual Property Rights
UEMOA – Union Economique et Monétaire Ouest Africaine
UN – United Nations
UNCTAD – United Nations Conference on Trade and Development
UNDESA – United Nations Department for Economic and Social Affairs
UNDP – United Nations Development Programme
UNECA – United Nations Economic Commission for Africa
UNEP – United Nations Environment Programme
UNESCO – United Nations Educational, Scientific and Cultural Organization
UNFCCC – United Nations Framework Convention on Climate Change
UNIDO – United Nations Industrial Development Organization
UNDP – United Nations Development Programme
USAID – United States Agency for International Development
USD – United States Dollars
WAIPA – World Association of Investment Promotion Agencies
WAITRO – The World Association of Industrial and Technological Research Organizations
WAPP – West Africa Power Market Development Project
WB – World Bank
WIO-RISE – The Western Indian Ocean Regional Initiative in Marine Science and Education
WRI – World Resources Institute
WSSD – World Summit on Sustainable Development
WTO – World Trade Organization

INTRODUCTION

As Africa emerges as an industrialising continent in this century, African leaders are determined to seize emerging opportunities to foster industrial development as an effective, socially responsible and sustainable means towards economic transformation.

This is evidenced by a series of proclamations and declarations at major summits and meetings. The 10th Ordinary Session of the African Union (AU) Assembly of Heads of State (HOS) and Government held in Addis Ababa, Ethiopia, in January 2008 was devoted to the theme of African Industrialization. The dedication of the Assembly to this theme demonstrates the high priority accorded to industry as a dynamic force in converting commodities into high value added products. The consensus was that: “It is Africa’s turn”.

During this Assembly, Heads of State and Governments took an important decision by adopting the *Action Plan for Accelerated Industrial Development of Africa (AIDA)*. In doing so, the Assembly directed the African Union Commission (AUC) to establish operational priorities, programmes and projects in close co-operation with key stakeholders, to further assist in the implementation of the Plan. The Heads of State and Government further directed the AUC to urgently convene a meeting of the Conference of African Ministers of Industry (CAMI) and industrial stakeholders with a view to rationalizing, prioritising and operationalizing the activities listed in the Action Plan. Accordingly, the First Industrial Stakeholders’ Meeting was held in Cairo, Egypt, on 12 April 2008.

Key stakeholders that attended the meeting included CAMI Bureau members, the African Development Bank (AfdB), the AU, the AUC, Common Market for Eastern and Southern Africa (COMESA), European Investment Bank (EIB), New Partnership for African Development (NEPAD), Southern Africa Development Community (SADC), United Nations Economic Commission for Africa (UNECA), United Nations Industrial Development Organization (UNIDO) and the World Bank (WB).

The meeting reached consensus on structuring the implementation of the Action Plan according to the following seven Programme Clusters:

- Programme Cluster 1: Industrial policy and institutional direction
- Programme Cluster 2: Upgrading production and trade capacities
- Programme Cluster 3: Promote infrastructure and energy for industrial development
- Programme Cluster 4: Human resources development for industry
- Programme Cluster 5: Industrial innovation systems, R&D and technology development
- Programme Cluster 6: Financing and resource mobilization
- Programme Cluster 7: Sustainable development

This document spells out the Implementation Strategy for the Action Plan and focuses on translating the above mentioned seven clusters into concrete action-oriented programmes, projects and activities that could foster industrial growth and structural change in Africa and entrench industrial integration regionally, continent-wide and into the international economy.

The document is organized as follows. The Background section provides the overall context for Africa’s industrialization in terms of challenges and opportunities, global commitments and

negotiations, improved governance as well as objectives and principles for identifying and developing the programme clusters, projects and activities. A detailed plan of implementation of the seven programme clusters with projects and activities is presented in Cluster/Chapters 1-7.

BACKGROUND

SECTION A:

A.1 Africa's industrial development challenges and opportunities

Many African countries have achieved high economic and industrial growth rates in recent years, in the main due to a remarkable primary commodities boom. Africa requires much higher economic growth rates than achieved in the past years to achieve the Millennium Development Goals (MDGs) by 2015. The overarching challenge for African countries today is to lift the majority of the population out of poverty through industrial development. To sustain the growth thus far achieved requires enhanced productive capacities to convert Africa's comparative advantage in resources into a competitive advantage and spread the benefits of growth more widely through well-focused linkages between sectors of productive activity.

In deciding to devote attention to the theme of industrial development the AU takes into account the fact that the continent is the least-developed manufacturing region of the world, with only a few countries in sub-Saharan Africa succeeding in developing a sizeable and dynamic manufacturing sector above 20 % of gross domestic product (GDP). Structural change has been slow, as manufacturing has grown at a slower pace than the GDP in most countries. Yet, more African countries than ever before have moved up the industrial development ladder and industrial growth has accelerated and even exceeded GDP growth. The share of manufacturing value added (MVA) in GDP in Sub-Saharan Africa increased slightly from 13.7 % in 2000 to 14.3 % in 2006 ¹

To move forward towards prosperity, Africa would need to take advantage of new opportunities offered by the globalization of industrial production. The experience of Newly Industrializing Countries (NICs), especially in Asia, provides ample evidence of the strong link between industrialization, economic growth and prosperity. It is the rapidly industrializing countries, especially in East Asia, that are benefiting from the fruits of globalization and making progress towards achieving the MDGs. In spite of ample natural resources, Africa has not yet derived potential benefits from resource-based, in particular mineral-based, development.

It is industry, together with its related services, that drives the expansion of economies, spearheads economic growth, provides a nurturing space for entrepreneurship, creates technological dynamism, fosters productivity, generates employment and contributes to agricultural productivity and output as well as value addition to existing agricultural resources.

A.2 Overcoming Constraints:

For nearly a decade, most African countries have made significant progress towards developing sound macro-economic policies. Not only have countries recently experienced several consecutive years of relatively high economic growth, they have also enjoyed an improved policy environment. However, micro-economic response to macro-economic stability continues to remain subdued. Notwithstanding these achievements, the quality and extent of growth and indeed its economic, social and environmental sustainability are matters of concern for many African governments. The task of linking macro-economic successes with micro-economic efficiency enhancement is, undoubtedly, a formidable challenge.

A.2.1 Supply-side constraints on manufacturing development

¹ In this document the term "industry" refers to the manufacturing sector unless otherwise indicated. Figures from UNIDO's Data Base for World Industrialization, 2006.

The subdued industrial supply response to several years of macro-economic stability is ascribed largely to supply-side constraints: the lack of the required industrial capacities and capabilities, inadequate entrepreneurship and institutional support, energy and infrastructure bottlenecks and demand constraints due to the low purchasing power of the vast majority of the population and a low aggregate demand from the public sector.

Supply-side constraints have constituted a persistent problem for African industrial development, requiring emphasis on creating a conducive and coherent policy environment. Crucial too was the need to generate skills, stimulate productivity, promote investment, provide infrastructure and transport facilities, upgrade enterprise operations, transfer technology, reduce the costs of doing business, and introduce appropriate standards to enable products to compete in international markets. Supply-side constraints also existed and still exist outside the manufacturing sector: a lagging agricultural sector has constrained industrial production and competitiveness in many countries due to inadequate or irregular raw material supply. This, in turn, has constrained the growth of manufacturing based on agro-products or processing.

Yet there are significant opportunities that can overcome such constraints. The accelerating speed of global economic integration and structural change offers opportunities for African countries to diversify their economies and grow and integrate more intensively into regional, continental and international economic activities. The continent could seize new opportunities in global production, trade and investment and also benefit from better access to knowledge, modern technologies and new markets. This requires more effective industrial strategies, policies and fine-tuned institutions. African countries are facing more complex challenges and more critical strategic options in pursuit of their economic and industrial development due to the sweeping, ongoing changes in the global industrial economy. New industrial powers, such as China, India, Brazil and others, although likely to make it more difficult for industrial latecomers to catch-up and compete in the global market place, can be sought as important South-South partners.

There is undoubtedly room for industrial newcomers, as new industrial opportunities emerge in the context of rising wages in emerging economies and increasing geographic shifts in production. Ongoing changes in the global landscape and the shift from products to tasks within the value chain, such as components and assembly, also seem to augur well for industrialization efforts. Developing countries are expected to be the main drivers of accelerating world economic growth with their share of global output increasing from around one-fifth today to nearly one-third by 2030, while their share of global purchasing power will be more than half². Increasing globalization of labour markets is reflected in rapidly growing remittances, which amounted to \$9 billion for sub-Saharan Africa in 2005, rising to \$11 billion by 2007.³ The African Diaspora may increasingly be a key force to support African industrial development, based not only on remittances but also due to their cosmopolitan know-how, scientific, tacit knowledge and experience.

There is serious scope for increased participation by African firms in the global value chain, for example through leveraging Foreign Direct Investment (FDI) in Africa's natural resources against participating in the initial stages of the resource-based processing value-chain based on preferential trade arrangements. They can do so by, for example, responding to the rapidly

² World Bank (2008) World Bank (2007a), *Global Economic Prospects, Managing the Next Wave of Globalization*, Washington DC.

³ From Unido Data-Bases on Financial Flows.

growing markets in China, India and other emerging economies of the South. Opportunities also exist for promoting industry, trade and poverty alleviation through South-South co-operation⁴ using the economic strength of the South – finance, technology and markets – to accelerate African industrialization.

Moreover, there is significant space for sustainable livelihood enhancement with the emphasis on strengthening human and technological capabilities and efforts for community-based self-help. South-South co-operation can play a major role in accelerating African industrial development and provide market opportunities for African products in the South value chain. This requires that the right products of the right quality can be produced and that the necessary preferential trade agreements can be successfully negotiated concomitant with a reduction in the current high levels of tariffs within the South.

A.2.2 Accelerating regional industrial integration in Africa with a focus on infrastructure, energy and markets

Above all, there is a strong case for strong African regional industrial integration as a building block for success. Mainstreaming industrial policy and strengthening regional institutions would be essential. The utilization of national and external resources, especially for infrastructure development – roads, airports, seaports, and efficient ICTs to link up the entire region – is critical. Investments from the African Diaspora, Sovereign Wealth Funds, FDI and the emerging African capital market could be channeled into regional investment projects in industry. Accompanied by changing attitudes towards regional integration, this could lead to intensified industrial co-operation among African industrial entrepreneurs. This would enable African industry to benefit from economies of scale as well as specialization and clustering of industry in suitable sub-regional locations in Africa. Efficient production would require the availability of the necessary physical infrastructure, a coherent policy environment and institutional support as well as effective production facilities in export processing and industrial estates. The forthcoming 12th AU Summit on Infrastructure in January 2009, the AU, Regional Economic Communities and States can and have to play a catalytic role in creating the pre-conditions *and* conditions for success.

A.2.3 Implications of global commitments for negotiations on accelerating industrial development in Africa

There are, furthermore, a plethora of international commitments which are unfulfilled while others are subject to negotiation: apart from Official Development Assistance (ODA), they would involve the Africa, Caribbean and Pacific (ACP) agreements; Commitments by China on friendship infrastructure; and most importantly the G8's issue-based commitments of relevance to Africa, from Gleneagles in 2005; to Saint Petersburg, 2006, Heiligendamm, 2007 and Hokkaido Toyako, 2008. Had these commitments been forthcoming in a vigorous manner, the capacity to move to even more illustrious patterns of growth would have been enhanced.

There will be a need to dovetail more sharply the critical needs of Africa with donor assistance, particularly with regard to the essential ingredients for industrial development: i) improving

4. UNIDO, *Industry, trade and poverty alleviation through South-South cooperation*, Vienna 2006.

supply capacity to seize new industrial opportunities, especially through the building of trade capacity, improving infrastructure and strengthening energy supply for industrial development; ii) building the required capabilities and capacities in terms of the human skills needed by industry; iii) enhancing the capacity of industry to discover new sources of industrial growth to meet MDGs; iv) establishing the necessary preconditions for African firms to enter the global value chain; v) undertaking the required economic analyses on industrial issues as a basis for informed discussion and negotiation of key industrial issues; vi) linking ODA to trade capacity building and establishing benchmark indicators so that ODA is efficiently used for enhancing microeconomic efficiency; and vii) strengthening the bargaining position of the AU based on collective strength in dealing with aid for trade issues, with a focus on improving the industrial supply response to new industrial opportunities. The strengthening of AU bargaining capacity in the above areas is critical for accelerating African industrial development.

A.3 New confidence from enhanced governance

The political environment has improved in many African countries in recent years. Prudent governance, enhanced policy environments, better macro-economic management and reduced conflicts in many countries have contributed to higher economic growth, and greater political stability and security, though serious problems still exist in a number of countries. Sound political and economic governance is a necessary but not a sufficient condition for industrial success.

The Plan of Action for the Accelerated Industrial Development of Africa is both a result of such improved governance and co-operation and implies a further strengthening of the activities of the AU Commission and its partners.

The AU's Vision Paper on African Industrial Development, the road maps agreed upon at expert group meetings held in the regional economic communities (RECs), programmes of industrial upgrading and modernization that have been elaborated for the Economic Commission for West African States (ECOWAS), COMESA, SADC, the Economic Community for Central Africa (ECCAS/SEMAM) and the UNIDO- assisted "African Productive Capacity Initiative" (APCI) endorsed by the AU Assembly of Head of States in July 2004 as the industrial component of NEPAD are part and parcel of a commitment to continental success and to define a clear vision, well-focused objectives and precise principles for the strengthening of industrial development.

SECTION B: VISION, OBJECTIVES AND PRINCIPLES

B.1 Vision and objectives

(i) In line with the AU Vision this *Strategy for the Implementation of the Action Plan for the Accelerated Industrial Development of Africa (AIDA)* aims to foster sustainable economic growth, wealth creation and global integration using manufacturing as a dynamic force. More specifically the *vision* is to:

- Promote economic diversification through industrial value-added activities;
- Create an enabling environment and institutional framework that promotes private sector-sensitive industrial development, regional economic co-operation and international competitiveness; and
- Enhance supply-side and demand-side capacity for industrial production and trade.

(ii) The specific **objectives** for programmes and projects outlined in this Plan of Action are based on the following considerations:

(a) Building productive capacity and capabilities for converting comparative advantage into industrial competitiveness.

(b) Promoting actions that facilitate export of value-added products through the conversion of commodities into products.

(c) Enhancing trade linkages and market penetration for expanding the extent of the market for products.

(d) Promoting value chains by thinking globally and acting locally for job creation and poverty reduction.

(e) Developing small- and medium sized enterprises (SMEs) and their linkages to large-scale enterprises for seizing opportunities for industrial expansion.

(f) Promulgating standardization, accreditation, quality and metrology for effective global market integration.

(g) Fostering public-private partnerships (PPPs) for industrial development.

(h) Removing bureaucratic and administrative impediments to trade and investment.

B.2 Principles and criteria

The proposed cluster programmes will be further elaborated, implemented and guided by the following **principles**:

(a) Developing specific, quantifiable indicators for programme clusters with time-bound and well-defined milestones.

(b) Adding new value to existing national, sub-regional and regional programmes.

(c) Establishing clear institutional arrangements and target groups for implementation with clarity as to who owns, leads and implements.

(d) Ensuring broad-based participation and ownership by African leaders, managers and entrepreneurs.

(e) Strengthening programme implementation and maintaining flexibility to change programmes as regional needs and conditions change.

(f) Implementing programmes in close collaboration with the regional economic communities (RECs), and other stakeholders.

(g) Providing realistic assessment of the resource situation.

- (h) Promoting a lead role for the private sector.
- (i) Taking stock of best practices and current initiatives being undertaken in the proposed clusters at local, regional and international levels.
- (j) Anchoring activities and projects under each programme cluster on a sectoral and value chain approach.
- (k) Leveraging private sector investment, as a way of maximizing resource mobilization, by promoting public-private sector costs, sharing arrangements where possible.
- (l) Considering incentives for attracting innovative sources of financing and resource mobilization e.g. by looking at sources of investment from the Diaspora and Sovereign Wealth Funds.
- (m) Establishing appropriate monitoring, reporting and evaluation mechanisms.

SECTION C: CONTOURS AND TENETS OF THE IMPLEMENTATION STRATEGY

The following Clusters, Programmes, Projects and Activities aim to deliver an Action Plan that fully captures the Vision, Mission and Principles outlined and takes the first step towards a continental economic renaissance.

- (a) Noting that sound industrial governance is a pre-condition for Africa's success the Implementation Strategy of the Action Plan addresses how to create coherent Industrial Policy Frameworks at national, regional and continental levels that are well-focused and sensitive to local endowments.
- (b) Noting the need for successful participation in global industrial value-chains in a highly competitive world economy, the Implementation Strategy of the Action Plan addresses how to upgrade economic performance, upgrade the quality of processes and products, and upgrade trading capacities everywhere.
- (c) Noting that the constraints in Africa are not insurmountable, the Implementation Strategy of the Action Plan addresses how to create a dynamic response to infrastructure and alternative energy needs and guarantee their efficient management and maintenance.
- (d) Noting that people's creative and productive powers are a vital component for success in Africa's endeavour to industrialize, the Implementation Strategy of the Action Plan addresses how to redress skill shortages and respond to the training and the skilling of people in key areas of industrial growth.
- (e) Noting that technology, innovation and the capacity to innovate is not a choice but a "must" in the global economy, the Implementation Strategy of the Action Plan addresses how to create well-focused Innovation Systems that generate the necessary know-how for industrial development.
- (f) Noting that the mobilization, availability and wise allocation of financial resources to enhance industrialization is a priority, the Implementation Strategy of the Action Plan addresses how to create an enabling financial architecture made up of internal and external sources to invest in key industrial developments.
- (g) Noting that the continent's biodiversity and its plentiful natural endowments are a key aspect of the long-term endurance of the industrializing effort, the Implementation Strategy of the Action Plan addresses how to create a sustainable development framework that guarantees responsible industrialization.

**PROGRAMME CLUSTER 1: INDUSTRIAL POLICY AND INSTITUTIONAL
DIRECTION**

PROGRAMME 1.1: INDUSTRIAL POLICY AND IMPLEMENTATION FRAMEWORK

1.1.1 Overview

Industrial policy is being revisited, and the role of the developmental state enhanced. Until the 1970s, nation states were central to economic life in developing societies: they owned industrial assets, intervened in the economy, directed development, planned targets and dealt with competitive pressures for efficiency gains. Industrial policy was an extension of political priorities. Liberalization, deregulation and private ownership gained the upper hand during the 1980s and shifted development from the preserve of politics to market mechanisms in order to enhance competitiveness and economic growth. The overwhelming belief in the atomicity of market forces is fading away and the role of industrial policy and institutional direction is increasingly being recognized by policy-makers and industrial stakeholders.

In this context the state has re-emerged as a facilitator of dynamic sources of growth through appropriate policy instruments and interventions to correct market failures and complement market successes.

In revisiting industrial policy, governments are increasingly drawing on lessons learned from successful peers and dynamic industrial locations, and appropriate and new sources of growth and their impact on people in terms of employment, skills, wages and the environment in an increasingly globalising world. Windfalls from high commodity prices and commodity boom-led growth have hitherto failed to lift millions out of poverty.

In co-operation with other partners, the AU seeks to develop such an industrial policy implementation framework to address the challenges of using industrial development as a dynamic force in achieving the socio-economic transformation of the continent. Sound industrial governance is a pre-condition for Africa's success and the Programmes below address how to create coherent Industrial Policy Frameworks at national, regional and continental levels that are well-focused and sensitive to local endowments.

1.1.2 Programme Objectives

This Programme aims at strengthening Africa's industrial policy-making and implementation for sustainable industrial development with a *human face*. It focuses on:

- (a) Strengthening African industrial policymaking and implementation capacity in institutions that are related to industrial development, so that they possess a clear and effective direction;
- (b) Re-orienting legal and regulatory frameworks for the creation of an enabling environment for productive activities;
- (c) Strengthening institutional support services for industrial development; and
- (d) Establishing a policy framework for strengthening regional industrial complementarities.

1.1.3 Indicative Projects and Actions

The above objectives will be achieved through the development and implementation of specific projects. The cluster of projects to be implemented in this context will include the following:

Project 1: Development of Country-Specific Industrial Policy and Strategic Directions

The scope of an industrial policy framework will have to encompass a range of policy parameters pertinent to an evolving and enabling economic and business environment. Although industrial policy is a generic term to encompass all institutions involved in industrial development in a country or region, here we will be focusing on institutions that enhance capacities on the supply-side of the process. Such a policy will primarily concern itself with specific aspects such as sub-sector value-chain prioritization and canalization of assistance, with an accent on employment-generating and value-adding small and medium enterprise (SME) development in country-specific contexts.

Meeting the challenge of sustained industrial growth with positive socio-economic spillovers will require government institutions to employ an appropriate and *holistic* policy framework and strategic direction.

This project will be developed in a manner that facilitates a value-chain development perspective, advocacy for enhancing value addition and spillover effects on productivity growth and clear guidelines to export competitively in an international environment. The policy framework will be monitored by networked national institutions for the purposes of reviewing as well as addressing bottlenecks impeding implementation. The following activities will be undertaken to implement the proposed project:

1. Comprehensive baseline studies to define critical policy parameters and provide institutional direction for strong advocacy;
2. Studies to review existing product-specific industrial policies, with a view to unveiling viable avenues of replicating best practices in processing, design and marketing;
3. Preparation of the principal contours and tenets of sector- and product-specific policy responses to new challenges; and
4. Identifying the key institutional drivers for its success.

Project 2: Re-orienting Regional Regulatory Frameworks of an Enabling Environment for Industrial Complementarities

The rationale for harmonizing regulations across countries builds on several arguments. The rationalization of regulatory policies would allow African countries to pool resources, share fixed costs and overcome capacity constraints.

The harmonization of frameworks and supporting institutional mechanisms will make each country's commitment to stable regulatory policies more credible. Furthermore, the credibility of this co-operation will spur a greater flow of investment. In addition, through the legitimacy of

“best practice” regional codes, it will avoid the cost of the “race to the bottom”. The process of regional economic integration within the framework of regionally codified norms will ensure better governance and the realization of regional goals of strengthening intra-regional trade in goods and services, and will strengthen regional industrial complementarities.

Critical areas that should be targeted are: financial sector integration; infrastructure regulations; product market regulations; competition policy; and bureaucratic regulations impeding business environments, in order to reduce both the costs of production and the costs of doing business.

Specific activities involved under this project will entail:

1. Harmonization of legal and regulatory frameworks and norms that facilitate industrial development complementarities in terms of resource-based advantages and complementarities in terms of knowledge, skills, information, technology and networking.
2. Phasing the implementation of legal and regulatory parameters (particularly entry and competition policies) that facilitate value chain development across borders in specific sector and product development.
3. Capacity building of national regulatory institutions by means of training and technical assistance.
4. A well-defined regional approach to target FDI flows through the co-operation of Investment Promotion Agencies and to enhance their impact on domestic capability building.
5. Implementing of appropriate public-private partnership schemes in order to develop sustainable basic and specialized infrastructure/support enterprises and institutions in a regional context.
6. Regional initiatives to facilitate loan guarantees by credit-worthy regional and multilateral development banks to finance large public-private infrastructure projects within the framework of regionally codified norms.

Project 3: Strengthen Institutional Support Services for Industrial Development

Most of Africa has adopted macro-economic stabilization, reform and structural adjustment measures to varying degrees. Nevertheless, industrial supply response to growth impulses stemming from macro-economic stability remains subdued in a large number of African countries. The framework within which competitiveness can be developed requires evolution and/or strengthening of supportive institutions. The experience of dynamic regions across countries demonstrates that factors external to firms, that is, intermediate institutional support systems, play an important role in enhancing the performance of firms.

The project will orient the institutional support system towards appropriate enterprise linkages, capability-building, and also catalyzing implementation of policy and schemes. They could in effect serve as field-level implementing arms of government policy. The specific activities envisaged under this project will include:

1. Instituting public-private dialogue so as to ensure efficient linkages between institutions and industry.

2. Appropriate schemes will be evolved to help the private sector establish many required institutions (e.g., testing and certifying laboratories, upgrading facilities) in a public-private partnership mode.

3. A cadre of facilitators representing policy implementing institutions will be evolved who will play the role of catalysts in ensuring an effective interactive framework between institutions and firms through interface and linkages.

1.1.4 Institutional Arrangements for Implementation

The institutional mechanism for the design and implementation of the projects will comprise a *Programme Steering Committee* co-ordinated by the AU and RECs to co-ordinate and monitor the programme's projects. A *Regional Steering Committee* comprising the Secretariats of various RECs will oversee implementation at the regional level so as to facilitate regional co-operation initiatives. A *National Steering Committee* in each country composed of concerned government ministries and private sector and support institutions, will oversee implementation at the national level.

PROGRAMME 1.2: INFORMATION SYSTEMS AND DATABASES FOR THE MANAGEMENT OF INDUSTRIAL POLICY.

1.2.1 Overview

While appropriate policy instruments may be evolved to address and redress Africa's constraints the success of policy critically hinges on efficient *industrial governance*. This, in turn, entails enhancing the capabilities and skills of civil servants and industrial stakeholders in conceptualizing, formulating, implementing, monitoring and auditing industrial policy instruments that make an indelible impact on sustainable development and poverty reduction.

Creating a valid, authentic and reliable industrial database is a prerequisite for analyzing trends and advocating required policy responses. While many public and private institutions in African countries are involved in industrial data collection and monitoring, the data collection methodologies are not in harmony with one another and cannot evolve an appropriate database for integrated regional policy making and interventions. Constraints in the area of industrial statistics collection are compounded by the fact that a large segment of firms in the African industrial environment are in the informal sector.

1.2.2 Programme objectives

The continent as a whole requires a large pool of well-trained policy-implementers to be able to ensure that the industrialization plans of individual countries are well-conceived, tailored to country-specific needs and implemented effectively. To this end the programme objectives aim to:

- (a) Enhance the adaptive capabilities and skills of civil servants and industrial stakeholders to contribute effectively to industrial policy management;
- (b) Identify institutional gaps and highlighting those institutions most suitable to and important for the successful implementation of the policy

- (c) Strengthen the role of appropriate institutions that facilitate the monitoring and auditing of effective implementation of industrial development programmes and projects;
- (d) Strengthen the capacity of the regional committees and sub-committees responsible for industrial policies
- (e) Establish valid, reliable and authentic firm-level data bases for assessing performance at sub-sectoral levels.

1.2.3 Indicative projects and Actions

The envisaged goals will be realized through the development and implementation of specific projects. The projects to be implemented in this context will include the following:

Project 1: Capacity-building and Technical Assistance for Industrial Policy Management

This project will expose policy makers and industrial stakeholders to new industrial realities and new sources of dynamic growth, with a focus on the role of industrial policy in rekindling and sustaining those dynamic sources of growth. Appropriate regimes will be evolved to canalize domestic as well as foreign investment flows into these specific activities which promote internationally tradable products. Knowledge flows through FDI will be ensured through a judicious mix of capacity-building initiatives for the domestic manufacturing sector and appropriate incentive mechanisms for the foreign investor. It also entails capacity-building for appropriately orienting factor conditions (access to and cost of infrastructure, power and energy, labour-skills, capital, and inputs) to meet the specific needs of industry.

The following activities will be undertaken to implement the proposed project:

1. Conduct courses for civil servants and stakeholders on industrial policy management at reputed universities and institutions.
2. Stakeholder interactions and establishment of an industrial policy governance framework for formulation and implementation.
3. Study tours for government representatives and stakeholders to selected dynamic industrial locations for understanding the effective policy and implementation mode.
3. Establishment of a regional inter-ministerial steering committee where it does not exist to form policy guidelines co-ordination.
4. Capacity-building of private institutions of AU member countries to contribute to evidence-based industrial policy advocacy.

Project 2: Capacity-building and Technical Assistance towards Industrial Data Collection and Monitoring

This project will be developed to evolve and provide harmonized and ideal collection methodologies, compilation options and also appropriate (where necessary, customized) software options, data analytical tools, data interpretation methodologies, and macro methodologies in the context of studying the competitiveness of value chains. More specifically, the programme aims to provide:

- (a) Evidence-based policy advocacy based on authentic analysis of constraints and prospects based on reliable data; and

- (b) Assessments of micro-economic responses to macro-economic policy environments, using authentic firm-level data at sub-sectoral levels.

The following activities will be undertaken to implement the proposed project:

1. Capacity-building for establishing an industrial data-base, complying with internationally recognized norms that will be harmonized in the African regional context.
2. Establishment of an African Industrial Observatory (AIO) to monitor industrial development trends and micro-economic efficiency gains, constraints and prospects. Improving national-level statistics.
3. Compilation and publication of a bi-annual *African Industrial Report* (AIR) as a means of ensuring that stakeholders are fully aware of evolving trends in industrial competitiveness and policy responses.

1.2.4 Institutional Arrangements for Implementation

The institutional mechanism for the design and implementation of the projects will comprise a *Programme Steering Committee* co-ordinated by the AU in partnership with RECs to co-ordinate and monitor the overall programme. A *Regional Steering Committee* comprising the Secretariats of various RECs will oversee implementation at the regional level so as to facilitate regional cooperation initiatives. A *National Steering Committee* in each country composed of concerned government ministries and private sector and support institutions will oversee implementation at the national level.

PROGRAMME CLUSTER 2: UPGRADING PRODUCTION AND TRADE CAPACITY IN AFRICA

PROGRAMME 2.1: INDUSTRIAL UPGRADING AND MODERNIZATION

2.1.1 Overview

Despite the increasing openness of the world market, greater emphasis in multilateral trade negotiations on the development front, and some concessionary schemes available specifically to African countries, all of which offer significant opportunities for the advancement of trade and industry in Africa, most countries in the region have not been able to effectively benefit from trading opportunities in expanding markets.

The greatest potential for economic and trade development of African countries lies in the manufacturing sector and in the transformation of local raw materials into semi-finished/finished products. African enterprises need to develop regional value chains and link with global supply chains to market their products internationally.

It is here that most of the emphasis on overcoming supply-side constraints has to be focused. The priority sectors identified so far by the CAMI Bureau and UNIDO that have good prospects for successful growth are: agro-food processing, minerals, chemicals and pharmaceuticals, textiles/garments, leather/leather products, forestry, fisheries, and equipment/machinery and related services. Whilst this is an initial assessment of the prospects of success other areas of specific regional concern may be added as the programme unfolds – like the area of cultural goods and specific agricultural processing possibilities.

Special attention will have to be given to SMEs, which predominate in African economies. They have inherent difficulties with productive capacity, access to capital, and technology and services because of resource limitations. If these enterprises are to trade in global markets, they need to increase and upgrade their supply capacity, quality, competitiveness and conformity with importer-mandated product standards. This involves both increased investment at the enterprise level and technical and financial support in improving productivity and technology extension services, training, export consortia and cluster development.

Industrial upgrading and modernization may be viewed as initiative aimed at rejuvenating viable and promising enterprises that are currently struggling to thrive in an internationally competitive environment.

2.1.2. Programme Objectives

The overall objective of the Industrial Upgrading and Modernization Programme is to contribute to strengthening the industrial capacities of African countries to face the double challenge of regional and world integration in the context of trade liberalization and economic diversification, and thus to contribute to efforts to reduce poverty.

Specifically, the Programme aims to support the dynamics of upgrading and modernization of industries and related services in Africa, and to improve their competitiveness, growth and access to national, regional and international markets. This will be accomplished through improving the productivity of industrial enterprises and the quality of their production, employment creation and strengthening of technical support institutions.

2.1.3. Indicative projects and activities:

The Programme will be implemented during the next three to six years through the following specific projects:

Project 1: Diagnostic Analysis of Priority Industry Sectors

In order to derive maximum returns from industrialization, priority industrial sectors in each country and region in Africa should be identified and analyzed. The analysis should be carried out using the value chain methodology. The priority sectors analyzed so far are: agro-food processing, minerals, chemicals and pharmaceuticals, textiles/garments, leather/leather products, forestry, fisheries, and equipment/machinery, services.

Undertaking value chain analyses of the above priority sectors in each African country will continually identify the segment of the value chain where enterprises currently operate and be able to:

- 1 Identify bottlenecks and constraints;
- 2 assess technology, management, market access, and investment needs;
- 3 develop upgrading and modernization intervention projects;
- 4 set up financial mechanisms to support upgrading and modernization;
- 5 address policy issues to develop new enterprises and support the upgrading and modernization process;
- 6 upgrade and support SMEs in both the formal and informal sectors;
- 7 develop and implement linkages between SMEs and large companies.

Project 2: Upgrading Supply-side Capacities and Enhancing Competitiveness

This proposed project aims at to provide support for upgrading and modernization of industries and related services, and to improve their competitiveness, growth and access to national, regional and international markets through improvement of quality and productivity, and employment creation. The following objectives are expected to be achieved:

To establish an institutional support framework and mechanisms for upgrading of industries/ related services established; to enhance the capacities of technical support institutions; to increase the output and the employment level in enterprises (SMEs, informal sector operations); to achieve export growth and to also help increase household incomes.

The following specific actions will be taken:

- Formulate national industrial upgrading and modernization programme for each African country.
- Technical support and coaching of SMEs for the implementation of the upgrading activities in the beneficiary companies (priority to soft investments activities).
- Promotion of traceability (country of origin) programmes for specific and priority products having high exports potential.

- Feasibility study and establishment of financing schemes to facilitate access of local SMEs to the funding needed to implement upgrading and modernization activities and to fulfil their investment plans.
- Setting-up of a Monitoring Framework for the Programme at national and regional levels. (sharing of best-practices- regional).

Project 3: Establishing and Upgrading of Technical Support Institutions

This project deals with the environment of industrial upgrading notably through strengthening the capacities of technical support institutions and quality promotion. The specific actions and activities to be undertaken are:

1. Diagnosis, formulation and implementation of the upgrading plans for technical centres and institutions promoting priority and key export sectors.
2. Capacity building for the ministries in charge of industry, upgrading centres, SME/employers associations, banks, experts/consultants and trainers for the Programme implementation and follow-up.
3. Networking African intermediary organizations internationally and strengthening professional associations.
4. Promotion, creation and assistance in establishing export consortia. Formulation of support measures and favourable legal framework for the export consortia (at regional and national levels).
5. Establishment of Subcontracting Exchanges and “aftercare” services.

2.1.4 Institutional Arrangements for Implementation

The institutional mechanism for the design and implementation of the projects will comprise a *Programme Steering Committee* co-ordinated by the AU and RECs to co-ordinate and monitor the overall programme. A *Regional Steering Committee* comprising the Secretariats of various RECs will oversee implementation at the regional level so as to facilitate regional co-operation initiatives. A *National Steering Committee* in each country composed of concerned government ministries and private sector and support institutions, will oversee implementation at the national level.

PROGRAMME 2.2: CREATION OF NEW ENTERPRISES

2.2.1 Overview

SMEs account for 95% to 99% of firms in most developed as well as rapidly developing economies worldwide. Small enterprises with less than 50 employees constitute at least 95% of manufacturing firms in most countries of the world. Moreover, SMEs generate over 50% of value added in several OECD countries. Many African economies have been striving to evolve a conducive business environment by way of providing government-subsidised credit through development banks, the establishment of SME modules, and providing market development assistance to facilitate start-ups.

Nevertheless, there are specific constraints to be addressed in the African context. There is a limited entrepreneurial culture, particularly in sub-Saharan Africa. In addition, there are very few business incubation facilities. This is exacerbated by the gap in institutionalized efforts to support new enterprise development in Africa.

There is need for initiatives to institutionalize a result-oriented Enterprise Development and Investment Promotion (EDIP), and also facilitate the establishment of incubation facilities to support value-added projects. An EDIP programme aims to assist potential entrepreneurs and investors to translate their ideas into commercial SMEs in the manufacturing and related services sectors. However, an EDIP needs an institutional framework to sustain it, a funding mechanism to finance projects developed by entrepreneurs, and sector-specific business incubators in different locations in each country to provide services to existing SMEs as well as facilities for new SMEs. Business incubators provide start-ups with facilities for manufacturing and processing activities on a pilot, semi-commercial scale. Existing SMEs could also utilize these incubators to explore other value-adding activities. Finally, incubators may also complement research and development facilities for product or process standardization and therefore encourage value-added projects.

2.2.2 Programme Objectives

The programme aims to stimulate the emergence of new enterprises that provide employment, add value to commodities and contribute directly to poverty alleviation and economic growth. Its specific objectives are to:

1. Contribute towards creating new enterprises with emphasis on appropriate training and mentoring in entrepreneurship development, particularly women and youth entrepreneurship.
2. Operationalize the “One-Stop Shop” philosophy to guarantee the speedy and timely registration process of enterprises.
3. Establish incubation facilities that will serve to reduce start-up risks and also progressively promote induced “clustering” in terms of encouraging the phenomenon of the competitive geographical agglomeration of firms. This initiative may also facilitate the acquisition and diffusion of appropriate production technology.

2.2.3 Indicative Project and Activities

The envisaged goals will be achieved through the design and implementation of specific interrelated projects over a period of three years. The programme to be implemented includes:

Project 1: Enterprise and Business Incubators Development

An EDIP programme institutionalizing framework may comprise two phases: (i) institutional capacity-building for implementation, and (ii) piloting and roll-out. The envisaged project will guide national governments on establishing business incubators in key sectoral value chains, and provide physical infrastructure (space) and common facilities (necessary equipment). Each incubator will also serve as a pilot plant to test the commercial viability of innovative products and services. The project could either be government-led or operate as a formalised *public-private* partnership scheme. Either approach will require the active participation of private sector stakeholders, such as industry associations and chambers.

The following activities will be undertaken to develop the institutional capacity-building phase of the proposed project:

- i) Study industry value chains and select specific value chains according to national priorities;
- ii) Select institutions that will spear-head the conduct of EDIPs on the basis of eligibility criteria;
- iii) Link up with national mechanisms for financing the EDIPs as well as Regional Industrial Development Funds;
- iv) Prepare an inventory of value-added products and processes in relevant value chains and establish facilities for modern industrial applications.

2.2. 4 Institutional Arrangements for Implementation

The institutional mechanism for the design and implementation of the projects will comprise a *Programme Steering Committee* coordinated by the AU and RECs to co-ordinate and monitor the overall programme. A *Regional Steering Committee* comprising the Secretariats of various RECs will oversee implementation at the regional level so as to facilitate regional co-operation initiatives. A *National Steering Committee* in each country composed of concerned government ministries and private sector and support institutions, will oversee implementation at the national level.

PROGRAMME 2.3: SUPPORT ENHANCED PRODUCT (MANUFACTURING) QUALITY

2.3.1 Overview

Quality infrastructure which includes measurement metrology, standardization and conformity assessment capacity constitutes one of the key ingredients of successful industrial development in a globalized world. The ability to meet international standards, norms and technical regulations is a key element of global competitiveness. Building up capacity to improve, certify, test and assure the quality of industrial products is a prior condition for access to the global market and sustaining the process of industrialization.

An African approach to technical regulations that protects the health and safety of the public and the environment should be developed. This approach can capitalize on quality infrastructure capacity. Standards or parts of standards can be used to specify the technical requirements of technical regulation. Accreditation can be used to determine the competency of conformity assessment service providers that will be used by business to prove compliance.

Key elements of Africa's regional and sub-regional quality infrastructure activities will focus on:

1. *Metrology*: the focus will be on the formulation of intra- and inter- regional systems that facilitate traceability of measurement of the member states to the SI units of measurement, improve existing national measurement standards and facilities, and make them accessible to all members with a focus on those sectors identified for industrialization
2. *Standardization*: the focus will be on the promotion of regional co-operation to participate actively in sector-specific international standards development activities to defend Africa's interests, the development of harmonized sector specific standards, facilitating the exchange of information on existing sector specific standards, and drafting sector specific standards and technical regulations among members.
3. *Accreditation*: the focus will be on the identification of the critical requirements for the establishment and functioning of sub-regional accreditation infrastructure, the design and implementation of regional systems of co-operation in the area of accreditation and the promotion of the use of accreditation as a tool that national governments can use to support industrialization.
4. *Conformity assessment services*: the focus will be on the identification and establishment of sector specific laboratories, certification and calibration services that support industrialization. (Move to Project 2) [Ari, does this need to be moved elsewhere in the text?]
5. *Technical regulations*: the focus will be on the development of a common approach to technical regulations that deals with the health and safety of the public and the environment.

2.3.2 Programme objectives

Industrial upgrading and trade capacity building are effective tools in meeting the challenges posed by regional competitiveness development initiatives. In particular, the Programme will aim to:

- (b) Provide companies with technical assistance in implementing projects to meet international standards and technical regulatory requirements to improve their competitiveness and responses to the new challenges of liberalized market;
- (c) Co-ordinate and align quality activities in the region (standards, technical regulations, metrology, accreditation and conformity assessment services) in order to provide a suitable environment for the production of quality goods and services, thus contributing to industrial development in Africa and the progressive elimination of Technical Barriers to Trade (TBTs) amongst the African sub-regions.
- (d) Establish and strengthen quality activities in the sub-region in order to provide a suitable sub-regional environment for the production of quality goods and services, thus contributing to industrial development in Africa and the progressive elimination of TBTs amongst the African sub-regions. Providing technical assistance in establishing metrology, standardisation and accreditation capacity as well as conformity assessment services for testing, certification, calibration and inspection

2.3.3 Indicative Project and Activities

The above programme objectives will be achieved through the development and implementation of the following specific projects within the next three to six years:

Project 1: Technical Assistance to meet International Standards and Technical Regulatory Requirements

Success in most of the priority sectors at the global export level lies in a world-class quality system. To achieve success in these sectors in Africa a non-negotiable pre-requisite – before one can even begin to contemplate export – is quality assurance which includes phytosanitary and sanitary assurance. In particular, a lot of effort is needed in the following areas: certification, inspection, and control and testing of products.

The project will aim to support the strengthening of capacity of specific companies in order to meet standards and technical regulations for export. This project will facilitate co-ordination (standards, metrology institutions, and accreditation and conformity assessment services) in order to provide a suitable environment for the production of quality goods and services, thus contributing to industrial development in Africa and the progressive elimination of TBTs amongst the African sub-regions. Its specific actions will aim:

1. To identify an agreed number of companies per priority sector that have the potential to export.
2. To analyze each company's needs through a diagnosis process and develop an action plan for beneficiary companies.
3. To provide technical support and coaching in implementing project activities in the beneficiary companies.
4. Achieve the Implementation of Quality Management Systems and ISO 9001 certification at beneficiary companies.
5. Launch the HACCP and certification ISO 22000 for selected companies.

Project 2: Regional Framework to Co-ordinate Quality Activities

The project aims to co-ordinate and align quality activities in the region to:

1. Establish one accreditation body per sub-region to ensure the competency of testing, certification, calibration and inspection services provided to industry.
2. Create a pool of accreditation assessors per region to strengthen quality assurance at the sub- regional accreditation body.
3. Obtain international recognition for the sub-regional accreditation bodies from the ILAC and the IAF.
4. Initiate an investigation to determine which African traceability capacity needs to be established to facilitate benchmarking in Africa for each of the treaty parameters in order to support the export of African products and develop a plan for establishing the traceability capacity.
5. Initiate a study to identify measurement capability gaps in Africa and develop a plan for the establishment of these capabilities.

2.3. 4 Institutional Arrangements for Implementation

The institutional mechanism for the design and implementation of the projects will comprise a *Programme Steering Committee* coordinated by the AU, NEPAD and RECs to co-ordinate and monitor the overall Programme. A *Regional Steering Committee* comprising the Secretariats of various RECs will oversee implementation at the regional level as to facilitate regional cooperation initiatives. A *National Steering Committee* in each country composed of concerned government ministries and private sector and support institutions, will oversee implementation at the national level.

Cluster 3: Promoting Infrastructure and Energy Development for Industrial Processes

PROGRAMME 3.1: INFRASTRUCTURE AND ENERGY FOR MEETING THE INDUSTRIAL DEVELOPMENT NEEDS OF AFRICA

3.1.1. Overview

The Programmes under this Cluster will be designed to strengthen the link between infrastructure, communications and energy to promote industrialization in the region. It is recognized that in order to accelerate industrialization in the region, there is an urgent need for regional integration and cooperation between countries and infrastructure providers.

The provision of a well-articulated infrastructure, including transport and communication logistics and platforms is vital for overcoming the supply-side constraints on the continent. This Programme's elaboration has to await the 12th AU Summit on Infrastructure in January 2009 so that the projects developed and designed are fine-tuned with the major strategic priorities of the AU in this area.

3.1.2. Programme Objectives

3.1.3. Indicative Projects and Actions

3.1.4 Institutional Arrangements

TO BE DEVELOPED AFTER THE INFRASTRUCTURE SUMMIT. (JANUARY 2009)

PROGRAMME 3.2: RENEWABLE ENERGY FOR ENHANCING ACCESS AND INDUSTRIAL APPLICATIONS

3.2.1 Overview

Africa is endowed with vast renewable sources of energy. Still, energy poverty is a serious impediment to economic and human development in most parts of the continent. The potential of energy efficiency and renewable energy to decouple fossil energy use from economic growth is still largely untapped in Africa. Exploitation of this potential is important in the context of industrial productivity and competitiveness. A transition to modern energy services based on renewable energy could help break the vicious circle of energy deprivation and under-development in the region.

Major constraints to wider adoption and scaling up of use of renewable energy (RE) in Africa are as follows: (i) lack of awareness about renewable energy; (ii) high initial upfront costs in setting up renewable energy systems; (iii) inadequate local research and development capabilities and end-user acceptability; (iv) a dearth of demonstration projects to foster wide-spread interest among the private sector; (v) inadequate assistance from the financial institutions; and (vi) gaps in the policy and regulatory framework.

3.2.2 Programme Objectives

The overall objective of this programme is to demonstrate the potential and benefits of Renewable Energy technologies to augment rural electrification and industrial applications in Africa within the framework of an appropriate policy and financial environment. Its specific goals are to:

1. Map renewable energy resources in Africa, and establish an accessible and reliable database;
2. Evolve appropriate policy and regulatory frameworks;

3. Implement renewable energy systems for rural electrification with emphasis on small hydro power, solar and biomass as well as to demonstrate industrial applications of RETs;
4. Mobilize investments for financing RE based industrial projects through networking and establish necessary financing instruments;
5. Generate awareness and build-capacities on renewable energy options, and help in abating GHGs; and
6. Facilitate in accessing funds under Kyoto protocol and other global mechanisms

3.2.3 Indicative Projects and Actions

The envisaged goals will be achieved through implementation of specific interrelated renewable energy projects. The range of projects to be implemented in this project, among others, would include:

Project 1: Renewable energy resource mapping and strengthening of database for knowledge management

A project will be developed to collate available information on renewable energy resources, identify gaps and carrying out mapping to construct an accessible and reliable database. This database will serve as a platform for knowledge management on renewable energy resources and technologies in Africa.

The following activities will be undertaken to implement the project:

1. On a country-by-country basis, review literature on available data on renewable energy resources and identify gaps in the information;
2. Carrying out mapping and compile and update the data into a compendium and database;
3. Compile information on all ongoing key projects and programmes, and document lessons learned and best practices; and
4. Promote networking and information sharing between institutions, agencies and programmes to ensure synergies and avoid duplication.

Project 2: Development of conducive policy and regulatory frameworks

A project will be developed in order to create a level playing field for renewable energy through enabling policy and regulatory guidelines. Some regulatory and support mechanisms, which are already in place, would need strengthening along with introducing new policy initiatives that may not require significant changes in the Electricity Acts of countries. These would, among others, include establishing Standard Power Purchasing Agreements (PPAs), ensuring long-term electricity generation licenses, developing favourable tariffs and adjustment formula, 'light-handed' (less stringent) regulations, setting explicit targets for the share of renewables in the electricity generation mix, enacting explicit regulations that encourage private participation, and providing one-time capital investment subsidies to individual or groups of firms in a *public-private partnership* mode.

1. Review of existing policies and regulations in each AU member countries and analyze their adequacy;

2. Provide technical assistance in policy formulation where policies are non-existent and mainstream them into national development plans;
3. Work through regional economic communities, harmonize policies to strengthen markets and stimulate regional investments; and
4. Promote renewable energy development for abating GHGs emissions and facilitate accessing funds under Kyoto Protocol and other mechanisms.

Project 3: Demonstration of techno-economic feasibility of Renewable energy Systems

A project will be developed specifically to focus on practical interventions on the ground that will demonstrate the technical and economic viability of promising renewable energy technologies and measures, and promote private sector involvement in stimulating renewable energy markets in the region. Keeping in line with the regional and national priorities, concepts will be identified for development into action oriented and practical projects to be implemented at the regional / national level. Specifically, the project will focus on the following areas:

1. Identify suitable renewable energy projects in line with national / regional priorities;
2. Conduct techno-economic feasibility studies for scaling up of demonstration projects;
3. Identify energy intensive SME clusters and carry out feasibility studies on industrial applications of renewable energy technologies;
4. Set up mini-grids based on renewable energy (mini hydro, solar and biomass sources of energy) to augment rural electrification; and
5. Promote industrial applications based on renewable energy in the selected industries.

Project 4: Innovative financing and capacity-building for scaling up of renewable energy projects

Africa has some critical barriers in terms of financing of RE projects. The share of renewable energy resources in rural electrification and industrial applications is increasing though their vast potential to meet growing energy needs still remains untapped in Africa. Hence, it is necessary to demonstrate the potential of various renewable energy technologies through bankable projects for augmenting rural electrification and industrial applications in Africa. The project will be developed therefore in a manner emphasizing on sustainability of interventions with a particular focus on financing, capacity building of local institutions and scaling up.

The following activities will be pursued to implement the proposed project:

1. Review of existing financial markets and mechanisms as to identify best practices for promotion of RE and develop a regional investment strategy;
2. Develop operational and maintenance guidelines, and organise training workshops for building local capabilities and disseminate information;
3. Develop decision support tools and guidelines for setting up and managing innovative mechanisms targeted at promoting renewable energy;
4. Offer customized capacity-building inputs to identified institutions and
5. Facilitate in accessing funds under Kyoto protocol and other global mechanisms

Institutional Arrangements for Implementation

The institutional mechanism for the design and implementation of the projects will comprise a *programme steering committee* at the regional level that will bring together stakeholders such as the AU, NEPAD and Regional Economic Communities to co-ordinate and monitor the overall programme. A *regional steering committee* comprising the secretariats of various regional economic communities such as the SADC, UMA, ECOWAS, CEMAC and the UEMOA will oversee implementation at the regional level as to facilitate regional cooperation initiatives. A *national steering committee* in each country comprising of concerned government ministries and private sector institutions, will oversee implementation at the National level.

An *implementation committee* in each member country of the AU will assume main responsibility for implementing the programme. This committee will involve users and beneficiaries of the programme in terms of institutions and private sector stakeholders directly concerned with the programme.

Programme 3.3: AFRICA BIOFUELS INDUSTRY DEVELOPMENT PROGRAMME

3.3.1 Overview

Biofuels have the potential to supply significant shares of national and regional energy needs, and can play an important role in promoting energy security, creating jobs and helping achieve Millennium Development Goals in the region. However, it is critical to look at biofuels development in Africa in a holistic way covering all four areas – technology, investment, trade and sustainability. The constraints to the biofuels option may be visualised in terms of implications by way of possible *land-use* competition, food versus feed debate and environmental sustainability. An integrated approach will be needed to ensure that biofuels development does not compete with the food security, and adheres to environmental and sustainability standards.

It is recognized that the realization of the potential of bioenergy depends to a great extent on the availability of competitive conversion technologies and processes. To this end, there is a need for evolve support mechanisms that would encourage the transfer of relevant technologies and associated capacities from technology producers to technology markets.

Careful calibration of biofuels resources and feedstock availability need be made prior to evolving appropriate policy and regulatory frameworks. In addition, appropriate policy options, financial mechanisms, stakeholder capability building initiatives as well as developing sustainable indicators as well as local research capacities to indigenize technologies with knowledge sharing in an inter-regional perspective is of paramount importance.

3.3.2 Programme Objectives

The programme aims at linking sustainability, trade and technology issues, and conducting a scenario analysis of land-use patterns as to minimize potential *food vs. fuel* conflict, developing sustainability indicators, evolution of appropriate policy, establishment of financial mechanisms, capacity-building and research. Its specific objectives are to:

1. Develop data in terms of a comprehensive assessment and scenario analysis of biofuels resources and feedstock availability in AU member countries.
2. Evolve an enabling policy and institutional environment linking technology, trade, investment and sustainability issues.

3. Establishment of dedicated biofuels investment funds and financial mechanisms;
4. Upgrade capacities of project developers and financiers and develop sustainability indicators
5. Support the South-South technology transfer and market introduction of modern technologies (i.e. second and third generation biofuels).
6. Set up inter-regional network and a clearinghouse service on 2nd and 3rd generation biofuels.

3.3.3 Indicative Projects and Activities

The envisaged goals will be achieved through the evolution and implementation of specific interrelated projects. The range of projects to be implemented in this project, among others, would include:

Project 1: Sustainable Biofuels Industry Development in Africa

Arguably, the biofuels option could provide more jobs than other RE resources and systems. However, evaluation of the biofuels energy system as an option merits intense scrutiny as production of the resource may imply land-use competition with food crops. Despite some past attempts, today it is necessary to establish a comprehensive national and regional database of various forms of biofuels feed-stock as a basis for sustainable utilization patterns.

It is also important to enhance capacity of players along the biofuels value chain and promote need based research including focus on second and third generation biofuels. In this context, training programmes on biofuels at different levels, flagship pilot and demonstration projects and research on relevant biofuels need be conducted. This will help local industry to also develop capacity to design, assemble and manufacture biofuels conversion technologies.

Biofuels projects require high upfront costs and access to finance is limited. There is also limited data on the biofuels industry to guide investors and financiers in making sound judgments and decisions in biofuels project development. Training workshops on project management, pricing, and thereafter, mobilization of additional biofuels investment funds are important in this circumstance.

There are also a number of successful policies and programmes implemented elsewhere that could provide lessons to others. The exchange of experiences and knowledge amongst such stakeholders need be catalyzed in a North-South, as well as South-South perspective. The project will, therefore develop an interregional bioenergy network with focus on Africa

The following activities will be undertaken to implement the proposed project:

1. Undertake biofuels resource assessment and feedstock availability;
2. Evolve policies and institutional framework to stimulate development and sustenance of the biofuels industry;
3. Build productive capacities and establish regional centres for coordination of related research including research on second and third generation biofuels;
4. Develop sustainability indicators for indigenous biofuels resources; and
5. Establish an inter-regional network on bioenergy and organise global, regional, and sub-regional forum activities.

3.3.4 Institutional Arrangements for Implementation

The institutional mechanism for the design and implementation of the projects will comprise a *programme steering committee* at the regional level that will bring together stakeholders such as the AU, NEPAD and Regional Economic Communities to co-ordinate and monitor the overall programme. A *regional steering committee* comprising the secretariats of various regional economic communities such as the SADC, UMA, ECOWAS, CEMAC and the UEMOA will oversee implementation at the regional level as to facilitate regional cooperation initiatives. A *national steering committee* in each country comprising of concerned government ministries and private sector institutions, will oversee implementation at the National level.

An *implementation committee* in each member country of the AU will assume main responsibility for implementing the programme. This committee will involve users and beneficiaries of the programme in terms of institutions and private sector stakeholders directly concerned with the programme.

Programme 3.4: PROGRAMME FOR ENERGY EFFICIENCY AND INDUSTRIAL COMPETITIVENES

3.4.1 Overview

Industrial consumers, including SMEs are a major energy-consuming segment of Africa. In sub-Saharan Africa, they account for about a fourth of total commercial energy demand, mostly in the form of electricity and imported oil. Inefficient industrial energy leads to adverse environmental impact, increased prices of goods and services and, in effect, increases the cost of supply. There is considerable scope for the typical African industry to improve energy efficiency and in turn, its productivity and competitiveness.

3.4.2 Programme Objectives

The programme will aim to contribute to Africa's energy security through implementing energy efficiency related policies and programmes. Its specific goals will be to:

1. Establish policies, programmes and regulatory framework to support and promote energy efficiency in African industry
2. Energy system optimization and management, and best-practices incorporated in business-as-usual operation of industry; reduced energy intensity and enhanced competitiveness
3. Development of a data-base on industrial end-use energy consumption and efficiency benchmarks for selected branches developed; and
4. Facilitate in accessing funds under Kyoto protocol and other global mechanisms

3.4.3 Indicative projects and activities

The envisaged goals will be achieved through the evolution and implementation of specific interrelated projects.

Project 1: Removal of barriers for promotion of industrial energy efficiency in Africa

The project will be developed to assist formulation of policies, incentive schemes and programmes targeted to improve energy efficiency in African industry. Assistance could be

provided for incorporating energy efficiency in industrial development policies, industrial energy management standards, industrial sector policies, and incentive schemes.

In the light of the variety of available options, the project will be developed to equip industry with appropriate technical and management capacity to implement industrial energy efficiency and management while garnering market pull for new energy efficiency.

It is also critical to improve upon the body of knowledge available at the country and regional level on industrial end-use energy consumption in order to identify the best opportunities for energy efficiency improvements and accordingly define well groomed and cost effective policies and programmes.

The following activities will be undertaken to implement the proposed project:

1. Development and formulation of industrial energy efficiency (IEE) policies, standards and supporting regulations and programmes;
2. Building technical capacity for African industry, including SMEs for industrial energy systems optimisation and energy management;
3. Industrial energy end-use energy consumption – building knowledge for successful solutions; and
4. Facilitate in accessing funds under Kyoto protocol and other global mechanisms

3.4.4 Institutional Arrangements for Implementation

The institutional mechanism for the design and implementation of the projects will comprise a *programme steering committee* at the regional level that will bring together stakeholders such as the AU, NEPAD and Regional Economic Communities to co-ordinate and monitor the overall programme. A *regional steering committee* comprising the secretariats of various regional economic communities such as the SADC, UMA, ECOWAS, CEMAC and the UEMOA will oversee implementation at the regional level as to facilitate regional cooperation initiatives. A *national steering committee* in each country, composed of concerned government ministries and private sector institutions, will oversee implementation at the National level.

An *implementation committee* in each member country of the AU will assume main responsibility for implementing the programme. This committee will involve users and beneficiaries of the programme in terms of institutions and private sector stakeholders directly concerned with the programme.

PROGRAMME CLUSTER 4: INDUSTRIAL AND TECHNICAL SKILLS FOR AFRICA'S DEVELOPMENT

PROGRAMME 4.1: REDRESSING THE SKILLS SHORTAGE

4.1.1 Overview

To achieve resource-based industrialization specifically within the eight identified priority sectors,⁵ the current skills shortage in Africa needs to be addressed through key actions that lead to deliverable outcomes. Africa's skill shortage is evident in two specific areas, namely soft skills and hard skills which are both essential for promoting sustainable industrialization. However, for the continent to create a comprehensive and adaptive skills pool, certain prerequisites, such as policy development and improved budget allocation, need to be prioritized. In terms of policy

⁵ The eight priority sectors are: 1. Food processing; 2. Textiles and garments; 3. Leather and leather products; 4. Mineral products; 5. Wood and wood products; 6. Automotive spare parts; 7. Pharmaceuticals; and 8. Building materials. (See UNIDO, 2003, Africa Production Capacity Initiative: From Vision to Action)

development, there is a need to promote human resources policies that include short-term and long-term strategies. Feasible short-term strategies need to be devised and implemented to address sector specific needs. Short-term strategies can include skills transfer strategies, measures to safeguard and retain the indigenous skills pool and incentives to attract the African Diaspora. Equally important for redressing the existing skills shortage in Africa is to increase the budget allocation for education and target technical training in the trades, crafts and engineering fields.

4.1.2 Programme Objectives

(a) Development of an indigenous skills pool with special focus on soft skills⁶ that enhance governance and management and hard skills⁷ that support beneficiation.

(b) Valorizing ‘informal skills’ that workers possess. Training institutions must ensure that Recognition of Prior Learning (RPL) is incorporated into curriculum development to improve the skills output. The development of these skills can further support the industrialization process within Africa.

(c) Promoting and increasing lifelong learning approaches for industrial development. For example, continuous learning is often required at various levels of the value chain, especially in high-end skills areas within knowledge-intensive industries where there is constant adaptation to new knowledge and technological developments. Lifelong learning should not be limited to skilled workers, but should also be encouraged among semi-skilled workers.

4.1.3 Indicative Projects and Actions

Project 1: Diagnostic Analysis of Industry-Related Skills Gap

At the national level, research and data collection around skills shortages must be undertaken especially in relation to industry-related skills gaps within the priority sectors. This diagnostic analysis of industry will guide curriculum development at the HEI level as well as the development of targeted training programmes intended to redress the skills shortage in the specific industry sectors.

Activities:

1. Assess and Develop Capacity (training institutions)
2. Identify the skills shortages in the priority industrial sectors
3. Turn the diagnostic analysis into training programmes
4. Identify the correct institutions to provide the training nationally

Project 2: Revamp/Establish Institutions for Industry and Skills Development

Regional training institutions need to align their skills training to the priority sectors identified and develop training courses that re-skill the existing workforce. Careful and strategic planning should form the basis of curriculum development at various educational institutions and among stakeholders such as industry. In addition, specific programmes that support the skills development of youth, women and entrepreneurs must be prioritized.

Activities:

⁶ Soft skills include management excellence in resources, logistics and people; marketing skills; trade negotiating skills; skills in policy-making and implementation; entrepreneurial skills (target SME development) and intellectual property skills.

⁷ Hard skills include technical expertise in engineering (chemical/civil – process or rudimentary engineering as in the case of the automobile sector); information and communication knowledge; craft/technical skills (electricians, fitters and turners, welding etc; metrology skills and scientists).

1. Plan the training and the curriculum necessary
2. Involve industry in the planning
3. Create specialized programmes for youth
4. Create specialized programmes in entrepreneurship
5. Refurbish existing or create new institutions

Project 3: Industry- Driven Skills Development

Upgrading of existing skills and reskilling within industry is essential for competition. Industry needs to embrace the on-the-job-learning approach to respond to global skills trends within industry at both basic and technical levels. On-the-job training provided by individual companies should be rewarded by governments through, for example, tax incentives. Within each industrial sector, best practices and training guidelines should be shared among companies. In addition, industry can offer internships/learnerships and apprenticeships to ensure that graduates gain the required skills for the workplace.

Activities:

1. Create the inter-face between on-the job training and internships and qualifications
2. Create the incentive systems to reward on-the job training companies
3. Create the link between training and on-the job training in artisan skills

Project 4: Valorising Informal Skills' of the Work force

Regional accreditation authorities should be established which will develop guidelines and standards for the certification of 'informal skills' relevant to the identified industrial priority sectors. Accreditation criteria and further training (if required) will be the responsibility of designated training institutions within each country.

Other important programmes have been identified for this strategy to ensure the development of a comprehensive skills pool within Africa. These programmes entail developing skills sets around advanced/new technologies, and infrastructure and beneficiation.

Activities:

1. Establish regional and national accreditation authorities
2. Establish a process of accreditation for tacit and embedded skills
3. Develop Recognition of Prior Learning for existing skill sets

4.1.4 Institutional Arrangements for Implementation

These activities should be co-ordinated by a Human Resources Development Office within CAMI which will establish dedicated multi-stakeholder networks to achieve each project in partnership with RECs. As the institutional landscape of skills provision within and between regions varies, the composition of each network has to reflect contextual needs.

4.2 PROGRAMME FOR SKILLS DEVELOPMENT FOR INFRASTRUCTURE AND BENEFICIATION INITIATIVES

4.3.1 Overview

Projects aimed at developing skills for infrastructure and beneficiation need to be characterized by political commitment from key stakeholders and decision makers, improved governance and improved security. Major infrastructure projects such as those necessary for accelerated industrial development on the continent tend to be multinational in scale and scope (for example, the Grand Inga project in the DRC and the Lesotho Highlands Dam project).

It is therefore vital for the Bureau of Infrastructure and Energy and the RECs under whom trans-national beneficiation value chains operate to define and prioritize the special skills that need to be developed and nurtured.

4.3.2 Programme Objectives

1. High quality training in specialized skills to provide reliable, low cost energy, good quality and constant water supply, industrial ICT infrastructure, efficient transport networks and the maintenance and support of a financial infrastructure as key inputs of industrial processes. These require specialized skills in the decision-making, development, and usage and maintenance phases of infrastructure provision.
2. Increasing the needs-based skills pool for the beneficiation process. Although Africa will have to benefit from international skills transfers in the short-term, targeted training of the African labour force will be vital for the beneficiation process in the long-term.
3. Standardization of the regional qualification system to provide quality training that targets niche areas in the value chain across industry specific needs.
4. Achieving the final phase of beneficiation among the various priority sectors. This in turn entails ensuring that the final product meets international standards. Therefore, skills development needs to be targeted towards quality control.

4.3.3 Indicative Projects and Actions

Project 1: Develop Skills Transfer and Retention Strategies

Skills transfer and capacity building must be a key component of all infrastructure development and beneficiation efforts (whether African or international) in order to ensure that scarce⁸ and technical skills are locally developed. This will be achieved by the incorporation of capacity-building conditionalities into investment policies. The creation of an environment that will attract relevant, scarce skills and knowledge to specific regions is essential. Measures to achieve this include favourable immigration and residency regulations. In addition, measures to retain existing skills as well as to attract the African Diaspora need to be developed and implemented. Measures include financial incentives as well as career opportunities.

Activities:

1. Identify key infrastructural and beneficiation projects per region
2. Identify the skill/scarce skills sets per project
3. Identify instruments to guarantee skills transfer per project
4. Identify short-term skills that need partial immigration/residency exceptions
5. Develop a retention strategy for existing scarce skill sets

⁸ In structural engineering, chemical engineering, civil engineering, chemistry, project management, etc.

Project 2: Establish or Strengthen Specialized Regional Training Centres

The Regional Training Centres will focus on sector-specific skills in the following areas: water and energy provision, ICT, transport, and financial infrastructure. In addition to enhancing technical skills these training centres need to incorporate training programmes that specialize in management and maintenance skills necessary for large scale infrastructure development projects. Regional training would ensure more efficient resource allocation that is well targeted.

Activities:

1. Establish regional and national training centres or revamp existing ones to respond to infrastructure training needs
2. Define for each type (water, energy provision, ICT, transport, finance) the skills training needed
3. Create specialized training systems
4. Create support systems for their delivery

4.3.4 Institutional Arrangements for Implementation

This project needs to be co-ordinated by a Human Resources Function within CAMI and the Infrastructure and Energy Bureau. Dedicated multi-stakeholder networks need to be set up in partnership with RECs and the Energy and Beneficiation Authorities. As the institutional landscape of skills provision within and between regions varies, the composition of each network has to reflect contextual needs.

PROGRAMME CLUSTER 5: INDUSTRIAL INNOVATION SYSTEMS, RESEARCH AND DEVELOPMENT, AND TECHNOLOGY DEVELOPMENT

PROGRAMME 5.1: STRENGTHENING THE REGIONAL INDUSTRIAL INNOVATION SYSTEM IN AFRICA

5.1.1 Overview

Knowledge is a source and innovation is a force to unlock the development potential of Africa. Strengthening the national and sectoral innovation systems is critical in order to keep pace with the rapidly changing dimensions of industrial expansion. The rapidly changing pattern of industrial production today demands new knowledge and skills in order to survive in an internationally competitive environment. The origins of the industrial revolution took place in a small workshop and not in the classroom. Today innovative ideas stem from the university classroom and institutions. In an ideal industrial innovation system, new knowledge is generated by universities, exploited by laboratories and commercialized by dynamic firms. Such an interactive framework is the nerve centre of industrial transformation.

Many African countries that are behind the global technological frontier can take advantage of acquiring knowledge that already exists elsewhere in the world and adapt it to the local context. Today, research does not necessarily entail innovation. The purpose is to enhance adaptive capabilities to use modern technology and devices. Thus, enhanced adaptive

capabilities to acquire, assimilate, adopt, adapt, and to learn to innovate to suit the local context are crucial.

Africa is not without notable and indigenous innovative initiatives. Varieties of the New Rice for Africa (NERICA®), a high yielding, stress-resistant rice developed in the 1990s by the Africa Rice Centre (in Benin) contributed to a 6% increase in the continent's rice output. This contribution needs to be viewed in the light of the fact that the continent imports about 40% of its rice requirements and the fact that rice shortages have occasionally precipitated food riots in major rice-importing countries. There is also evidence of African firms innovating through non-R&D routes to innovation. The continent does encompass pockets of industrial dynamism and innovation. Given the African context, it is important to give equal importance to the commercialization of existing research findings, adaptive R&D, and non-R&D routes to innovation.

5.1.2 Programme Objectives

The overall objective of this programme is to catalyse a significant increase in the commercial success rate of innovations in African industry through an enhanced understanding of the institutional options, and corrective actions on the basis of public-private partnerships. This would include the transfer of technology, adopting, adapting, and upgrading technological competencies and widely deploying industrial innovation. Its specific objectives are:

- (a) dovetailing university education to the needs of industrial development;
- (b) creating an enabling environment for an effective interactive framework between institutions and firms;
- (c) promoting national and sectoral innovation systems through appropriate policy incentives and support systems; and
- (d) facilitating South-South knowledge and technology flows as potential sources of industrial innovation.

5.1.3 Indicative Projects and Actions

The following projects will form the core interventions for achieving the above objectives.

Project 1: Establishment of University Chairs of Innovation in African Universities

The project will be developed emphasizing the evolution of an international network of Centres of Excellence, bringing together African and foreign Universities. Developing information packs will underpin this initiative. Projects providing assistance to SMEs in Africa will be evolved with industrial enterprises. They will be pursued by means of twinning foreign master's students with universities in Africa. Appropriate university course curricula will be evolved based on such experiences and with inputs from industry, leading to the emergence of leading researchers in innovation and dynamic entrepreneurs. University Chairs and consultative meetings of networks of such chairs will also precipitate *global forum* activities as well as publications. The following activities will be undertaken to implement the project:

1. Create an Africa-foreign university network and assist commercialization initiatives *vis-à-vis* innovation projects in African countries in association with industry.

2. Develop courses on innovation and innovation systems in university curricula at the national level.
3. Develop national networks on innovation and networks in selected countries, initially on a pilot scale.
4. Develop national awareness on the importance of innovation in AU member countries.
5. Link the national university chairs on innovation through a global network involving relevant institutions and enterprises.

Project 2: Establish Regional Technology Transfer and Diffusion Centres

The project will be aimed at addressing the gaps in terms of technology transfer and diffusion by means of operationalizing Regional Technology Transfer and Diffusion Centres (RTTDCs). These Centres can act as catalysts to stimulate the application of new technologies and investment to industry. RTTDCs need be integrated within the framework of other innovation networks with the international business community, technology sources and investment agencies and need to pursue technology upgrading programmes in selected regions on a pilot basis. Models of technology transfer, absorption and diffusion as well as financial mechanisms for sustainability will be developed and tested prior to continent-wide replication. The productivity of local employment intensive and informal sector (grass-roots) enterprises also needs to be explored as a targeted initiative. Project implementation will encompass the following activities:

1. Initially, at least one RTTDC of world class standard will be established in each sub-region.
2. Integrate RTTDCs within the framework of envisaged networks with firms and technology sources as well as investment agencies.
4. Recruit and train staff of these Centres to facilitating effective transfer of technology.
5. Implement model technology upgrading programmes at the regional and national level.
6. Develop and test models of technology transfer, absorption and diffusion coupled with appropriate financing mechanisms
7. Implement a focused technology programme for fostering grassroots innovations and the non-R&D route to innovation.

Project 3: Establish Regional Centres for Technology Foresight

The project will be aimed at facilitating the implementation of capacity-building (training) programmes on technology foresight on a demonstration basis in the first phase. Subsequently, the project will establish a *virtual centre* to serve as a continental hub for methodology development and dissemination in a resource-optimizing manner.

Only a few countries in the whole of Africa have hitherto conducted innovation surveys to assess the extent and effectiveness of national and sectoral innovation systems. In pursuit of strengthening the industrial innovation system on the continent, a workable set of interventions could involve conducting a diagnostic survey to gauge the situation analysis of innovation systems in Africa. Awareness-creation on the inadequacy of such systems in Africa is critical in order for policy-makers and industrial stakeholders to understand the vacuum in the area of industrial innovation. Such surveys will make everybody realize the importance of innovation and evolving and strengthening academic courses on innovation, ensuring appropriate institution-

industry interfaces and establishing university linkages and thereby influencing the policy-makers through global forum activities.

Initially, capacity-building initiatives will be pursued amongst a pilot group, followed by extension of the project to all AU member countries. The following activities will be undertaken to implement the proposed project:

1. Select training institutions and resource persons at the national level, finalize course curricula, develop course material, and identify and select subject experts and trainees; national steering committees will be consulted for such selection.
2. Conduct capacity-building and training programmes on technology foresight at the national level, addressing both public and private sector representatives.
3. Establish a virtual regional centre to conduct methodology development initiatives, and additional training on a sustained basis.
4. Extend experiences across the continent and implement tri-annual advanced programmes for technology foresight at the continental level.

Project 4: Establish Technology Incubators

Small enterprises are known worldwide for their job-creation abilities and are thus of crucial importance to Africa. The disappointingly high failure rate of new business start-ups has seen the emergence of several forms of assistance programmes that attempt to improve the success rate. An incubator is a flexible instrument which supports fledging entrepreneurs in a variety of ways and according to their needs. Successful entrepreneurial development requires a synergy among entrepreneurship, business know-how, technology and capital. Incubators provide a framework for focusing and binding the critical elements of the entrepreneurial process for new ventures in a supportive environment that is designed to provide a combination of business assistance, flexible space and shared services.

Incubators provide, amongst other things, physical space, assistance in product/process identification and development, access to equipment, machines, tools and computers as well as shared administrative services. Incubators may also play a role in developing an entrepreneurial culture, technical training, counseling, mentoring and coaching, technology transfer and demonstration and assistance in marketing and commercialization.

Incubators have an additional advantage in that they only need limited support from government. Support is usually only needed to establish and maintain the facility's early operations, until the incubator can be managed as a business in itself.

The project involves the following actions:

- Learning from the substantial body of experience with innovation support and SME development through incubators;
- Encouraging university authorities to permit incubators to be linked to their universities and public or private developers;
- Substantially increase financing of new ventures and technology projects; and
- Involving the private sector and enterprises that have graduated from the incubator to plough back expertise and possibly resources to assist enterprises in first-stage development.

Project 5: Fostering South-South Co-operation to Utilize Bio-diversity and Commercialize Existing Research Findings

The NEPAD framework document commits Africa to the creation of an African platform on biotechnology. It articulates two interrelated goals of the platform. The first is to “generate a critical mass of technological expertise in targeted areas that offer high growth potential” from biodiversity, and the second is to “harness biotechnology in order to develop Africa’s rich biodiversity and...improving agricultural productivity and pharmaceutical products”.

Several African institutions have invented an array of new things and findings which are yet to be commercialized for want of financial and technical assistance. These findings often remain dead investments. There is a need to embark on a massive programme to commercialize such research findings.

The following activities are spelled out in order to achieve the above:

1. Review of (i). public as well as private sector institutions and initiatives, approaches and technologies involved with conservation and sustainable use of biodiversity (ii). review national and regional policies and strategies related to biodiversity regulation, application, conservation, and undertake case studies.
2. Define modalities, measures and objectives for sustainable management and use of biodiversity on the basis of identified opportunities and threats.
3. Identify activities as part of the strategy for implementation and specific demonstration projects; identification of implementation partners.
4. Implement demonstration projects and evaluate learnings for facilitating policy-orientation, and encourage firms and investors towards sustainable exploitation of biodiversity potential.
5. Initiate determined efforts to commercialize existing research findings.

5.1.4 Institutional Arrangements for Implementation

The CAMI Bureau working closely with RECs should establish Regional Steering Committees to oversee implementation. Relevant stakeholders working in the field should be included in these Committees.

PROGRAMME 5.2: INDUSTRIAL INNOVATION POLICY RESPONSE

Overview

Sequencing the industrial innovation policy response is critical. Fiscal incentives like grants and tax incentives can be put into operation only after a critical mass of this technically trained human resource is developed. In addition to the creation of a pool of technically trained personnel who would emerge as techno entrepreneurs and skilled workers in other firms for effective networking, the state should encourage positive spillovers from foreign companies through a variety of instruments. A high level of education does not necessarily mean the automatic creation of technological dynamism and productivity catch-up if institutionalized inactivity in R&D is not averted. What is needed is proper sequencing of the implementation of national innovation policies and instruments.

With an enabling environment for technological learning and innovation, the sources of dynamic growth can adequately be fostered through the combination of technological, organizational, institutional and human capabilities. A comprehensive analysis of policy instruments across countries reveals the effectiveness of public innovation policy instruments, both fiscal and non-fiscal, that each country employs to stimulate investments in R&D in the enterprise sector with varying degree of success.

Sources of innovation can be ascribed to formal R&D activities by research institutes, universities, and firms and to an array of non-R&D activities, e.g., the purchase of capital goods. African countries are generally considered to be platforms for enclave type assembly operations or at best imitators of technologies, which are generally imported from developed countries. Firms in developing countries are not expected to commit resources to R&D for just re-inventing the wheel. The opening up of their production and trade regimes could facilitate the flow of technology. What is needed is adaptive R&D in view of imported technology being adapted to local conditions. The outcome is a matter of policy choices.

5.2.2 Programme Objectives

The programme objectives can broadly be classified as:

- (a) Assessing the extent and effectiveness of regional and national industrial and sectoral innovation systems;
- (b) Embarking on continental and regional initiatives for strengthening innovation systems;
- (c) Increasing the supply of technically trained human resources;
- (d) Establishing and further improving physical technological infrastructure;
- (e) Assuring fiscal and non-fiscal incentives for adaptive R&D and innovation;
- (f) Promoting techno entrepreneurship and venture capital; and
- (g) Engineering increased positive spillovers to local companies from foreign companies.

5.2.3 Indicative Projects and Actions

In the pursuit of achieving the above objectives, the following projects and activities will be implemented:

Project 1: Implementing the Africa Technology and Innovation Initiative

The concept of the Africa Technology and Innovation Initiative (ATII) is based on a comprehensive response to the technological exclusion prevailing in Africa. It aims to be a wide-ranging intervention to achieve the gradual introduction and upgrading of the technological content of products and processes across the continent. The ATII concept was adopted by the AU Heads of State in January 2008 as part of the *Action Plan for Accelerated Industrial Development of Africa (AIDA)*.

The aims and objectives of the ATII, among others, are to: bridge the gap between the industry needs in technology, emerging market demands and the existing technology base; stimulate transfer and diffusion of new technologies and innovations; ridge the government organizations, private sector and funding institutions at the field level to enable the industrial sectors to enhance its technological and manufacturing capacity in order to cope with the demands of competitive global markets and meet quality and environmental standards; and track the latest worldwide development in leading-edge technologies. Five identified priority areas include:

- African Network of Design Centres;
- African Network of Testing, Certifications, and Conformity Assessment Centres;
- African Network of Technology Transfer Centres;
- African Network of Business Support Centres; and
- African Network of Environmental Compliances Centres.

To this end, the following activities are envisaged:

1. Develop a fully-fledged feasibility study for the establishment of the above centres
2. Establish a Project Management Unit, which will have the task of initiating, promoting, coordinating and raising funding for each network
3. Achieve a high degree of co-ordination with technology development efforts
4. Draw upon the experience of the Africa Productive Capacity Initiative in implementing the ATII
5. Mobilize support for business development and investment into start up ventures, especially for the African Diaspora.

Project 2: Fiscal and Non-fiscal Incentive Systems for Adaptive R&D and non-R&D Routes to Innovation at the Enterprise Level

In a number of African countries creation of new knowledge is still confined to government research institutes and universities, and these tend to be isolated from the production system due to the lack of proper incentive systems to commercialize existing research findings. As a result, businesses remain detached from the production of knowledge, limiting both their competitiveness and economic development. In order to change the situation, policy-makers and researchers in developing countries increasingly believe that companies in both the private and public sectors must be encouraged to commit more resources to generating new technology, for example through research and development (R&D) or through other engineering activities. The real issue relates to the high cost of undertaking research and innovation at the enterprise level. Apt policy interventions can reduce the cost of doing research at the enterprise level.

This process, however, can be hampered by the threat of severe market failures in the financing of R&D, and by the fact that the likely financial return may be insufficient in itself to attract the required investment, hence the need for fiscal and non-fiscal incentives to encourage innovation at the enterprise level. In the pursuit of the above the following activities are suggested:

1. Augmenting government grants, donor funding and multilateral assistance for commercializing the existing research findings of institutions in close co-operation with enterprises
2. Providing grants and tax incentives for R&D undertaken by enterprises in co-operation with universities and institutions

3. Creating consortia of SMEs to reduce the cost of doing research at the enterprise level, with attractive fiscal and non-fiscal incentives
4. Facilitating the acquisition and adaptation of technology for adaptive R&D and non-R&D route to innovation.

Project 3: Facilitating FDI Spillovers on Domestic Innovative Capability

Intensive discussions are taking place as to the direct and indirect effects of FDI spillovers on domestic capability building. Positive spillovers generally occur through the contribution to higher factor productivity, changes in product and export composition, R&D undertaken by foreign affiliates, and employment and training. Indirect spillovers may occur through collaboration with local R&D institutions, technology transfer to local downstream and upstream products, the effects of the presence of foreign affiliates on completion and on the efficiency of local producers and the turnover of trained personnel. In order to create positive spillovers from foreign firms, there should be minimum-level science and technological base in a given country.

Can host countries impose policy conditionalities on translational corporations to spend part of their earnings for fostering domestic innovative capabilities? Will the process of ever-increasing competitive pressures for efficiency gains, incidence of technical progress and shift to R&D and innovation-induced products lead to more technological effort being located in developing countries? Are large domestic markets, skilled manpower, physical infrastructure, and fiscal incentives fundamental prerequisites for spreading FDI spillover effects on host countries' capabilities? What are the trade-offs between attracting FDIs and using them as an effective means of technological deepening? Does the impact of FDI on capability-building depend on the size of the technology/productivity gap between foreign and domestic firms? What is the best way to induce training and skill transfer? In order to address the above questions, the following policy options and activities are suggested:

- (a) Impose conditionalities on foreign firms to spend part of the net-earning on domestic innovative capability building
- (b) Enhance adaptive capabilities of domestic firms to acquire, assimilate, adopt, adapt, learn and innovate jointly with foreign firms
- (c) Expose university scientists and engineers to new dynamics of doing business by getting them employed in foreign firms for a given period and using their new knowledge and skills to convert selected laboratories into dynamic factories.
- (d) Create incentive systems for spreading the positive spillover effects of foreign firms on domestic firms.

5.2.4 Institutional Arrangements for Implementation

The CAMI Bureau working closely with RECs should establish Regional Steering Committees to oversee the implementation. Relevant stakeholders and experts in the field must be included in these committees.

PROGRAMME CLUSTER 6: FINANCING AND RESOURCE MOBILIZATION

PROGRAMME 6.1: DOMESTIC MOBILIZATION AND ALLOCATION OF RESOURCES

6.1.1 Overview

If the financing of industrial development is to occur at all, it has to be done by Africans themselves at national, regional and continental levels. However, the current savings rate (among households, as well as public and corporate sectors), is generally low in Africa compared to other developing regions. According to a World Bank (2007) study Sub-Saharan Africa has the lowest savings rate of any developing region. In 2005, gross domestic savings in the region represented 17.6 % of GDP, compared with 26 % in South Asia, 24 % in Latin America and the Caribbean, and nearly 42.9 % in East Asia and Pacific countries.

Financial intermediation is an important vehicle that not only transforms savings to investment but also promotes saving and investment in the economy. There is a need for a well-functioning financial system on the continent which could mobilize resources effectively and allocate them to the most productive investment opportunities. In addition it is important to note the challenges of transforming domestic savings to investment. The demand for financial intermediation on the continent from households and firms is high, despite low income levels. However the African financial system has failed to meet the demand for financial intermediation mainly because of the

fragmented and segmented structure of the financial sector. Substantial financial resources will be needed to support an accelerated African industrialization.

6.1.2 Programme Objectives

1. Set up a mechanism to mobilize domestic financial resources for the industrialization programme
2. Establish/strengthen domestic financial and capital markets, (banking and non-banking institutions) to mainstream financing for industry
3. Provide facilities to supply meso-financing for SME start up and upgrading.

6.1.3 Indicative Projects and Actions

Project 1: Accessing Credit and Private Financial Resources

The financial sector is predominantly composed of banks. However, the existing banking sector has neither the capacity nor the flexibility to finance industrialization programmes. The development of banking systems will require the following activities:

1. Review national banking legal and regulatory frameworks.
2. Opening up of the banking sector for competition and streamlining the licensing process as per international best practice.
3. Support capacity development in African banks and facilitate the training of bankers.
4. Develop national credit registers and rating agencies to facilitate access to credit.
5. A feasibility study on the establishment of credit access facilitation agencies, liaising with bank and non-bank financial institutions, to support industry's access to credit by providing debt underwriting and credit guarantee schemes. This agency will be housed at Departments of Trade and Industry at national level.
6. Promote the establishment of alternative financing mechanisms, such as venture capital funds.

Project 2: Facilitating the Strengthening of Regional and National Stock Markets

Noting the encouraging growth of the stock market in Africa and given its low market capitalisation, it is important to consider the option of developing this sector to support African industrialisation programmes:

1. Support the development of legal and regulatory frameworks to stimulate the development of capital markets.
2. Develop and provide incentives for companies to list on the local stock exchange.
3. Support the development of national capacity for vibrant capital market development.
4. Foster public and private confidence and improve informational efficiency with disclosure rules and accounting standards.
5. Develop efficient securities trading and settlement systems.
6. Market the stock exchange internationally in order to attract foreign portfolio inflows.
7. Encourage African companies to list on international stock exchanges to attract foreign capital.

Project 3: Development Finance Institutions (DFIs)

DFIs are usually tailored to finance development projects. They are needed because of market failures, where an intervention in the financial market could overcome risk aversion of creditors and entrepreneurs. DFIs address market, political or bureaucratic imperfections and asymmetry

arising from perceived or actual financial risk by delivering a structured package of support to their clients. In particular they address capital market inefficiencies where private capital is unwilling or unable to bear the risk of providing capital to countries, projects or clients that are not considered creditworthy.

The special features of DFIs stem from their capitalisation, usually consisting of public sector equity and fiscal transfers, often augmented by loan or grant capital from private and donor sources. In Africa there are various DFIs at national, sub-regional, regional and continental levels, including the IDC, DBSA, PTA bank, AFDB and the Islamic Bank. These institutions were originally set up to promote economic development on the continent. There is a need for a new approach to DFIs to both ensure the financial viability of institutions and to maximise the contribution of these institutions' access to finance for the marginalized sectors and segments of the economy. Indicative activities for this project are as follows:

1. Reinvigorating the national, regional and continental DFIs with a renewed focus on supporting industrial growth.
2. Leveraging multilateral financial institutions such as European Investment Banks, IBRD, MIGA and others for industrial financing.
3. Developing options for innovative financing mechanisms such as public-private partnerships, development funds and Special Purpose Vehicles (SPVs).
4. Mobilization of stable long term funds by pension funds, banking and corporate sectors will reduce dependency on the government and donor funding.

Project 4: Establishment of National Sovereign Wealth Funds for Industrialisation

The recent state revenues accruing to resource-rich countries in Africa through the primary commodity boom have to be steered, over and above the social development necessary to meet MDGs, towards investing in processing, manufacturing and services that capacitate SMEs on the continent. Here the role of Ministries of Industry and Finance is vital as they are key players to establish such Funds, define the policy instruments that make such funds available and the performance indicators that would be necessary for their prudent utilisation. Such Funds together with Government procurement policies in Public Works and the maintenance of national assets can make a great difference in accelerating industrialisation. Indicative activities for this project are as follows:

1. Carry out a feasibility study for the establishment of national sovereign wealth funds for industrialization
2. Conduct a scoping study of existing Sovereign Wealth Funds (such as those of the Gulf States, Nordic countries and other examples of best practice)
3. Establish the fund, its operational modality, as well as management structure
4. Develop a framework for identifying and supporting priority projects
5. Set up an independent monitoring system for both the fund and projects

PROGRAMME 6.2: CONTINENTAL INDUSTRIAL DEVELOPMENT FUND AND REGIONAL INVESTMENT FUND

6.2.1. Overview

The key focus of this programme is to establish co-ordinated continental and regional Investment Funds that are dedicated channels of finance for industrial development. Secondly, to scope, promote and seek investment for integrated spatial clusters which facilitate industrial entrepreneurship. Their establishment is a priority if internal and external resources are to be used prudently for industrial projects.

6.2.2. Programme Objectives

The programme aims to propose strategies and actions to mobilize financial and other resources to support implementation of regional projects of AIDA. Specifically, it will focus on:

- (a) Establishment of continental and regional Industrial Development Funds
- (b) Development of Portfolios of Bankable Investment Projects

6.2.3. Indicative Projects and Actions

Project 1: Consolidation of the AU Industrial Development Fund

There is a need to consolidate and concretize the AU plan for an Africa-wide Fund to finance industrial and productive capacity development and infrastructure projects. This proposed fund under the auspices of either NEPAD or the African Development Bank working closely with multilateral development finance institution such as MIGA, IRBD, and others would be a catalyst towards raising capital from local and internal capital markets, harnessing African government contributions, and channeling Official Development Assistance.

Indicative activities of this project are:

1. Ensure that the Fund is well-tuned to regional industrialisation objectives
2. Ensure that sound relations and dialogue exist between the Fund and regional DFI/development banks, and that it will co-ordinate efforts at regional level
3. Ensure that the Fund will provide swift equity and debt financing to productive capacity development projects
4. Ensure that the Fund will be encouraged to establish special purpose funds (sector specific) at regional level.

Project 2: Establishment of Regional Investment Funds

Typically, financial assistance by way of technical studies, soft loans and limited infrastructure finance may be earmarked and offered to facilitate and complement material upgrading. Machinery and equipment upgrading outlays may account for as much as 80 % of total outlay. Limited subsidies and grant aid may also be necessary to support investment for industrial upgrading. It is therefore necessary to integrate an appropriate financing framework into the upgrading programme. Notwithstanding several notable exceptions, firms in many African economies are confronted with very high costs of capital (usually over 20% *per annum*), and an inability to offer *communal* land as collateral. The capital base of industry and SME development banks to refinance credit offered by commercial banks to firms are limited. Corpus funds for collateral-free lending are virtually non-existent.

Where available, credit by way of term loans are usually offered with very short repayment periods of two years or less. In addition, financial instruments and equity markets are only

gradually developing despite the huge potential existing on the continent. Such funds could serve as principal funding sources for upgrading SMEs. In addition, national financial mechanisms for financing upgrading programmes will also be evolved. Some countries merit upgrading of existing national mechanisms, while in others, new ones need to be established. Countries endeavouring to embark on national upgrading programmes may decide to create a unique national fund.

Indicative activities of this project are:

- (a) Carry out feasibility studies for the establishment of regional investment funds for industry
- (b) Define and establish modalities for capitalization and management of the funds
- (c) Establish and put in place independent management structures for the funds
- (d) Monitor operations of and investments financed by the funds
- (e) Ensure that there is co-ordination between the investment priorities of the regional funds and the continental AU Fund.

Project 3: Development of Portfolios of Bankable Investment Projects

In collaboration with national investment promotion agencies, and technical agencies, Regional Investment Funds should facilitate development of bankable projects. Although private sector-led projects would be a priority for the fund, infrastructure development projects that have a direct impact on stimulating industry growth or efficiency would also be a priority. In such projects, public-private partnership investment models should be encouraged. The specific indicative activities of this project are as follows:

- 1 Set up a mechanism to build capacity at sub-regional or country levels for the conduct of feasibility studies for various industrial sectors
- 2 Conduct sectoral investment studies and prepare pre-feasibility reports on high priority projects
- 3 Promote venture capital
- 4 Develop appropriate investment marketing strategies and set up a mechanism to market priority investment projects nationally and internationally
- 5 Establish a public-private sector platform for consultations on large scale investment projects
- 6 Develop a regional investor database to support policy formulation and investment promotion strategy design at national and sub-regional levels.

PROGRAMME 6.3: INVESTMENT PROMOTION, MONITORING AND SUB-CONTRACTING MECHANISM

6.3.1: Overview

FDI has played an important role in the economic growth of regions such as East and South-East Asia through enhancing competitiveness and export orientation. However, many surveys and studies have shown that sub-Saharan Africa is not receiving an equal share of FDI inflows. As per the World Development Report (2007), about 30 % of global FDI was directed towards

developing countries. Much of the inflows into Africa were directed towards resource-exploitation in natural resource rich countries.

Various studies suggest different levels of FDI inflows into sub-Saharan Africa, ranging from 1-3 % of worldwide flows. The paucity and quality of FDI flows into Africa, particularly sub-Saharan Africa, and the negative effect of this on the efforts to achieve sustainable growth by most African countries is common knowledge. Increasing globalization and its attendant challenges underscore the need to address the factors that inhibit the inflow of investments into the productive sectors in Africa. Competitive growth through investments is key to the achievement of some of Africa's development objectives such as poverty reduction, economic diversification, balanced development, and education and skills accumulation for capacity building.

6.3.2: Programme objectives

The objective of the programme is to improve the quality and stimulate a marked increase in foreign investment flows into African productive sectors by creating an attractive investment environment. In addition, through better monitoring of investments, the objective is to attain more effective management and governance, and more informed decision-making by the private investor through improved information gathering and access. To attain these objectives, the programme is designed to produce three major outputs:

1. Creating an attractive environment and developing incentives for FDI flows.
2. A data and information platform to facilitate the monitoring of investment in Africa. Tied to this would be improved capacities of national and regional institutions to use the platform for evidence-based policy and strategy formulation and targeted investor servicing.
3. Better leveraging of investment to stimulate domestic investments and development of supplier industries.

6.3.3: Indicative projects and activities

Project 1: Establish network of National Supplier Benchmarking and Partnership Exchange (SPXs)

Linked to the Investment Monitoring Platform is the Sub-contracting and Partnership Exchange (SPX) programme for helping local enterprises become suppliers or sub-contractors to trans-national corporations, state-owned enterprises and other large firms. The network serves as an information portal for identifying and matching local suppliers and buyers on the basis of the needs of the latter. In linking the SPXs to the Investment Monitoring Platform, the methodology is being upgraded to include supplier benchmarking and investment promotion for supplier development. This programme will also support suppliers in achieving the competitiveness levels required to penetrate the supply chains of the main contractors. The specific activities of this project are:

Attracting Requisite FDI

Attracting foreign direct investment for accelerated African industrialization will require African governments to ensure political and economic stability. Macro-economic stability and good governance are always the primary precondition for attracting FDI. Macro-economic reforms must ensure the reduction of fiscal deficits and inflation, and strengthen financial systems. Indicative activities of this project are:

1. Countries must initiate investment policy review (IPRs) with a view to improving the investment climate and to familiarize the international private sector community with investment opportunities.
2. The signing of bilateral investment treaties (BITs) aimed at protecting and promoting FDI.
3. Strengthen investment promotion agencies at national, regional and continental levels and liaise with the World Association of Investment Promotion Agencies (WAIPA).
4. It is important to recognize intra-Africa investment flows. Systems should be instituted to promote and facilitate free flow of investment within the continent.

Develop domestic capacity to monitor and facilitate foreign investment into priority industry sub-sectors

To conduct investor surveys and consolidate information on the investment monitoring platform for investment stakeholder decision-making and capacity-building of IPAs. This programme will focus on the need to shift investment from the general to evidence-based strategies. The core element of this programme is a series of surveys of both foreign and domestic investors to be conducted in African countries. The surveys would shed light on the diversity of foreign investors in terms of dynamism, impact on local economies with respect to employment and value-addition creation, perception of risks, and location factors. This analysis would provide policy makers and investment promotion agencies with essential information allowing them to target investors more effectively, leverage their impact on local development, and tailor the required services and policy interventions.

Indicative activities of this project are:

1. Establish governance structures, carry out sensitization campaigns, and establish an Investment Monitoring Platform.
2. Development of the Investment Monitoring Platform which will be an internet-based interactive database allowing users to interrogate the data.
3. Develop capacities of national and regional institutions through capacity-building programmes for carrying-out research and design of investment promotion strategies.
4. Compilation and publication of bi-annual Investor Survey Reports.
5. Benchmark suppliers and provide coaching to meet international standards.
6. Establish mechanisms for supply and/or supplier information acquisition and dissemination.
7. Establishment and strengthening of mutually beneficial linkages between foreign investors and the domestic sector.
8. Setup a monitoring platform for the SPXs.

PROGRAMME 6.4: LEVERAGING AFRICAN REMITTANCES FOR INDUSTRIALISATION

6.4.1 Overview

Like other immigrant groups, the African Diasporas are involved in many activities which benefit their home countries. A World Bank estimate of documented remittance flows to Sub-Saharan Africa in 2007 was \$11 billion. These remittances provide much-needed finances for ensuring household security and alleviating poverty. Remittances also help support family members and friends to start or expand businesses, build houses, and undertake self-financed projects and investments.

Although African Governments and the AU have begun the process of engaging the Diaspora, public policy to harness these under-utilized resources is lacking when compared with global practices. As a result, institutional relationships between home countries and the Diaspora are very weak or non-existent. The search for practical global policy options to harness Diaspora resources prompted various countries in Africa and the African Development Bank⁹ to put in place mechanisms to facilitate African Diaspora investment efforts. This programme component therefore builds on the efforts by the AU and the African Development Bank.

6.4.2 Programme Objectives

The overall objective of this programme is to put in place a mechanism to leverage Diaspora resources, including finance for investments in the industrial sector. The specific goals are:

1. Improved policies to reduce the cost of remittance and enhance its investment effects.
2. Setup a Diaspora Investment Fund, with the objective of increasing investment flows and quality of projects for implementation in Africa.
3. Improved communication and confidence between Diaspora networks of investors, African governments and the private sector, leading to increased investment.
4. Introduce special incentives to encourage and facilitate Diaspora remittances.

6.4.3 Indicative Projects and Actions

These objectives will be achieved through specific projects and activities. The following are indicative projects that could be implemented within the short- to medium term.

Project 1: Improved Policy and Business Environment to Attract Diaspora Resources

This project will harness the knowledge, finance and entrepreneurial capacity of the Diaspora to enhance investment in the industrial sector or related or supporting sectors. This would require specific policies and incentives towards attracting the Diaspora resources, and stimulating interest of governments in countries with significant populations of African Diaspora. The strategy for achieving this objective include: institutionalizing programmes in participating countries through government operational policies requesting services and products; and deploying professionals through national focal points. The use of South-South or North-South economic blocs with a focus on promoting Diaspora investments in Africa could be pursued. In addition, this project will focus on:

1. Promulgation and implementation of policies to attract Diaspora investment
2. Improving business environments and legal requirements for Diaspora investors
3. Providing banking and financial instruments such as interest bearing bonds, and offering foreign currency accounts for emigrants (Diaspora) and
4. Facilitating co-operation with banks and financial systems in sending countries to participate in the programme.

Project 2: Diaspora Investment Fund for Industry

Despite the significant volume of Diaspora funds that are streaming into Africa, a major problem is to ring-fence a portion of the funds for productive use. Currently, the Diaspora rely on family and friends in business for identification and implementation of investment opportunities with varied results as these local actors are untrained. Often funds get diverted and misused. It is proposed that a fund be set up with the guidance of the African Development Bank, in

⁹ AfDB: Mobilizing the African Diaspora for Development, AFTCD and AFTQK, September 7, 2007.

cooperation with the World Bank, to attract Diaspora investment funds. Such a fund could be open to some donors and private sector stakeholders with specific interest in promoting the objectives of the fund. Some donors in Europe are already providing support to the Development Marketplace for the African Diaspora in Europe (D-MADE) which is geared to providing grants for Diaspora entrepreneurs who want to set-up business activities in Africa. In further developing this project, lessons from the D-MADE would be relevant to guide project activities for promoting Diaspora entrepreneurship. Additional specific activities under this project are:

1. Facilitating business and investment promotion networks through mechanisms for Diaspora and home country partners to access investment.
2. Identifying and promoting inter-regional cooperation for business development e.g., linking African countries to Brazil for investments in renewable energy; to the Caribbean for agribusiness export; to South and South East Asia for information technology and communication.
3. Identifying business development assistance instruments for services to be rendered to Diaspora entrepreneurs, e.g., business identification, global/local market survey, preparation of business plan, starting a business, business capitalisation, etc.

Project 3: Investor Networks to facilitate Diaspora investments and communication

In order to facilitate interest of potential investors, information about investment opportunities based on pre-feasibility studies would be needed and communicated to potential Diaspora investor networks. However, the most effective means of communicating and monitoring the effectiveness of the information, is to channel it through established Diaspora networks. Efforts would be required at the highest policy level to link African investment promotion agencies with such networks to promote Diaspora-led activities for enhanced development impact. Other specific activities of this project would include:

5. Organizing regular knowledge exchange forums on investment opportunities, government operational policies, procedures and guidelines for the Diaspora.
6. Facilitating and nurturing policy relevant networks on topical issues such as sub/regional integrated infrastructure, energy, transportation, and research on climate change and agricultural productivity.
7. Facilitating business and knowledge exchange forums between Africa and the Diaspora in the USA, Europe, Latin America and the Caribbean.

6.4.4 Institutional Arrangements for Implementation

The above project ideas should be further elaborated and implemented with the leadership of the African Development Bank in collaboration with the AU. Given the wide geographic spread of the African Diaspora, the African Development Bank would partner with the World Bank for the analytical work to establish the fund and for possible cooperation in setting up and operating the fund.

It should be noted that the success and sustainability of the proposed programme will depend on the effectiveness and robustness of the partnership arrangements developed involving the major stakeholders in Africa on one hand and the Diaspora Networks on the other. Thus, at the continental level, the AU and regional bodies such as RECs must ensure that there is substantive engagement with existing Diaspora Networks.

PROGRAMME CLUSTER 7: SUSTAINABLE DEVELOPMENT

PROGRAMME 7.1: ENSHRINING SUSTAINABLE DEVELOPMENT IN GOVERNANCE AND INSTITUTIONAL FRAMEWORKS AND CORPORATE SOCIAL RESPONSIBILITY PROTOCOLS

7.1.1 Overview

The concept of Sustainable Development (SD) covers a wide spectrum of issues. This Cluster, however, will focus on three aspects of SD: economic, environmental and Corporate Social Responsibility (CSR).

Africa is endowed with enormous reserves of minerals such as platinum, gold, chrome, vanadium, cobalt and diamonds. Africa also has an abundant agrarian resource base in both flora and fauna. Moreover, the continent is growing in importance as a supplier of oil, gas and other fossils. Unfortunately, these minerals are being exploited and exported mostly in their raw form, without much value addition. This trend is repeated in the area of agrarian resources.

This has led to what is described as the “New Scramble” for Africa’s resources. Many African countries have specific laws and regulations that accord rights to parties as regards to exploitation and use of natural resources. To a great extent, these laws and rights are not consistent across the

continent. In certain regions such as SADC and UEMOA, efforts have been made to harmonize the mineral policies, standards and legislation.

Stakeholders at all levels have recognized that to better harness the full potential of their natural resources, African countries must strengthen their governance systems, and reinforce institutional capacities, including capacities to negotiate contracts.

Civil society organizations in Africa are gaining strength, and consultation with local communities in the process of developing mining projects is becoming a standard practice. Ownership and local participation are also becoming critical. To respond to this, several countries are reviewing their mineral policies and legislation. This may become a continental trend.

Furthermore, the recent trend internationally is to bring together a number of governance considerations under the title of CSR. A number of core development issues are central to CSR agenda. They include labour standards, human rights, education, health, child labour, poverty reduction, conflict and environmental impacts.

The African Institute of Corporate Citizenship (AICC) was officially established in 2001. It is a nongovernmental organization (NGO) committed to being a centre of excellence in Africa promoting the role of business in building sustainable communities. It strives to facilitate the competitiveness of countries, companies and communities through responsible business practice. The Institute has established various forums and centres aimed at ensuring the adoption of sustainable practices by African and foreign companies operating in Africa. The Africa Corporate Sustainability Forum (ACSF), one of the bodies of AICC is a member of the NBG (AICC, 2006).

The CSR agenda needs to be locally-owned if it is to make a significant contribution to local development priorities – and it must be relevant to local enterprises, whether large or small.

7.1.2 Programme Objectives

The proposed programme aims at ensuring that the principles of SD are included in national legislation, regulations and policies:

1. Ensuring that proper legal norms are adopted for the efficient use of African natural resources.
2. Ensuring that firms operating in Africa, whether large or small, go beyond mere profit-motives but embrace the norms of SD.
3. Ensuring that all stakeholders in particular states, firms (Industrial Enterprises and SMEs) and civil society embrace the principles of CSR.
4. African governments must harmonize the standards and principles that all companies must adhere to regarding CSR.
5. Compliance with CSR standards should form a precondition for investment and procurement.

7.1.3 Indicative Projects and Actions

Project 1: Promotion of Local Content and Beneficiation in Extractive Processes

To avoid reckless exploitation of Africa's national endowments and ensure local content in the processes involved, there is a need to create an enabling legal framework which is regionally harmonized that governs mining and investment codes. Such a framework should guide the granting and the conditions for the granting of extractive rights.

Part of this demands a clear beneficiation potential chart of all raw materials to be extracted. It will involve a knowledge bank of all existing final products derived from such materials and the steps between extraction and final marketable products.

Furthermore, because of the finite nature of natural endowments, future generation endowment funds have to be established following best practices available in the international economy.

Activities

1. Review existing legislation and amend it to achieve beneficiation opportunities.
2. Research and create the knowledge-bank of final products and steps in their production.
3. Identify feasible beneficiation processes that will influence the revision of mining and investment codes.
4. Identify best practices in the establishment of future generation endowment funds.
5. Investigate the possibility of establishing endowment funds.

Project 2: Regional Networking for the Achievement of a Contextually-Grounded CSR Agenda

Specific Project Activities:

1. Hold national and regional workshops to disseminate CSR principles.
2. Create a network between corporations, industrial enterprises and SD NGOs to arrive at contextually-grounded principles.
3. Publicize SD-linked practices and case-studies from developing societies.
4. Work closely with RECs to monitor progress in CSR practices.

7.1. 3. Institutional Arrangements for Implementation

The Project will be steered by a partnership arrangement between CAMI Bureau and the Minerals and Energy portfolios of the AU, RECs, WSSD-compliant corporations and SD norm-setting NGOs.

PROGRAMME 7.2: DEVELOPING A CLEANER AND RESOURCE EFFICIENT INDUSTRIAL ENVIRONMENT

7.2.1 Overview

The present status in Africa is one of unsustainable economic growth which contributes to the continuation of poverty. This is particularly evident in the high pollution and waste intensity of businesses and other organizations and their inefficient use of natural resources (including energy, materials and water). These trigger a range of impacts, both directly, in particular environmental degradation and productivity losses, as well as consequentially, for example in

reduced competitiveness, constrained market access and market failure to meet demands for environmentally sound goods and services from local and international consumers.

Since 1994, a number of UN agencies (notably UNIDO and UNEP) have been collaborating and have established National Cleaner Production Centres (NCPCs) in a number of developing countries. In Africa, the programme has been established in Egypt, Ethiopia, Kenya, Morocco, Mozambique, South Africa, Tanzania, Tunisia, Uganda and Zimbabwe. Similar centres will soon be set up in Rwanda and Nigeria.

These NCPCs build awareness for cleaner production, train industry and professional staff, undertake in-plant demonstrations, provide policy advice and assist with transfer of environmentally sound technologies. Collectively the African NCPCs have provided the launchpad for the African Roundtable on Sustainable Consumption and Production (ARSCP), which provides the mechanism for the African region to engage with the Marrakech Process to develop and implement regional and national 10-year framework programmes for sustainable consumption and production.

Following an independent evaluation of the NCPC programme in 2007/8, these centres are being strengthened. To emphasize the pivotal contribution of CP concepts, methods, techniques and policies to improve environmental performance and resource use at local and global scales, and the environment, economic and social benefits that accrue, the programme's focus extends to Cleaner and Resource Efficient Production (CREP). CREP emphasizes that cleaner production and resource efficiency are intimately interlinked in a way that cleaner production cannot be achieved without resource efficiency, or *vice versa*.

7.2.2 Programme Objectives

The programme objective is to contribute to sustainable industrial development and sustainable consumption and production in Africa. This is to be achieved through the widespread implementation of CREP concepts, methods, techniques and policies by businesses and other organizations, governments at all levels, and providers of finance and of technical, financial and other business services (i.e. the overarching outcome). Achievements towards the programme objective are reflected in improvements in two target conditions, respectively reductions in the pollution and waste intensity of businesses and other organizations and increases in the productivity of resource use by businesses and other organizations. Collectively, these target conditions will contribute to several benefits both primarily, or direct, benefits, in particular slowing down of environmental degradation and productivity gains, and secondarily, in particular improvements in competitiveness and market access and addressing consumer needs for environmentally sound products and services.

The programme includes four intermediate outcome categories which each contribute towards the overarching outcome, both individually as well as synergistically. These are:

1. Effective networking and peer learning among network of competent national institutions.
2. Implementation of CREP by businesses and other organizations with verified resource productivity, environmental and economic benefits.
3. CREP mainstreamed in policy and enterprise finance.
4. Technology management capacities established for transfer, adaptation and replication of EST and sustainable product developments.

7.2.3 Indicative Projects and Actions

Project 1: Establishment of a Pan African Network of National Cleaner Production Service Providers

To assist with the widespread implementation and dissemination of CREP concepts, methods, techniques and policies, the network of CREP service providers would be expanded to achieve Africa-wide coverage. A network of regional, national and sub-national CP service providers would be created, through dedicated institutions (like NCPCs) or focal points in existing organizations. These nationally directed CP service providers would assist businesses, governments and other stakeholders to develop, evaluate and implement CREP opportunities.

The further expansion of the network throughout Africa will include the following key actions:

1. Establishment of regional, national and/or sub-national centres or programmes capable of delivering CREP services in locations not yet covered by existing NCPCs.
2. Networking among the NCPCs and other CREP service providers in Africa, to ensure effective dissemination of information and resources and foster peer learning and capacity development (in connection with the activities of the ARSCP).
3. Ongoing capacity building and training programmes for further professional and institutional development of the NCPCs and other CREP service providers.

Project 2: Thematic and Sector Initiatives

In addition to national initiatives (as covered under Project 1), it is proposed that the Programme would include a number of thematic and sector initiatives which would each cover several countries from different parts of Africa. The thematic initiatives would seek to foster the application of CREP for specific sustainable development outcomes, for example thematic initiatives on: energy efficiency through CREP; sound management of chemicals through CREP; pollution prevention through CREP; etc. In a matrix-like project structure, these would be linked with sector initiatives, which each focus on the specific opportunities and technologies for CREP in a particular industry sector. Preliminary work has already been done to identify project activities for CREP in the sugar, fishery and tourism sectors.

Each of these initiatives would include:

- i) Awareness raising, professional training and development of tools and information resources.
- ii) Practical demonstrations of CREP for the thematic outcome or in the prioritized sector in all countries participating in the initiative.

Project 3: Policies and Finances for CREP

In addition to the predominantly technical work covered in projects 1 and 2, it is proposed that the Programme would have a supportive component on enabling policies and mainstreaming CREP in enterprise finance. The aim would be to develop sets of flexible guidelines that can be used by governments and financial institutions to develop specific policy interventions and/or financial instruments that would encourage businesses to invest in CREP. An attempt would be made to engage financial institutions to establish dedicated credit lines or micro-finance to assist cash-strapped businesses, in particular in the micro to small scale segment, to invest in environmentally sound equipments.

7.2. 4 Institutional Arrangements for Implementation

The above and related projects will be further developed and implemented through the network of NCPCs in close collaboration with ARSCP and UNEP. Specific actions to establish this network include the following:

- i) Designing and adopting membership criteria and guidelines for participating centres;
- ii) Identifying key gaps in geographic and/or sector coverage of the network on the African continent, and putting in place complementary centres where needed; and
- iii) Establishing a knowledge management platform to exchange CREP experience and expertise on the African continent and organizing periodic networking, exchange and training events.

PROGRAMME 7.3: ADDRESSING THE ENVIRONMENTAL DIMENSION OF SUSTAINABLE DEVELOPMENT

7.3.1 Overview

The environment is understood largely to comprise the **biophysical environment** which is the symbiosis between the physical environment and the biological life forms within the environment, and include all variables that comprise the Earth's biosphere. In other contexts environment may also be used to refer to the immediate external surroundings, to a milieu or to the environs within a system or topic. The scope of the biophysical environment is all that contained in the biosphere, which is that part of the Earth in which all life occurs. Ecosystems, of which there are numerous types and which are a defined part of the biosphere, collectively make up the whole of the biosphere.

Environmental sustainability is the process of making sure current processes of interaction with the environment are pursued with the idea of keeping the environment as pristine as naturally possible.

An "unsustainable situation" occurs when natural capital (the sum total of nature's resources) is used up faster than it can be replenished. Sustainability requires that human activity only uses nature's resources at a rate at which they can be replenished naturally. Inherently the concept of sustainable development is intertwined with the concept of carrying capacity.

WSSD recognized that human activities are having an increasing impact on the integrity of ecosystems that provide essential resources and services for human well-being and economic activities. In this regard, the JPOI states that managing the natural resources base in a sustainable and integrated manner is essential for sustainable development. It notes that to reverse the current trend in natural resource degradation as soon as possible, it is necessary to implement strategies, which should include targets adopted at the national and, where appropriate, regional levels to protect ecosystems and to achieve integrated management of land, water and living resources. In doing so, the Plan calls for strengthening regional, national and local capacities.

7.3.2 Programme Objectives

The overall objective of this Programme is to ensure that through industrialization Africa also ensures that environmental sustainability is also achieved. The specific goals are:

- Conservation and Sustainable use of Resources.

- Minimizing Environmental Degradation, Environmental Costs and Waste Management.
- Role of Sustainable Industrial Development in Climate Change Mitigation.
- Compliance with External Environmental Standards and Legislation.

7.3.3 Indicative projects and Activities

The institutional mechanism for the design and implementation of projects are partly in place as but will require greater co-ordination at a continental, regional and national level. For some time now stakeholders such as the AU, NEPAD, UN Agencies and RECs have focused on environmental sustainability guided by numerous protocol and declarations of international meetings like Rio, WSSD, etc. The key challenge is for African countries to follow through with the commitments made on conserving and protection the natural environment and ecosystems.

Project 1: Conservation (Ecological Efficiency) and Sustainable Use of Resources

Ecologically sustainable development is the environmental component of sustainable development. It can be achieved partially through the use of the precautionary principle, namely that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation

The main activities in this project are:

- (a) Develop policies, strategies, legislation and regulations that are aimed at conservation of the natural environment. These must also provide guidance to sustainable use of resources.
- (b) Ensure that industrial projects identify, through environmental impact assessments the potential negative impacts on the natural environment and outline ways to address these impacts in the form of environmental management plans. This includes preventative measures to be undertaken to avert the harmful effects to the environment.
- (c) Establish institutions that can monitor compliance with environmental laws and sustainable use principles.
- (d) Ensure that clean technologies, environmental rehabilitation and renewability are associated with the use of natural resources to ensure ecosystem balance.

Project 2: Minimising Environmental Degradation (Environmental Stresses) and Waste Management

Environmental degradation is the deterioration of the environment through depletion of resources such as air, water and soil; the destruction of ecosystems and the extinction of wildlife.

Environmental degradation is one of the 10 threats officially cautioned by the High Level Threat Panel of the United Nations. The World Resources Institute (WRI), UNEP, UNDP and the World Bank made public an important report on health and the environment worldwide on May 1, 1998.

Environmental degradation is of many types. When natural habitats are destroyed or natural resources are depleted, environment is degraded. Environmental degradation and waste

management are linked and require sound management to ensure minimal effect on human health and the environment.

The main activities in this project are:

- 1 Develop institutional, technical and technological capacities to effectively deal with waste management and prevention of environmental degradation.
- 2 Institute policies and procedures that focus on minimizing environmental degradation through continuous impact assessments and immediate rehabilitation of affected areas.
- 3 Where environmental damage has occurred to common goods, governments must impose the “polluter-pays” principle.
- 4 Where industrial projects are associated with significant quantities of air pollution the CDM can be used to address carbon emissions.
- 5 Promote and where possible incentivize the use of cleaner technologies in resource use.
- 6 Develop and implement a legislative and regulatory framework to promote waste avoidance, prevention, reduction, reuse and recycle.

Project 3: Compliance with External Environmental Standards and Legislation

Increased consciousness about the harmful effects of substances used and produced in the production processes have resulted in the development of international standards with respect to preservation of human living standards. Many countries are going beyond global agreements and imposing greater environmental standards that will impact trade relations and engagement with citizens around the world. For Africa the EU’s REACH is such an example. REACH prevents the importation into the EU of designated harmful substances found in chemicals, including ores. Removing these harmful substances poses both an opportunity and threat to Africa’s development. The pervasiveness of a dual system of environmental standards will impose new challenges to developing countries.

The primary activities in this project are to:

- 1 Create the capacity to understand the implications and ensure compliance of international environmental standards.
- 2 Source funding and technical resources to assist with newer technologies required to comply with externally imposed environmental standards.

ANNEXES

TABLE 1: PROGRAMMES AND PROJECTS PER CLUSTER

CLUSTER 1: Industrial Policy and Institutional Direction

PROGRAMME 1.1: INDUSTRIAL POLICY AND IMPLEMENTATION FRAMEWORK

1. Development of Country-Specific Industrial Policy and Strategic Directions
2. Reorienting Regional Regulatory Frameworks of an Enabling Environment for Industrial complementarities

PROGRAMME 1.2: INFORMATION SYSTEMS AND DATABASES FOR THE MANAGEMENT OF INDUSTRIAL POLICY.

1. Capacity-building and Technical Assistance for industrial policy management
2. Capacity-building and Technical Assistance towards Industrial Data Collection and Monitoring
3. Strengthen institutional support services for industrial development (Pr 1, P 3)

CLUSTER 2: Upgrading Production and Trade Capacities

PROGRAMME 2.1: INDUSTRIAL UPGRADING AND MODERNIZATION

1. Diagnostic analysis of priority industry sectors
2. Upgrading supply-side capacities and enhancing competitiveness
3. Establishing and upgrading of technical support institutions

PROGRAMME 2.2: CREATION OF NEW ENTERPRISES

1. Enterprise and Business Incubators Development

PROGRAMME 2.3: SUPPORT ENHANCED PRODUCT (MANUFACTURING) QUALITY

1. Technical assistance to meet international standards and technical regulatory requirements.
2. Regional Framework to coordinate Quality Activities

CLUSTER 3: Promote Infrastructure and Energy for Industrial Development

PROGRAMME 3.1: INFRASTRUCTURE AND ENERGY FOR MEETING THE INDUSTRIAL DEVELOPMENT NEEDS OF AFRICA

1. Responding to the AU's Infrastructure Priorities

PROGRAMME 3.2: RENEWABLE ENERGY FOR ENHANCING ACCESS AND INDUSTRIAL APPLICATIONS

1. Development of conducive policy, regulatory frameworks and renewable energy resource mapping
2. Innovative financing and capacity-building for scaling up of renewable energy projects

PROGRAMME 3.3: AFRICA BIOFUELS INDUSTRY DEVELOPMENT PROGRAMME

1. Sustainable Biofuels Industry Development in Africa

PROGRAMME 3.4: PROGRAMME FOR ENERGY EFFICIENCY AND INDUSTRIAL COMPETITIVENES

1. Removal of barriers for promotion of industrial energy efficiency in Africa

CLUSTER 4: Skills Development for Industrial Development

PROGRAMME 4.1: REDRESSING THE SKILLS SHORTAGE

1. Diagnostic Analysis of Industry-Related Skills Gap
2. Revamp/Establish Institutions for Industry and Skills Development
3. Industry- Driven Skills Development
4. Valorizing “informal skills” of the workforce

PROGRAMME 4.2: SKILLS DEVELOPMENT FOR INFRASTRUCTURE AND BENEFICIATION INITIATIVES

1. Develop Skills Transfer and Retention Strategies
2. Establish or Strengthen Specialized Regional Training Centres

CLUSTER 5: Industrial Innovation Systems, R&D and Technology Development

PROGRAMME 5.1: STRENGTHENING THE REGIONAL INDUSTRIAL INNOVATION SYSTEM IN AFRICA

1. Establishment of university chairs on innovation in African universities
2. Establish Regional Technology Transfer and Diffusion Centres
3. Establish regional centres for technology foresight
4. Establish Technology Incubators
5. Fostering South-South co-operation to utilize bio-diversity and commercialize existing research findings

PROGRAMME 5.2: INDUSTRIAL INNOVATION POLICY RESPONSE

1. Implementing the Africa Technology and Innovation Initiative
2. Fiscal and non-fiscal incentive systems for adaptive R&D and non-R&D route to innovation at the enterprise level.
3. Facilitating FDI spillovers on domestic innovative capability

CLUSTER 6: Financing and Resource Mobilization

PROGRAMME 6.1: DOMESTIC MOBILIZATION AND ALLOCATION OF RESOURCES

1. Accessing Credit and Private Financial Resources
2. Facilitating the Strengthening of Regional and National Stock Markets
3. Re-invigorate Finance Institutions (DFIs and Regional Institutions)
4. Establishment of National Sovereign Wealth Funds for Industrialization

PROGRAMME 6.2: CONTINENTAL INDUSTRIAL DEVELOPEMNT FUND AND REGIONAL INVESTMENT FUND

1. Consolidating the African Industrial Development Fund
2. Consolidate Regional Investment Funds
3. Development of Portfolios of Bankable Investment Projects

PROGRAMME 6.3: INVESTMENT PROMOTION, MONITORING AND SUB-CONTRACTING MECHANISM

1. Attracting Foreign Direct Investment
2. Develop domestic capacity to monitor and facilitate foreign investment into priority industry sub-sectors
3. Establish network of National Supplier Benchmarking and Partnership Exchange (SPXs)

PROGRAMME 6.4: LEVERAGING AFRICAN REMITTANCES FOR INDUSTRIALIZATION

1. Improved policy and business environment to attract Diaspora resources
2. Diaspora Investment Fund for Industry
3. Investor Networks to facilitate Diaspora investments and communication

CLUSTER 7: Sustainable Development

PROGRAMME 7.1: ENSHRINING SUSTAINABLE DEVELOPMENT IN GOVERNANCE AND INSTITUTIONAL FRAMEWORKS IN THE EXTRACTION OF MINERAL AND AGRICULTURAL RESOURCES

1. Integration of Sustainable Development in Broad Governance Frameworks
2. Regional Networking for the achievement of a Contextually-Grounded CSR Agenda

PROGRAMME 7.2: DEVELOPING A CLEANER AND RESOURCE EFFICIENT INDUSTRIAL ENVIRONMENT

1. Establishment or Strengthening of a Pan African network of national cleaner production service providers/Centres
2. Thematic and Sector Initiatives to strengthen CREP
3. Policies and Finances for CREP consolidation

PROGRAMME 7.3: ADDRESSING THE ENVIRONMENTAL DIMENSION OF SUSTAINABLE DEVELOPMENT

1. Conservation (Ecological Efficiency) and Sustainable use of Resources
2. Minimizing Environmental Degradation (Environmental Stresses) and Waste Management
3. Compliance with International Environmental Standards and Legislation