

9. Finance

Financing for bioenergy projects and programs in UEMOA member countries, particularly those targeting smallholders, remains a challenge. From the private sector perspective, the production of agro-fuels requires investments that can be significant, especially for raw material production that constitutes the key portion of production costs. Access to start-up capital remains a major obstacle to be overcome for entrepreneurs and small producers, and financing of the agricultural sector remains weak in the West Africa subregion.

- A key barrier, particularly at the small scale, is access to affordable financing.
- Governments and donors play an important role in policy development, early stage financing, and risk mitigation.

Generally speaking, the present banking system responds very timidly to the objectives of agricultural development. Banks remain inaccessible to small producers who often cannot meet their conditional requirements. In Benin, for example, it is estimated that in 2002, the activity sector “agriculture, tree growing and fisheries” received only 6.1 billion FCFA of credits out of a total of 121.1 billion FCFA in credits given by banks (or 3.6%). Of this amount, nothing went directly to agricultural producers (Adjavon, 2004). Consequently, 84% of farmers continue to count upon their own resources in order to conduct agricultural activities, and only 10% of small farms had recourse to microfinance organizations (Political-economic Analysis Group, 2003). This situation underscores the lack of access to agricultural credit.

Bioenergy development, just like any other potential crop, requires access to finance and a variety of players will need to be engaged. Identifying potential financing sources and activities to reduce risks and increase funding for bioenergy–agriculture–rural development projects is necessary for success in UEMOA member countries.

9.1 PUBLIC SECTOR

Governments have a major role to play in both facilitating the enabling environment for investment in sustainable bioenergy, agriculture, and rural development, and providing direct financial support. Progress to date, however, has been lacking. Since the 1980s, African governments have not devoted sufficient funding to the agricultural sector. Over the period 1981 to 2000, national government funding for agricultural science fell by 27% in sub-Saharan Africa; conversely, in the rest of the world this funding rose by over 30% in the same time frame. Today, many governments in sub-Saharan Africa devote less than 1% of their national budgets to agriculture, while the investment requirement is substantial. Similarly, both the energy and rural development sectors have been underfunded.

In recent years, however, there has been a renewed commitment to agriculture, rural development, and energy sector activities in sub-Saharan Africa, including a commitment from the UEMOA. The 2002 Comprehensive Africa Agriculture Development Program, prepared by senior African government officials and international experts, called for US\$250 billion in irrigation, infrastructure, education, and market investment over the period 2002 to 2015. The program indicated that half of this funding should come from African governments, with the remainder to be sourced from the international donor community. In 2003, African Union members signed the Maputo Declaration, which called for an increase in public investment in agriculture—targeting 10% of national budgets to agriculture and rural development by 2008. This would amount to approximately US\$4.6 billion. To date, however, countries have not met the commitment’s 10% target.

The public sector also has an important policy role in stimulating investment in sustainable bioenergy programs, such as improving price incentives for bioenergy products and services, increasing public investment in these technologies, leveraging access to financial services, and reducing risks (real and perceived) to investors. For example, investors may consider private and/or community-based bioenergy projects, especially small-scale ventures, more risky due to their lack of familiarity with the technology and/or borrower. In these instances, governments can play an important role in offering mechanisms to reduce investors’ risks, such as guarantees, partial guarantees, and credit enhancement mechanisms.

9.2 LOCAL FINANCIAL INSTITUTIONS

Local financial institutions can be key sources of finance for bioenergy projects. These organizations understand the markets and players and operate in local currencies—thereby reducing currency risks. However, these organizations may be reluctant to lend for bioenergy projects, particularly to smallholders, and may require education and training on the risks and rewards of these projects, and risk mitigation instruments. These programs can help local banks build new consumer loan portfolios, either by reducing risk for the lending institution or by facilitating increased demand for their loans. Extending loan durations and collateral support can also be useful support mechanisms.

Potential financial institutions to work with are identified below:

- *ECOWAS Bank for Investment and Development (EBID)*. EBID is the principal financial institution of ECOWAS. Based in Lomé, Togo, EBID operates through its two subsidiaries—the ECOWAS Regional Development Fund (ERDF), which focuses primarily on the public sector, and the ECOWAS Regional Investment Bank (ERIB), which deals with the private and commercial sectors. ERDF focuses on financing for basic economic infrastructure and poverty alleviation projects. Activities include granting medium- and long-term concessionary loans; loans for feasibility studies; assistance to member states; and implementing various activities relating to resource mobilization and management of special funds. Areas of intervention include basic infrastructure, microfinance, rural development,

environment, energy, industry, and irrigation. ERIB activities include granting medium- and long-term loans for commercial projects in all sectors; granting loans to national financial institutions for on-lending to SMEs/SMIs under refinancing agreements and lines of credit; participating in equity capital and providing quasi-capital; issuing and guaranteeing borrowings and national, regional, or international bonds and securities; financing feasibility studies of investment projects; and providing financial engineering and other financial services. Areas of intervention include energy (production, transportation, distribution), transport, and the the environment. *EBID has expressed interest in working with the UEMOA to set up a dedicated bioenergy fund.* The fund's objective is to become a local financier for renewable energy projects in order to lead the development of the biofuel industry in the African region. The fund will prioritize West African countries, and seek to advance economic development.

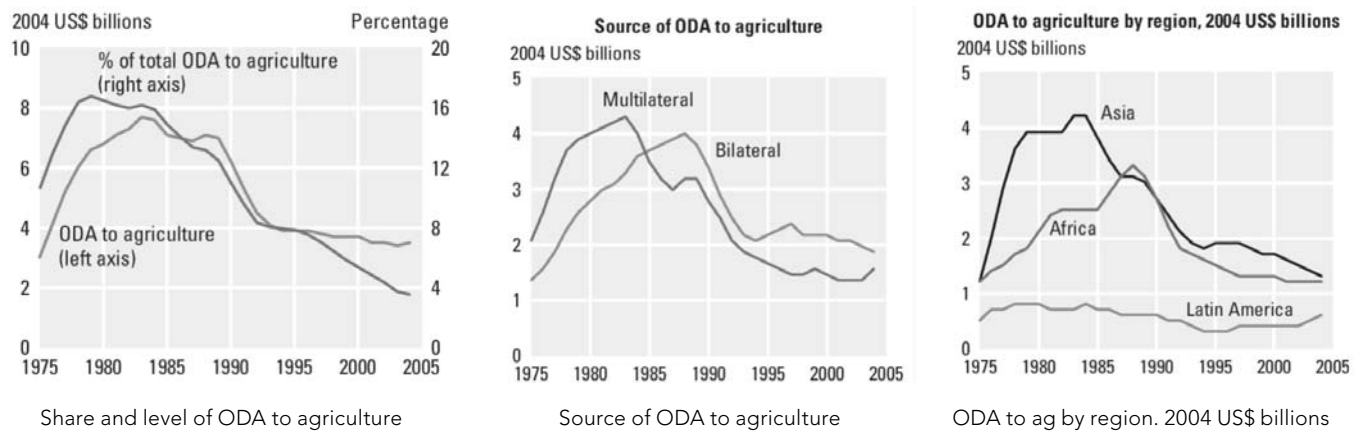
- *West African Development Bank (BOAD).* BOAD was launched in 1994 as a specialized autonomous institution of the Union. BOAD is an international public institution whose purpose is to promote balanced development of the member states and achieve economic integration in West Africa by financing priority development projects. Priority projects include rural development, basic and modern infrastructure, energy, agro-industry, financial institutions, and other services. Lending instruments include long-term loans, refinancing lines in national financial institutions, loans, equity participation, and technical cooperation.
- *European Investment Bank (EIB).* EIB opened regional representation for West Africa and the Sahel region in 2005. The Dakar-based regional representation is intended to enhance EIB activities—particularly in the private sector—and to reinforce its visibility in the African, Caribbean, and Pacific countries. Its aim is to improve the climate for energy investments, to increase the amount invested in energy projects, and to reinforce the development of renewable energy. In 2007, the EU-Africa Infrastructure Trust Fund Agreement was signed (EU Commission and nine member states) to support regional infrastructure projects in sub-Saharan Africa, including regional energy projects.
- *Commercial Banks.* A number of commercial banks are active in the marketplace and could potentially support bioenergy projects. These include Ecobank, Citibank, Souret, and Attijariwafabank from Morocco, among others. As noted above, these organizations may require technical assistance/training for bank officers and management to increase awareness/familiarity with bioenergy projects. Risk mitigation support may also be needed early on to encourage lending for bioenergy projects.
- *Microfinance.* More than 650 microfinance institutions exist in West Africa alone, offering financial services to about 6 million customers out of a total population of

80 million inhabitants. This could be a potential source of financing for bioenergy, particularly for smaller-scale projects and rural landholders.

9.3 MULTILATERAL AND BILATERAL ORGANIZATIONS

Over the last two decades, the share of agriculture in official development assistance (ODA) declined sharply, from a high of 18% in 1979 to 3.5% in 2004 (see Figure 9-1). It also declined in absolute terms from a high of about US\$8 billion in 1984 to US\$3.4 billion in 2004. The biggest decline was from the multilateral financial institutions, especially the World Bank. Total ODA to agriculture in Africa increased somewhat in the 1980s, but is now back to its 1975 level of about \$1.2 billion. A number of reasons are provided for the decline in agriculture and rural development funding. These include falling agricultural commodity prices, making agriculture less profitable in developing countries; differing priorities within ODA, particularly a focus on social sectors; emergency response to numerous crises; opposition from farmers in some donor countries to supporting agriculture in their key export markets; opposition from environmental groups that view agriculture as a contributor to natural resource destruction and environmental pollution; and failed agriculture and rural development efforts. Government and donor interest in agriculture has recently increased due to higher international commodity prices, higher priority of agriculture for developing country governments, and new “decentralization” approaches with a higher likelihood of success (World Bank, 2007).

Figure 9-1: Official Development Assistance to Agriculture Declined Sharply between 1975 and 2004



Source: World Bank, 2007.

THE WORLD BANK

The World Bank is comprised of four key organizations:

- The International Bank for Reconstruction and Development (IBRD) works with governments in middle income and creditworthy poorer countries.

- The International Development Association (IDA) works with governments in the 81 poorest countries providing highly concessional financing, interest-free credits, and grants; *the UEMOA member countries are all IDA members.*
- The International Finance Corporation (IFC) works with the private sector, investing in private enterprises in developing countries and providing long-term loans, guarantees, and risk management and advisory services.
- The Multilateral Investment Guarantee Agency (MIGA) provides political risk insurance against non-commercial risks to eligible foreign investors and commercial banks for qualified investments in member countries.

Though energy sector lending has been down in general over the last two decades, the World Bank has been a leader in supporting clean energy technology solutions—energy efficiency and renewable energy (including bioenergy). Since 1990, The World Bank Group has committed more than US\$11 billion to renewable energy and energy efficiency in developing countries. In the last fiscal year, the World Bank Group’s support for renewable energy and energy efficiency rose to \$1.4 billion dollars, accounting for 40% of the total energy sector commitment.

In the bioenergy area, the Bank is committed to a diverse project mix that includes bioenergy for power generation, heating and cooling, modern cooking, etc. In the case of biofuels, however, the Bank is conditional in its support, primarily due to the potential “sustainability” impacts that can accompany large-scale development. Accordingly, in the biofuels area the Bank supports expanded research and development in sustainable biofuels. It encourages more research on second-generation fuel production systems, such as those from cellulosic materials and agricultural wastes that do not compete with food, and research toward realizing the potential of second-generation feedstock utilizing marginal lands for production without bringing about large land use and water use changes. In addition, the Bank recognizes that efforts are also needed to allow developing countries and small-scale farmers to profit from the resulting technologies.

Recently, The World Bank Board gave formal approval to the creation of the Climate Investment Funds (CIF), a pair of international investment instruments designed to provide interim, scaled-up funding to help developing countries in their efforts to mitigate rises in GHG emissions and adapt to climate change. The two trust funds are targeted to reach US\$5 billion. One of the funds, the Clean Technology Fund, will provide new, large-scale financial resources to invest in projects and programs in developing countries that contribute to the demonstration, deployment, and transfer of low-carbon technologies; the projects or programs must have a significant potential for long-term GHG savings. The second fund, the Strategic Climate Fund, will be broader and more flexible in scope and will serve as an overarching fund for various programs to test innovative approaches to climate change. The funds are to be disbursed as grants, highly concessional loans, and/or risk mitigation instruments and will be administered through the multilateral development banks and the World Bank Group. Developing countries will have an equal voice in the governance structures of the funds, and decisions on the use of funds will be made by consensus. These funds could

potentially provide resources for the development of bioenergy in UEMOA countries, particularly second-generation biofuel technologies.

The Bank is also a leader in carbon finance. The World Bank Carbon Finance Unit (CFU) uses money contributed by governments and companies in Organisation for Economic Cooperation and Development (OECD) countries to purchase project-based GHG emission reductions in developing countries and countries with economies in transition. The emission reductions are purchased through one of the CFU's carbon funds on behalf of the contributor, and within the framework of the Kyoto Protocol's Clean Development Mechanism (CDM) or Joint Implementation (JI). Unlike other World Bank development products, the CFU does not lend or grant resources to projects, but rather contracts to purchase emission reductions similar to a commercial transaction, paying for them annually or periodically once they have been verified by a third-party auditor. The selling of emission reductions—or carbon finance—has been shown to increase the bankability of projects by adding an additional revenue stream in hard currency, which reduces the risks of commercial lending or grant finance. Thus, carbon finance provides a means of leveraging new private and public investment into projects that reduce GHG emissions, thereby mitigating climate change while contributing to sustainable development.

The carbon funds managed by the Bank include the Prototype Carbon Fund (PCF) to demonstrate how to cost-effectively achieve GHG reductions while contributing to sustainable development, and the Community Development Carbon Fund (CDCF) and Bio Carbon Fund (BioCF), which are designed to enable smaller and rural poor communities to benefit from carbon finance.

To date, Asia and Latin America have been the key developing country recipients of the CDM, with Africa accounting for only about 5% of the funding provided. In addition to the World Bank, a number of national and regional markets for emission reductions are being put into place, most notably the European Union Emissions Trading Scheme as of January 2005.

A recent report by the World Bank shows that the global carbon market grew to US\$64 billion in 2007, more than double its size in 2006. Renewable energy and energy efficiency accounted for two-thirds of CDM support. Sixty-eight developing countries participated in the CDM, including Mali, which offered climate friendly projects for the first time in 2007.

The World Bank's new Forest Carbon Partnership Facility (FCPF) aims to reduce deforestation and forest degradation by providing value to standing forests. The FCPF will build the capacity of developing countries in tropical and subtropical regions to reduce emissions from deforestation and forest degradation and to tap into any future system of positive incentives for reduced emissions from deforestation and degradation (REDD). Six African countries (the Democratic Republic of Congo, Gabon, Ghana, Kenya, Liberia, and Madagascar) were among the initial 14 developing countries selected to receive grant support.

Box 9-1: REDD—Fighting Deforestation and Forest Degradation

Deforestation and forest degradation together are the second leading anthropogenic cause of global warming—responsible for about 20% of global GHG emissions, and the main source of national emissions in many developing countries. Reducing emissions from deforestation and forest degradation (REDD) is a key strategy in the fight against climate change.

In December 2007, at the 13th Conference of the Parties (COP-13) in Bali, Indonesia, Parties agreed to strengthen efforts toward reducing emissions from deforestation and forest degradation in developing countries. The UN-REDD Programme is a collaborative effort of FAO, UNDP and UNEP to support international REDD dialogue, generate information, and work toward a consensus on REDD monitoring and verification needs and methods that will assist the international community as a whole.

THE AFRICAN DEVELOPMENT BANK (AFDB)

AfDB seeks to further the social and economic well-being of its member countries in Africa. To achieve this, the Bank uses the leverage that is afforded by its AAA rating to on-lend to its borrower countries at favorable terms resources raised in international capital markets. The African Development Bank offers a diversified menu of financial products including loans, guarantees, risk management products, and equity participations to finance both sovereign and non-sovereign projects. In order to maintain the attractiveness of its menu of lending products, the AfDB is constantly improving its offer. Additional improvements being considered include choice of currency and interest rate at each disbursement. The Bank has added local currency loans to its product range and is also in the process of finalizing the framework for the introduction of Syndicated Loans as a financial product.

As part of the Clean Energy Investment Framework development process, AfDB is revising its energy sector policy and preparing a new energy strategy that will have two strategic investment pillars: renewable energy and energy efficiency. This is a segment of the ongoing implementation process of the Financing Energy Services for Small-Scale Energy Users (FINESSE) Program supported by the Netherlands Government and involving capacity building; mainstreaming of renewable energy and energy efficiency AfDB operations, including identification and preparation of renewable energy/energy efficiency projects and project components; and support to the new energy strategy that will focus on low-carbon development options.

In the Bank's Public Sector activities, the clean energy program assists project preparation/development, with the technical and financial assistance of the FINESSE Program. The Private Sector Department, with the support of the Danish Renewable Energy Technical Assistance and FINESSE, has developed a project pipeline for 2007–2008 consisting of 921 megawatt (MW) of wind energy projects, 283 MW of small hydropower, 410 MW of cogeneration, 480 MW of geothermal, and biodiesel projects. The AfDB is also engaged in a number of other initiatives: supporting the EU Competence Platform on Energy Crop and Agroforestry Systems for Arid and

Semi-arid Ecosystems – Africa (COMPETE) on a Bio-fuel Facility to accelerate the uptake of biofuel projects in Africa; collaborating with the UN Industrial Development Organization (UNIDO) on its biofuels initiative; partnering with a number of UN agencies within the “Nairobi fuels initiative”; working with UN agencies under the “Nairobi Framework” on climate change for Africa to assist countries in accessing CDM and/or other carbon financing sources; and defining AfDB’s role in implementation of the Bio-Gas Initiative in Africa, which was launched in May 2007.

The UEMOA sustainable bioenergy program aligns with the goals and objectives of the Bank and would be a valuable addition to their program portfolio.

BILATERAL DEVELOPMENT AGENCIES

A number of bilateral development organizations are active in the clean energy area, including bioenergy. Some of these are already working on bioenergy in West Africa, while others could be considered for potential support.

The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), the German development agency, has been active in renewable energy promotion, and provided in-kind support in capacity building and technical assistance in several West African countries. Also, sister organization Kreditanstalt für Wiederaufbau (KfW) has been one of the most active development banks in financing renewable energy, including bioenergy, providing investment support and low interest loans.

The Italian Ministry of the Environment, Land and Sea supports biofuels development in many countries, with a focus on technology research and development, standards, policy support, and project development.

The Directorate General of International Cooperation (DGIS) of the Government of the Netherlands has provided considerable support for renewable energy programs globally, including through the Netherlands Development Finance Facility (FMO) that supports the private sector. The Netherlands has been a key supporter of the FINESSE Africa program, which was conceived to assist African countries to formulate appropriate policy and regulatory frameworks and to develop capacity to generate a pipeline of investment projects in renewable energy and energy efficiency. Several other bilateral aid agencies have also been active in supporting renewable energy/ bioenergy initiatives, including those of the United States, France, Japan, Canada, and China. Additionally, the Government of Brazil has entered into a partnership with the UEMOA on biofuels.

The European Union has served as a significant source of financing for renewable energy programs in developing countries. The European Union Energy Initiative (EUEI) has created a facility to finance renewable energy, energy efficiency, and rural electrification projects in Africa, the Caribbean, and the Pacific. The Africa BioEnergy Fund is part of a project to establish an African sub-fund of the Global Energy Efficiency and Renewable Energy Fund (GEEREF) set up by the European Commission. GEEREF is an EU-financed global fund for developing countries aimed at boosting energy efficiency and the development of renewable energy in developing countries, including sub-Saharan Africa countries. Technologies include energy efficiency, cleaner fuels, and bioenergy. Its finance type is debt capital.

Box 9-2: Carbon Finance

Climate change caused by GHG emissions is one of the most serious threats facing the world today. Achieving substantial reductions in global GHG emissions necessitates a joint international effort involving governments and the private sector operating under both international treaties and independent efforts by businesses and individuals to take responsibility for their own GHG footprint. In addition to direct reductions of GHG emissions at the source, a supplementary option is to contribute to activities reducing GHG emissions elsewhere by acquiring emission reduction credits from these projects.

The *international political response* to climate change began with the United Nations Framework Convention on Climate Change (UNFCCC). The Kyoto Protocol to the Convention, which was adopted in 1997 by more than 170 countries, significantly strengthened the UNFCCC by committing many industrialized countries and economies in transition, the so-called “Annex 1 countries,” to individual, legally binding targets to limit or reduce their overall GHG emissions by at least 5% below 1990 levels during the period 2008 to 2012. In addition to setting the first ever international target for reducing GHG emissions, the Kyoto Protocol established a means for developing countries to get involved in climate change mitigation, enabling a market-based solution to an environmental problem and bringing the issue of GHGs to the mainstream of clean energy planning. The Kyoto Protocol approved the use of three “flexible mechanisms” for facilitating the achievement of its GHG emission reduction targets: (1) emissions trading, allowing the international transfer of national allocations of emission rights between different Annex 1 countries; (2) the Clean Development Mechanism (CDM), which allows for the creation of Certified Emission Reduction (CER) credits through emission reduction projects in developing countries, regulated by the CDM Executive Board; and (3) Joint Implementation (JI), which involves creation of emissions reduction credits undertaken through transnational investment between Annex 1 countries and/or companies.

While emission reductions generated by these three flexible mechanisms have different technical names dependent on which mechanism they arise from, they are collectively referred to as “carbon credits.” Carbon credits are measured in tonnes of carbon dioxide equivalent (tCO₂e). One carbon credit represents 1 tCO₂e reduced or not emitted. These three flexible mechanisms, along with the European Union Trading Scheme put in place by the European Union in order to meet its Kyoto target, created the largest environmental market in the world for the trading of these carbon credits.

In *voluntary carbon markets*, activities that reduce GHGs produce verified emission reductions (VERs) that can be sold to companies or individuals wishing to voluntarily reduce their carbon footprints. GHG emission reduction projects developed under the CDM have been highly successful in reducing emissions and generating CER credits, which are then purchased by governments and organizations in Europe and Japan to help meet their emission reduction targets. Although voluntary reductions are similar to regulated credits, they are different in some important ways. VERs can be generated from projects that are based in a country that has not ratified the Kyoto Protocol or does not have the infrastructure to support CDM project development; have not yet been registered under the CDM; fall outside of the scope of the CDM; are too small to warrant the costs of CDM approval; and/or are specifically developed for the voluntary market. Several voluntary markets are in development around the world.

Afforestation and reforestation with energy crops will provide sinks and associated reduction of carbon emissions under the climate regime.

Most recently, at the G8 Summit held in Hokkaido, Japan, in July 2008, leaders agreed to share with all Parties to the UNFCCC the goal of achieving at least a 50% reduction in global GHG emissions by 2050.

Source: EcoSecurities, www.ecosecurities.com

9.4 OTHER INTERNATIONAL AGENCIES

The Global Environment Facility (GEF). GEF was established in 1991 and helps developing countries fund projects and programs that protect the global environment. GEF grants support to projects related to climate change, land degradation, biodiversity, international waters, the ozone layer, and persistent organic pollutants. In the climate change area, GEF supports both mitigation and adaptation projects that would be of potential interest to UEMOA member countries. Climate change mitigation projects reduce or avoid GHG emissions in the areas of renewable energy (including grid electricity from renewable energy and promotion of renewable energy for rural energy services), energy efficiency, and sustainable transport. In terms of renewable energy, the GEF seeks to expand the markets for renewable energy by removing barriers to the large-scale application, implementation, and dissemination of renewable energy technologies. Climate change adaptation funding supports interventions that increase resilience to the adverse impacts of climate change on vulnerable countries (including the UEMOA), sectors (including agriculture and rural development), and communities. Moreover, it manages two special funds under the UNFCCC—the Least Developed Countries Fund and the Special Climate Change Fund. The GEF represents a major source of financing for renewable energy projects in developing countries, having invested over \$1 billion in these technologies to date, including bioenergy. GEF financing leveraged an additional \$5 billion in co-financing, comprised mostly of public financing as well as loans and grants from the GEF implementing agencies—the World Bank, UNEP, and UNDP—and GEF executing agencies. These include the AfDB, the International Fund for Agricultural Development (IFAD), FAO, and UNIDO.

Over the period 2007 to 2010, GEF's Strategic Focus¹⁰ regarding biomass will be to focus on sustainability issues, ensuring that biomass feedstocks for GEF climate change mitigation projects do not threaten biodiversity or contribute to further deterioration or water misallocation. Global benefits from the program are expected to come primarily from the energy value of biomass, not the value of residual carbon sequestered. In GEF-4 a dedicated program has been created to focus on the sustainable energy production of biomass. Activities will ensure that biomass projects do not contribute to deforestation, reduced soil fertility, or increased GHG emissions beyond project borders. This program will also provide additional support to biomass that is planted for dedicated energy purposes, provided it meets sustainability criteria. As the conversion of cellulosic biomass to liquid fuels becomes more feasible—technically and economically—GEF support in this areas is expected to grow to include targeted research. In general, GEF activities include technical assistance, capacity building, and investment.

Currently, GEF is preparing a proposal for its Board to conduct a major initiative on renewable energy and energy efficiency for West Africa. Subject to the confirmation by countries in the region, GEF funds in the range of US\$45 million will be earmarked under the proposed energy program. It is expected that co-financing in the range of US\$80 to 100 million will be mobilized through various multilateral/bilateral agencies, national counterparts, the private sector, and NGOs. Preliminary discussions with a few donor agencies including UNF and The Netherlands, and countries in the region, have yielded an encouraging response. The proposed GEF program,

¹⁰ GEF's Fourth Replenishment Period

which will be developed through a participatory and consultative process, would specifically focus on practical interventions and projects on the ground that will demonstrate the technical and economic viability of promising renewable energy and efficient energy technologies and measures, and promote private sector involvement in stimulating energy markets in the region. The program would also aim at mainstreaming renewable energy and energy efficiency policies and measures into regional cooperation frameworks and national development plans. The proposal, which will be submitted at the GEF Council Meeting in November 2008, could provide an opportunity for UEMOA member countries in sustainable agriculture and energy development.

UN Agencies. A number of UN agencies actively provide support in the bioenergy area, as outlined below.

- **United Nations Conference on Trade and Development.** UNCTAD coordinates policy dialogues on trade and economic policy in the UN system. It provides interested countries with access to sound economic and trade policy analysis, capacity-building activities, and consensus-building tools. UNCTAD works closely with the private sector to develop the business and sustainable development case for increased production, domestic use, and trade in biofuels.
- **United Nations Development Programme.** UNDP places priority on expanding energy access in the poorest countries and is working to incorporate bioenergy and biofuels into country programs. A key program of UNDP in West Africa has been its Multifunctional Platform Project (MFP), which promotes an integrated, multidimensional approach to reducing rural poverty, focusing on women. The program uses diesel engines (increasingly fueled by biodiesel) to power a range of tools and provide electricity. In 2007, UNDP received a grant of \$19 million from the Gates Foundation to expand this program in West Africa, including bioenergy.
- **United Nations Environment Programme.** UNEP brings expertise in sustainable energy finance and is developing assessment tools for clean energy investments. For example, UNEP, along with the UNF and others, was instrumental in creating a financing facility for clean energy in Africa—the Africa Rural Energy Enterprise Development (AREED)—to address the critical financing barriers confronted by SMEs in the marketplace (see Box 9-3).
- **United Nations Industrial Development Organization.** UNIDO has been developing and implementing projects involving bioenergy technologies for decades, including liquid biofuels. UNIDO focuses primarily on industrial processes and quality control of bioenergy production. UNIDO also tracks new technology advances; provides field-level technical assistance; and supports bioenergy program development and implementation. In July 2007, UNIDO sponsored the first high-level Biofuels Conference in Africa in Addis Ababa, Ethiopia with the African Union (AU) and the Government of Brazil. The meeting brought together stakeholders to formulate a common strategic vision for the development of

biofuels throughout the continent and facilitate the establishment of viable policies and strategies for the African biofuels industry.

Box 9-3: Supporting Small and Medium Energy Enterprises in Africa

AREED provides early-stage funding and enterprise development services to entrepreneurs, helping build successful businesses that supply clean energy technologies and services to rural and peri-urban African customers. AREED services include training and hands-on business development assistance. For the enterprises that show the best commercial potential, AREED also provides early-stage investment and assistance to secure additional finance.

The AREED initiative works to broaden the skills of organizations involved in the energy and investment sectors to help them nurture energy entrepreneurs. This includes African NGOs and development organizations, helping them to identify potential energy projects and provide follow-up business support services to entrepreneurs. Resource tools are also available that focus on business planning, management structuring, and financial planning for the rural energy sector. AREED also works with financial institutions, to help them assess and integrate the rural energy business sector into their portfolios. AREED provides workshops and specific hands-on tools centered on rural energy markets and enterprises, appropriate project finance models, financial analysis, and risk management issues. Opportunities for co-financing are also explored. Currently, AREED is active in five countries: Mali, Senegal, Ghana, Tanzania, and Zambia.

- *Food and Agriculture Organization.* FAO is in the forefront of devising standards and policies for balancing food and fuel production. FAO also provides detailed technical assistance in the formulation of detailed and well-informed technical strategies and programs in the bioenergy area as regards potential impacts on food security and natural resources. It hosts the Global Bioenergy Partnership (GBEP) and leads the implementation of the International Bioenergy Platform (IBEP), which serves as a mechanism for technical and policy collaboration between international, regional, domestic, and civil stakeholders. In June 2008, FAO hosted the landmark High-Level Conference on World Food Security: The Challenges of Climate Change and Bioenergy, which brought together 42 heads of state and government, 100 high-level ministers, and 60 non-governmental and civil society organizations from 181 member countries to discuss the challenges that climate change, bioenergy, and soaring food prices pose to world food security.
- *The International Fund for Agricultural Development.* IFAD is a specialized agency of the UN that was established as an international financial institution in 1977 as one of the major outcomes of the 1974 World Food Conference. IFAD is dedicated to eradicating rural poverty in developing countries. IFAD's new strategic framework (2007–2010) recognizes biofuels as an energy market opportunity

for the poor. Activities include research grants for the poor to examine biofuels market opportunities, establishment of private sector links and promotion of biofuels crops, global consultations on issues such as jatropha and sweet sorghum development, and partnerships with bilateral and multilateral organizations.

9.5 GLOBAL PARTNERSHIPS AND FOUNDATIONS

Alliance for a Green Revolution in Africa (AGRA). A partnership initiated by the Bill and Melinda Gates Foundation and the Rockefeller Foundation in 2005, AGRA is designed to support “African” solutions to the challenge of improving agricultural productivity throughout the continent. The partnership was a direct response to the Comprehensive Africa Agriculture Development Plan developed by the African Union in 2002. Since its inception, AGRA has developed cooperative arrangements with a number of bilateral donors, including the UK’s Department for International Development, the U.S. Agency for International Development, and the new U.S. Millennium Challenge Account. AGRA’s priorities focus on development of more productive crops; soil improvements; water availability, quality, and access; and national, regional, and international policies that mirror the priorities of the UEMOA member countries. While AGRA’s focus extends to the entire agricultural sector, the Gates and Rockefeller Foundations are already researching the potential of bioenergy and other energy alternatives, given the vital role energy access plays in developing agriculture. AGRA currently manages over \$300 million in grant programs.

A number of partnerships are active in agriculture and/or renewable energy programs that include bioenergy. The following partnerships concentrate specifically on renewable energy.

- *The Renewable Energy and Energy Efficiency Partnership*. REEEP offers financial support to projects involved in policy and financing issues in the promotion of renewable energy and energy efficiency. Since 2004, REEEP has supported 58 such projects and invested over \$6 million.
- *The Global Village Energy Partnership*. GVEP International is working to provide a range of products and services to partners on the ground, including access to finance, training, and technical assistance; development of knowledge and skills through information sharing; and support for adaptation within the context of climate change. GVEP also works with stakeholders to promote an enabling working environment for GVEP International Partners; to strengthen and promote energy SMEs, enabling wider market outreach by building local energy supply chains; and to achieve measurable and quantifiable results and to communicate these to all partners. In the near future, GVEP has plans to open a finance facility for SMEs in West Africa, which could include bioenergy.
- *The UN Foundation*. UNF builds and implements public–private partnerships to address the world’s most pressing problems, and broadens support for the UN through advocacy and public outreach. UNF is a public charity. It seeks to strengthen and support the UN and its causes through a blend of advocacy, grant

making, and partnerships. In the bioenergy area, UNF supports the International Bioenergy Initiative (IBI). Launched by UNF in 2005, IBI integrates in-country resources and international markets to create economic opportunities for rural communities and developing nations. It identifies the nexus of sustainable energy and development—providing innovative, effective strategies to increase rural incomes, improve energy access, and reduce GHG emissions. Access to clean affordable energy for all is vital to the achievement of the MDGs. To achieve these objectives, the IBI focuses on four priorities: expanding energy access, promoting new trade opportunities, advocating cross-sector sustainability, and financing investment in biofuels and bioenergy.

Other foundations include the Fact Foundation, which is providing support in Mali for bioenergy development, the Program for Rural Electrification (AMADER), and Shell Foundation.

9.6 PRIVATE SECTOR

At the regional level, the private sector has organized itself under the auspices of the UEMOA with the creation of the African Association for the Promotion of Biofuels (AAPB) in November 2006 in Dakar. The association brings together more than 50 private operators involved in bioenergy development, representing all elements of the value chain. A key focus of AAPB is the ECOWAS Investment Bank Fund for biofuels and renewable energies that is currently in development. Additionally, several large foreign investment projects have been announced in certain countries of the UEMOA region.

9.7 SUMMARY

- Financing for bioenergy projects and programs in UEMOA member countries, particularly those targeting smallholders, remains a challenge.
- Access to start-up capital is a major obstacle to be overcome for entrepreneurs and small producers and financing of the agricultural sector remains weak in the West Africa subregion.
- There are a number of entities to potentially collaborate with on bioenergy development. These include UEMOA government agencies, local financial institutions, multilateral and bilateral agencies, international organizations, global partnerships and foundations, the private sector, etc.