

## In this issue



### From the Executive Secretary

In the build-up to crucial talks on biodiversity conservation and climate change, you may have missed “Keeping the Promise”, the outcome of the Millennium Development Goals mid-term review adopted by the UN General Assembly in September. Go back, read it and take heart: the resolution highlights the fight against desertification. > [This page](#)

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## Interview



### “Land is under great threat”

Development sage and pioneering social entrepreneur, India’s Ashok Khosla shares insights into inadequate economic indicators, mediocrity in global governance and the short-termism of businessmen. Soils and land productivity, he says, are the starkest examples of the maxim ‘anyone’s problem is everyone’s problem’. > [Page 3](#)

## Special report



### A massive Sahel upgrade, coast to coast?

Five years since first mooted by the African Union, the Great Green Wall initiative still lacks the funds to match its huge ambitions. But regional progress and national pilot projects in sub-Saharan states have started to coax seed money from hesitant donors. Backers are thinking bigger than a barrier of trees against the desert. > [Page 6](#)

## Practice



### Plodding towards prosperity

Inhabiting remote and arid regions, the itinerant camel and its human keeper will never be a threat to cows and high-tech dairy farming. Yet low-tech improvements to the value chain are facilitating access to camel’s milk and other beneficial camel by-products for millions of avid consumers – and could tap into a multi-billion dollar market. > [Page 9](#)

See the fully linked version of this issue of *UNCCD News* online at <http://newsbox.unccd.int/2.5>

## FROM THE EXECUTIVE SECRETARY

### Reaffirming the MDGs – and our work

*We, Heads of State and Government ... welcome the progress made since we last met here in 2005 while expressing deep concern that it falls far short of what is needed ... [We] reaffirm our resolve to work together for the promotion of the economic and social advancement of all peoples.*

Thus runs the opening declaration of “Keeping the Promise”, the outcome of the MDG Summit, held from 20 to 22 September at UN headquarters in New York. The document is a ringing reaffirmation of partnership for development and the UN system, and is well worth reading. Intended to review progress towards the 2015 deadline of the Millennium Development Goals, it commits leaders to accelerating progress towards all eight of them.

“Keeping the Promise” covers the full array of global concerns and all of them deserve our full attention. The English version runs to 32 pages and 81 paragraphs. Allow me to cite two, in particular.

Paragraph 70 (t): With extreme weather afflicting more and more nations – including my own home country of Benin – this highlights the central role of sustainable agricultural development in addressing “water quality and availability, deforestation and desertification, land and soil degradation, dust, flood and droughts”, thus helping to eradicate extreme poverty and hunger (MDG1).

Paragraph 77 (c): This deals with MDG7, ensuring environmental sustainability, and swings the spotlight directly onto us. Here is the text in full:

*We commit ourselves to accelerating progress in order to achieve Millennium Development Goal 7, including through ...*



**Land acquisition must create a win-win situation in which all involved enjoy long-term benefits.**

c) Supporting the implementation of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, through joint action of the international community in addressing the causes and poverty impacts of desertification and land degradation in arid, semi-arid and dry sub-humid areas, consistent with articles 1, 2 and 3 of the Convention, taking into account the ten-year strategic plan and framework to enhance the implementation of the Convention (2008-2018), supporting the exchange of best practices and lessons learned, including from regional cooperation, and the mobilization of adequate and predictable financial resources...

This recognition of the UNCCD's mission and recent achievements is encouragement indeed. I pledge the whole-hearted and unstinting support of the entire UNCCD Secretariat to the Parties as they act upon these solemn commitments.

**Five-part poverty-fighting strategy** Our common goal is eradicating poverty in the drylands. The brand-new UNDP Human Development Report shows why this task is particularly pressing: five of the 10 countries that rank lowest on the human development index are also dryland countries.

At a side-event to the above-mentioned UN Summit, 'MDG Achievement in the Drylands', I and Olav Kjørven, Assistant Administrator and Director, Bureau for Development Policy of the UNDP, unveiled The Forgotten Billion. This is a summary of ongoing work by our two organizations on the threats and opportunities faced by the inhabitants of the drylands and their significance for the present and future wellbeing of humanity.

The time has come for a holistic approach to drylands development. If we are to achieve the 2015 goal of eradicating extreme poverty, the drylands must enter the mainstream of national, regional and universal development programmes. The UNCCD and the UNDP propose five key policy approaches:

- Country-led development and effective governance that addresses the specific needs and conditions of drylands populations;
- Inclusive, pro-poor economic growth policies that improve farming systems and soil productivity;
- Climate adaptation to help smallholder farmers manage risk and reduce climate-driven shocks;
- Well-tailored, targeted support for social assistance programmes;
- Investment in education, health and basic services.

The UNCCD is all about improving the lives of drylands people, empowering women, directly involving community organizations in planning and enacting programmes to combat desertification, and engaging partners from all levels of the public and private sectors. That is a solid framework for our poverty-fighting mission.

**Luc Gnacadja**  
Executive Secretary

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## New UK government heralds era of "private sector-led development"



Andrew Mitchell, seen here with young flood refugees in Pakistan, became the UK's Secretary of State for International Development in May 2010. He outlined his ambitions for the Department for International Development (DFID) in a speech at the London School of Economics on 12 October.

"I want this department to be the place that lives and breathes the new DFID culture of private sector-led development, an example for other development bodies to follow. Aid is a means to an end, not an end in itself.

"It is the private sector that creates the jobs, goods and services that the world's poorest people so desperately need to lift themselves out of poverty...

"I want DFID to learn from business... in order to inject new, business-savvy DNA into the department, devising bold and creative solutions to development challenges. That is, after all, what business does so very well."

## “Suddenly, we find that it’s all gone”

**As vital to life as oxygen, soil is rapidly depleting, says leading Indian environmentalist and pro-poor campaigner**



“None of our forests, grazing lands and productive ecosystems could survive without healthy soils.”

**Dr Ashok Khosla is President of the International Union for Conservation of Nature (IUCN) and Co-President of the Club of Rome. He is also founder and chairman of the New Delhi-based Development Alternatives Group, a social enterprise that innovates and delivers commercially viable, environmentally friendly technologies. The son of university professors and born in Punjab, Ashok Khosla received his doctorate in experimental physics from Harvard, where he also assisted in designing and teaching the first-ever course on the environment. Prior to setting up Development Alternatives in 1983, he served as founding director of the Office of Environmental Planning and Coordination for the government of India, then as director of UNEP-INFOTERRA, the global information system of the UN Environment Programme. In 2002, Dr Khosla was awarded the Sasakawa Environment Prize. He spoke recently to UNCCD News editor Timothy Nater.**

### **On the status of soil and land**

“Land is a major resource. Its importance is under-recognized and it’s under great threat. There’s considerable evidence that the quantity of soil now being lost to erosion, urbanization, roads, agriculture and so on is far greater than the quantity being regenerated by nature. The amount lost each year could be as much as a factor of one hundred times greater than the amount being created. It’s pretty awful, no matter what the exact numbers are.

“The issue, of course, is that feeding the nine-odd billion people that we’re likely to have soon unless we change our development strategies is not the only thing that soil is essential for. Bricks for our buildings are made entirely of soil. None of our forests, grazing lands and productive ecosystems could survive without healthy soils. Soil is as essential to sustain life as water. The waste of good soil is no less a crime, both in the present and against the future, than destroying the oxygen we need to breathe.

“Why is the value of soil so widely ignored? No farmer or Third World villager could ever forget its fundamental importance to daily survival. But one big reason for our ignorance is that, ever since humans started moving away from agricultural livelihoods to industry and from rural settlements to the cities, we’ve just stopped seeing it. Even for those of us who do see the erosion of soil, we often do not recognize the other equally important invisible things that go with it, like the breakdown of bio-geochemical cycles. I mean the depletion of nitrogen and phosphorus, the loss of humus, carbon and moisture in soil, the loss of trace elements and other micronutrients and the accumulation of salt, alkalis and toxic chemicals.

“Things like this hit us all of a sudden. It’s sort of like falling off a cliff. We’re driving merrily along and by the time we realise the road ends in a sheer drop into the abyss, it’s too late to stop. Our soils lose their vitality, slowly at first and then all of a sudden, we find that it’s all gone. This is what happened in the 1930s with the Dust Bowl in the United States, and more recently as a result of the Green Revolution in the Punjab in India.

“Nutrient depletion, salinization and degradation of soil are now going to haunt us for the foreseeable future. Given that the population of the world is outstripping the capacity of the soil to produce food, our present systems for providing nourishment to citizens in almost any part of the world are showing signs of severe strain. If we don’t radically change our cropping patterns, our constructions methods, our use of ground water and our use of soil, and do it now, we are creating a very big mess for all.”

#### On the UNCCD

“The UNCCD has a long-standing mandate from governments – a mandate that goes right to the heart of the environmental problematique the world faces today. Yet, it is one of the global environmental conventions that is most neglected, particularly by the rich and powerful. By their actions, and often by even their words, those who dominate decision making in such arenas don’t seem to understand that soils and land productivity are the most stark examples of the old maxim ‘anyone’s problem is everyone’s problem’. While the rich have been able – temporarily – to deal with their soil and productivity problems by measures such as remediation or even removing land from use, the poor cannot afford such measures.

“Despite the fact that soil loss in one place will have a huge impact in all other places as the world’s population has access to less and less food, the affluent have been reluctant to endorse the importance of these issues because they fear the additional financial demands they will face. This is really short-sighted because it’s going to rebound on them very badly. UNCCD has a mandate to bring back the rapidly degrading and desertifying lands on the planet. And if we are losing land at the rate of 60 or 70 thousand square kilometers a year, that cannot but be a threat to the wellbeing of everyone on the planet.

“The subject addressed by UNCCD, restoration of land and ecosystems, could well be the number one environmental issue facing the planet. One of humanity’s biggest challenges is the regeneration of forests, the revival of grasslands and the rehabilitation of wastelands. It’s essentially about bringing nature back to its former health. Such activities do cost money. You’ve got to prepare the ground, you’ve got to bring the water in, you’ve got to be able to do the kinds of things that any new venture needs, including capital investment up-front. But the pay-offs are so huge, the return on investment is so high, that it’s a no-brainer. It’s where the first money should be going, and it’s much more important for human survival than building more shopping malls, factories and airports that serve the greed and passing desires of a relative minority.”

“The subject addressed by UNCCD, restoration of land and ecosystems, could well be the number one environmental issue facing the planet.”



**Cheap, reliable building materials for Indian homes: one of the pro-poor products from the Development Alternatives Group, founded by Ashok Khosla**

## On the need for new indicators of poverty and development

“To understand where we are in terms of the really important things in life, and where we are going, gross domestic product (GDP) is a very poor indicator. It has its limited uses, but we certainly can do a lot better. Economic indicators are needed that include factors that normal GDP calculations leave out entirely: the unpaid work of women, the earnings of informal sector industries, the large number of goods and services that are bartered. In the global south, such transactions may well add up to more than the entire formal economy, which is all that is measured by GDP.

“And then there is the huge subsidy provided by ecosystem services. These factors are not only omitted from GDP but treated as income when they are often actually increased liabilities in the form of lost capital. And then what does GDP have to say about the things that really matter – human fulfillment, security and happiness? We seem to have got stuck with tools for decision making that were OK for the middle of the 20th century but have completely outlived their usefulness.

“Bobby Kennedy once said, GDP measures everything except what we really value. I think the idea of the former king of Bhutan to create the National Happiness Index was a great way of responding to that problem. But, again, it’s pretty obvious: if you’re going to use an indicator that is so flawed as to give the wrong signals, you’re going to do the wrong things. GDP does not take account of the fact that we are using up our material resources at an abnormal rate and that we’re in serious trouble, now. So basically, GDP is going to have to be revised considerably.

“The fact that after 14 years of deliberation, the UNCCD’s Committee on Science and Technology has come up with only two indicators, neither of which means very much because of its generality and relatively low importance, shows that our international policy making structures are broken and need urgently to be fixed. They have to be made more democratic, participative and interested in results. Our present systems seem unable to hear the anguish of three billion people who remain outside the mainstream economy, one billion of whom go to bed hungry every night.

“It’s sad that we continue to be represented in international forums by people with little sensitivity, few ideas and inadequate authority to make the commitments needed, sitting around the table saying, ‘No, no, no, you can’t say that!’, either because they’re afraid to put more money into the kitty or because they can’t see that a sustainable future for the privileged few is only possible if there’s a better world for all.”

## On aid and development efforts

“After about 60 years of so-called international development, it should amaze the powers that be that we’ve ended up with 3 billion people left outside. This is as thorough an indictment of the trickle-down theory as one can imagine. But the powers that be seem to be quite oblivious to all this. If policies are based, as they almost always are today, on what is good for the rich, what is good for the stock markets, what is good for foreign direct investment, if they are designed to make more money on defense, on wars, on exploiting the earth, then it is only logical that the world will end up with three billion poor people. There’s just no way around that. Even if you believed that neo-classical economics had any meaning in the 1950s or 1960s, you cannot believe in it now. Much less [can you believe in] neo-liberalism, which dominates the world of decision making today.

“There are people going around saying that climate change is the biggest market failure. What the hell, then, is poverty, for goodness sake? If there’s one market failure that humanity ought to be ashamed of, it’s the massive poverty that exists. Our entire focus today ought to be, how to remove poverty, because poverty is not only degrading for the poor, even the rich are paying a heavy cost for it.”

“What does GDP have to say about the things that really matter – human fulfillment, security and happiness? We seem to have got stuck with tools for decision making that were OK for the middle of the 20th century but have completely outlived their usefulness.”

## On civil society and the role of business

“I don’t know of many countries that nurture civil society any more. India, like the US and, to some extent, the UK, had a vibrant, huge civil society. The whole freedom movement in India was a civil society movement, and for thousands of years, philanthropic and voluntary work has been the basis of Indian society as much as it has been, more recently, in the US, a country that one can admire greatly for its commitment to voluntarism. But this is now under threat both in the US and in India. There are some very large countries, like China, that don’t even have civil society movements, and their future generations will pay a heavy price because of that. All sectors are needed: government, business, civil society, but unfortunately, the mix has lost its balance. The big corporations are now so influential, so heavy, in most countries that even governments don’t have much say any more, and civil society has virtually none.

“I have devoted a lot of time and effort trying to convince businessmen to see things differently. Every time I talk to business about socially responsible investment, however, the response I get is, “Yes, but our first responsibility is to our shareholders.” I don’t know of any businessman who takes the long view, unless that long view happens to mean very good profits within the tenure of that particular CEO.”

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## SPECIAL REPORT

# A “Green Wall” from Dakar to Djibouti: Africa’s mega-project strives for momentum

**Five years on, the vision of a barrier of trees to hold back sub-Saharan sands has given way to more detailed – and complicated – planning for a rich and varied tapestry of sustainable land management projects coast to coast. With some of its contours coming into focus, this massive environmental undertaking has now attracted the first trickles of funding.**

“The diagrams are a bit misleading”, says a development official at the European Commission in Brussels, browsing through some websites. She points to maps showing a neat green ribbon, some 7,000 kilometres long, winding through 11 countries\* from the Atlantic to the Indian Ocean. “There’s far, far more to this than just a retaining wall of vegetation”, she says.

Africa’s home-grown “Great Green Wall for the Sahara and the Sahel Initiative” (GGWSSI) has seized the attention of the global development community. On paper, it embodies some vital ingredients for successful development. The idea was conceived and nurtured by African politicians, and the track record since its inception in 2005 (see box below) shows explicit political commitment by the African Union and African regional organizations to civil society involvement, “ownership” by local communities, and respect for indigenous know-how, seed types, plants and farming methods.

**Transcontinental upgrade** Indeed, experts in both developed and developing countries believe that, if done right, the GGWSSI promises a transcontinental economic upgrade that will enrich the soil, transform livelihoods and serve as a shining global showcase of sustainable land management (SLM). Some see it providing a multinational framework – and a powerful galvanizing impetus – for the hundreds of existing national, cross-border and regional projects already in the works to tackle land degradation, enhance collaborative watershed management and boost rural development.



Farmers in Tarfila region, southwestern Burkina Faso, pose with new plough provided by US government-funded agricultural extension project

These include initiatives by the African Union's Comprehensive Africa Agricultural Development Programme (CAADP), the Inter-State Committee for the Control of Drought in the Sahel (CILSS), notable efforts by TerrAfrica, SolArid and the World Bank forestry strategy.

GGWSSI planners will also have to accommodate a host of existing cross-sectoral cooperation programmes and projects such as Mali's Strategic Investment Framework/Sustainable Land Management (CSI-GDT) programme, not to mention the regional, sub-regional and national action plans of the UNCCD, UN Framework Convention on Climate Change and the Convention on Biological Diversity.

Yet the very name "Great Green Wall" may have helped skew the notion in both developed and developing countries. And given the colossal ramifications of the project, actual government intentions and interpretations of it might still vary from country to country. For their part, many development officials – and the earliest concept notes and reviews commissioned by the African Union (AU) itself – have sought for years to steer perceptions away from a vast, lone belt of trees.

"You don't tackle desertification by building defensive barriers against sand dunes", explains a land-use expert at GTZ, Germany's technical cooperation organization for development. "You tackle the root causes, like poverty, population pressures, overgrazing, deforestation, bad local and national governance and general human disregard of the soil", she says, echoing the view of many scientists in Africa, as well.

Confusion stemming from its name are not the only concerns confronting this massive enterprise. The AU's first drafts of the GGWSSI strategy call for funds in excess of USD 600 million but provide little of the detail donors need. A host of difficulties demand attention before implementation can start in earnest.

**Pondering the feasibility** There are concerns about the unneeded layers of new bureaucracy, duplication or dilution of existing structures and activities, new burdens on already hard-pressed national experts and institutions and new, unwelcome tensions between recent decentralization of development efforts and the powerful centralizing forces the GGWSSI might unleash.

Apart from the technical challenges, the political feasibility also gives pause, development experts suggest. Land ownership and tenure issues remain unclear in some countries. Disharmony between certain neighbouring nations and within governments, political instability, poor security, rebel insurgencies and possible civil conflict in some areas also weigh heavily in the balance.

Despite donor reticence, work is moving forward. In the project's nominal lead-country Senegal, the dominant notion of "La Grande Muraille Verte" has drawn village folk, international student brigades and French troops alongside the Senegalese military into digging ponds, raising millions of seedlings and planting hundreds of thousands of hectares of arid land with drought-resistant shrubs and trees. Mauritania will contribute lessons learned from a nine-year project, recently completed, that has halted sand encroachment around the capital Nouakchott with mechanical stabilisation and biological fixation methods (see Browsing on page 11).

In response, multilateral aid is also adopting a step-by-step approach. The UN Food and Agriculture Organization (FAO) and the European Union have recently committed USD 460 thousand and USD 1.95 million respectively to support technical training in selected countries. The UNCCD Global Mechanism is part of this pilot process, setting up sessions to build GGWSSI capacity for resource mobilization.

"Successful implementation of the Great Green Wall for the Sahara and the Sahel will accelerate improved land management in Africa", said UNCCD Executive Secretary Luc Gnacadja at the first GGWSSI summit in Ndjamena, Chad, last 17 June. "It would be a major achievement: greater soil fertility will bring about an economic renaissance, a solid basis for wealth creation for the greatest possible number of people."

**"The Great Green Wall Initiative... has not been conceived as a wall made up of trees planted across the Sahara, but rather as a set of cross-sectoral actions and interventions aimed at the conservation and protection of natural resources with a view to achieving development and, particularly, alleviating poverty."**

From the introduction to *The Great Green Wall Initiative of the Sahara and the Sahel*, an AU-commissioned report by the Sahara and Sahel Observatory (OSS), 2008

\* In alphabetical order: Burkina Faso, Chad, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal and Sudan

GGWSSI's coast-to-coast vision: A tapestry of wealth-generating sustainable land management projects across 11 sub-Saharan states



### Progress slowed by project's complexity, multiple actors and lack of funding

**Ouagadougou, June 2005:** Citing previous African experience with similar projects, Nigeria's then-President Olusegun Obasanjo (1999-2007) presents the Great Green Wall initiative to the 7th Conference of Leaders and Heads of State of the Community of Sahel-Saharan States (CEN-SAD), who call on the African Union Commission (AUC) to facilitate formulation of a plan.

**2005-2006:** AUC works on Concept Paper with the Economic Commission for Africa (ECA), the United Nations Environment Programme (UNEP), the Food and Agriculture Organization (FAO), the Secretariat of the United Nations Convention to Combat Desertification (UNCCD), the Sahara and Sahel Observatory (OSS) and the World Food Programme (WFP).

**Brazzaville, May 2006:** The Brazzaville Declaration on Environment and Development, unveiled at the African Ministerial Conference on the Environment (AMCEN), includes Green Wall initiative in a general call for funding.

**Abuja, December 2006:** Green Wall programme officially launched at the Summit on Food Security in Africa, organized by the Nigerian Government, FAO, African Union (AU) and the New Partnership for Africa's Development (NEPAD).

**Addis Ababa, January 2007:** Green Wall initiative formally endorsed at annual AU Summit of Heads of State and Government, which calls on the AUC to develop an implementation plan. Senegal requested to lead the joint execution of the programme together with development partners and the 25 Member States of the CEN-SAD.

**Lisbon, December 2007:** The second EU-African Summit the European Union and the African Union adopts the Joint Africa-EU Strategy (JAES). Part of the partnership framework on climate change is a priority action to "Cooperate to address land degradation and increasing aridity, including the 'Green Wall for the Sahara and the Sahel Initiative'".

**Brussels, January 2008:** The European Commission hosts the first consultation meeting on what is now officially termed the "Great Green Wall for the Sahara and Sahel Initiative (GGWSSI)" to start defining AU/EU partnership terms on the project.

**Tunis, April 2008:** Mandated by the CEN-SAD Secretariat, the Sahara and Sahel Observatory (OSS) publishes a 46-page scientific review to "fine-tune the concept of the Great Green Wall Programme".

**Tripoli, June 2008:** CEN-SAD publishes the Plan of Action to implement the GGWSSI, developed by the AUC, the CEN-SAD Secretariat and Senegal.

**Addis Ababa, January 2009:** The AU Summit endorses the joint action plan, which foresees an initial USD 2.7 million two-year preparatory programme, and an indicative ten-year budget of USD 636.3 million.

**Dakar, February 2009:** An international symposium on the choice of plant species and monitoring systems for the GGWSSI, chaired by Senegal's president Abdoulaye Wade, publishes a report of proceedings.

**June 2009:** AU/EU pre-feasibility study finalized.

**N'djamena, October 2009:** The Council of Ministers of the 11 GGWSSI countries approve a Convention for the Pan-African Agency of the Great Green Wall. The agency would consist of a Conference of Heads of State and Government, an Executive Board, an Executive Secretary and a Technical Committee of Experts, plus representatives in each Great Green Wall country.

**N'djamena, June 2010:** Chad's President Idriss Deby Itno opens the first GGWSSI Summit for leaders of the 11 countries directly involved in the programme, marking UN World Day to Combat Desertification. "The desert is in a cancerous state", Senegalese President Abdoulaye Wade says. "We must fight it. This is why we have decided on this titanic struggle." News reports of the announcement at the meeting of a USD 119 million funding commitment by the Global Environment Facility (GEF) are subsequently denied by the GEF.

## A desert icon eyes a billion-dollar market

**Improving herd management and an estimated 200 million potential consumers could seriously boost the camel's value to pastoralist farmers**



Camels could play a growing role in sustainable agriculture and land reclamation

From “camelbert” cheese in Mauritania through “Cold Hump” ice cream in Kenya, dairy products from camels are starting to vie for urban consumers’ attention in Africa and beyond.

The spread of refrigerators and business know-how together with growing city populations are among the drivers – along with rising hope for a gradual opening of trade barriers. Exporters in the United Arab Emirates, the makers of saffron- and date-flavoured “Camelicious”, announced last July that they had met draconian European hygiene standards and would start milk powder shipments to the EU’s 27 member-states by 2011.

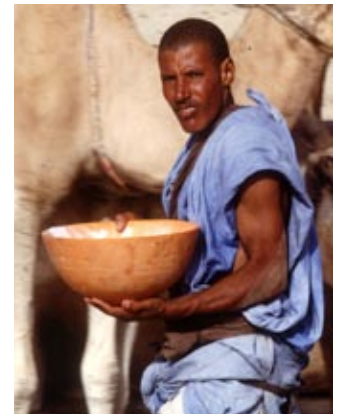
Camel dairy output is still minuscule when compared to cow’s milk, but supply and demand are there and appear to be converging.

Camel herders – mostly in Saharan and Sahelian Africa, the Middle East, Pakistan and India, Mongolia and China – manage a global flock put at some 20 million animals. Much of the trade in camel produce is informal, thus hard to quantify. But according to the UN Food and Agriculture Organization (FAO), camel milk output already might exceed 5 million tonnes annually.

Consumers in Asia and Africa have long prized camel’s milk and the global market, spurred by health-food trends in Europe, the USA and other industrialized countries, could eventually represent 200 million consumers and annual sales of USD 10 billion a year, the FAO says.

**How pastoralists can benefit** Challenges abound: a female camel produces at best five litres of milk a day, about one-third of what is considered a commercially viable output for a European milking cow. Besides that, most conventional dairy farming techniques won’t work for pastoralists in developing countries. With few exceptions, camel milking is done by hand, and mastering the four main steps in the value chain – production, collection, processing and marketing – poses particular challenges for herders on the move in dry and remote areas with rudimentary rural transportation, logistics and retail systems.

However, the FAO maintains that herders can profit nonetheless. With drylands under pressure from both population growth and climate change, hardy livestock like the camel could play a growing role in sustainable agriculture and land reclamation.



The global market for camel’s milk could be worth USD 10 billion, according to the FAO

“The camel offers food security and income diversification”, the FAO’s Dairy Officer Anthony Bennett told UNCCD News, citing an array of less-known camel products, from dried milk curds and low-fat steak to soap and cosmetics. “That can mean multiple revenue streams for pastoralists.”

For the time being, the FAO is focusing on dairy products, promoting small- and medium scale industrial investments, aiming for example at mobile collection and processing units and simple processes that add value to camel dairy products and extend their shelf life.

**Cleaner containers** Somalia’s estimated 6 million camels are thought to produce about one-half of the entire world’s supply, but much of that output spoils before reaching the consumer, despite growing demand in urban areas. Small adjustments have helped make a difference. For example, the British charity VETAID and Germany’s Vets without Borders (*Tierärzte ohne Grenzen*) have worked together to create milk collection and distribution points at village level, improving hygiene, switching from plastic to aluminium containers and providing basic business skills.

Across the African continent, the Tiviski dairy in Nouakchott, the capital of Mauritania, has successfully broken the country’s previous dependence on expensive imported cow’s milk. Originally backed by the FAO, Tiviski’s owners claim to have been the first in Africa to pasteurize camel’s milk, and are working to develop a sterilization process to extend the product’s market reach.

Starting with fresh and fermented camel’s milk in 1989, the Tiviski dairy soon followed up with cow’s and goat’s milk, yoghurt, sour cream and cheese. It collects raw milk from about 1,000 mobile herders, packages the pasteurized product in cartons and sells to corner-shop retailers with refrigerators.

In 2007, the company earned about USD 5.5 million and production averaged about 15,000 litres a day, of which 20-40% was camel’s milk, according to its founder Nancy Abeiderrahmane. Other benefits: bigger, more productive and more valuable herds for Tiviski’s herder-suppliers and nutritious consumer products, plus jobs and foreign currency savings for Mauritania’s economy.



**White and creamy-tasting but containing far less lactose than milk from the cow, camel’s milk is digestible and pleasant-tasting. For centuries a staple for drylands populations, its high vitamin and protein content make it an especially valuable food for children. Says the FAO, “Camel milk is slightly saltier than cows’ milk, three times as rich in Vitamin C and is known to be rich in iron, unsaturated fatty acids and B vitamins.”**

**Elsewhere, some studies have indicated the milk’s high insulin content could benefit diabetes patients. Research also suggests antibodies in camel’s milk might help people living with HIV/AIDS, hepatitis and Alzheimer’s disease.**



## Invasive still, but how much longer?

Australia’s estimated 600,000 feral camels stem from small herds first imported in the mid-1800s to serve as beasts of burden. Later, they were set free to breed unhindered as their masters, in the 1920s, turned to roads and railways. More recently, they have started competing with farmers for scarce water and vegetation. A four-year, USD 18.5 million government culling programme now hopes to reduce their numbers by as much as two-thirds.

However decimated, the desert-loving camelus dromedarius may still make good down under. According to promoters there, properly farmed camels could yield meat, cheese, oil, leather and wool. Lauren Brisbane, researcher at the Central Australian Camel Industry Association, told the *New York Times* in early September, “[Camels] are far more suited to our climate than cattle, because they are an arid [land] animal. A pastoral camel industry is a really environmentally responsible way of changing how we manage our land.”



## Text

See details for the new *European Atlas of Soil Biodiversity*, including link to free PDF download; 128 pages  
[http://eusoils.jrc.ec.europa.eu/library/maps/biodiversity\\_atlas/](http://eusoils.jrc.ec.europa.eu/library/maps/biodiversity_atlas/)

*Achieving the Millennium Development Goals in the Drylands: The Forgotten Billion*; UNCCD & UND P publication.  
Download PDF at <http://www.unccd.int/media/docs/Forgotten%20Billion.pdf>

*Global Forest Resources Assessment 2010*; Food and Agriculture Organization (FAO). <http://www.fao.org/forestry/fra/en/>

*Fighting Sand Encroachment: Lessons from Mauritania*, by Charles Jacques Berte; FAO Forestry Paper 158.  
<http://www.fao.org/docrep/012/i1488e/i1488e00.htm>

*The MDGS: Everyone's Business*; new report on inclusive business models by the UNDP's Growing Inclusive Markets (GIM) initiative.  
<http://www.growinginclusivemarkets.org/mdgreport/>

European Space Agency curbs illegal transmitters contaminating SMOS satellite measurements of soil moisture and ocean salinity:  
[http://www.esa.int/esaCP/SEMB5USOREG\\_index\\_0.html](http://www.esa.int/esaCP/SEMB5USOREG_index_0.html)



## Video

*Lost There, Felt Here*, a message from New York Times' Pulitzer-prize winning columnist Thomas Friedman  
<http://www.conservation.org/fmg/pages/videoplayer.aspx?videoid=48>

*A Plant's-Eye View*, a brief presentation in the TED Talks series by Michael Pollan, US author of *The Omnivore's Dilemma*  
[http://www.ted.com/talks/michael\\_pollan\\_gives\\_a\\_plant\\_s\\_eye\\_view.html](http://www.ted.com/talks/michael_pollan_gives_a_plant_s_eye_view.html)

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## About the UNCCD

Developed as a result of the Rio Summit, the United Nations Convention to Combat Desertification (UNCCD) is a unique instrument that has brought attention to the land degradation affecting some of the most vulnerable people and ecosystems in the world. The UNCCD has 194 Parties (193 countries plus the European Union) and is one of the three so-called "Rio Conventions", along with the UN Framework Convention of Climate Change (UNFCCC) and the Convention of Biological Diversity (CBD). The UNCCD is increasingly recognized as an instrument that can make an important contribution to the achievement of sustainable development and poverty reduction.

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