Investing in Natural Capital: Towards A Green Economy In Agriculture

The United Nations Environment Program (UNEP) has developed a working definition of a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one, which is low carbon, resource efficient and socially inclusive.

Practically speaking, a green economy is one whose growth in income and employment is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. These investments need to be catalyzed and supported by targeted public expenditure, policy reforms and regulation changes. This development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits, especially for poor people whose livelihoods and security depend strongly on nature.

The need for improving the environmental performance of agriculture is underscored by the accelerating depletion of oil and gas reserves; continued surface mining of soil nutrients; increasing scarcity of freshwater in many river basins; aggravated water pollution by poor nutrient management and heavy use of toxic pesticides and herbicides; erosion; expanding tropical deforestation, and the annual generation of nearly a third of the Earth’s global greenhouse gas emissions.

Feeding an expanding world population while attending to the needs of nearly one billion people who are presently undernourished and addressing climate change, will need managed transitions in both conventional and traditional farming. In different ways and in varying degrees, current farming systems deplete natural capital and produce significant quantities of global greenhouse gases (GHG) and other pollutants. The continued demand for land-use changes is often responsible for deforestation and loss of biodiversity. The economic cost amounts to billions of US dollars per year and is increasing. Investments and policy reforms aimed at greening agriculture will offer opportunities to diversify economies, reduce poverty and create new and more
productive green jobs especially in rural areas, ensure food security on a sustainable basis, and significantly reduce the environmental and economic costs associated with today's industrial farming practices.

Green agriculture is capable of nourishing a growing world population at higher nutritional levels. It is estimated that an increase, from today's 2,800 Kcal availability per person per day to around 3,200 Kcal by 2050, is possible with the use of green agricultural practices and technologies. During the transition to a greener agriculture, food production in industrial farming may experience a modest decline, while triggering significant positive responses in more traditional systems run by small farmers in the developing world. Public, private and civil initiatives for food production and social equity will be needed for an efficient transition at farm level and to assure sufficient quality nutrition for all.

Environmental degradation and poverty can be simultaneously addressed by applying green agricultural practices. There are approximately 2.6 billion people who depend on agriculture for their livelihood, a vast majority are living on small farms and in rural areas on less than US$1 per day. Increasing farm yields and return on labor, while improving ecosystem services will be key to achieving these goals. For example, estimates suggest that for every 10% increase in farm yields, there has been a 7% reduction in poverty in Africa, and more than 5% in Asia. Evidence shows that the application of green farming practices has increased yields, especially on small farms between 54 and 179%.

Reducing waste and inefficiency is an important part of green agriculture. Crop losses due to pests and hazards, combined with food waste in storage, distribution, marketing and at the household level, account for nearly 50% of the human edible calories that are produced. Currently, total production is around 4,600 Kcal/person/day, but what is available for human consumption is around 2,000 Kcal/person/day. The Food and Agriculture Organization (FAO) suggests that a 50% reduction of losses and waste in the production and consumption chain is a necessary and achievable goal. Addressing some of these inefficiencies – especially crop and storage losses – offers opportunities that require small investments in simple farm and storage technology on small farms, where it makes the most material difference to smallholder farmers.

The FAO reports that although reducing post-harvest losses could be achieved relatively quickly, less than 5% of worldwide agricultural research and extension funding currently targets this problem.

Greening agriculture requires investment, research and capacity building. This is needed in the following key areas: soil fertility
management, more efficient and sustainable water use, crop and livestock diversification, biological plant and animal health management, an appropriate level of mechanization, improving storage facilities especially for small farms and building upstream and downstream supply chains for businesses and trade. Capacity building efforts include expanding green agricultural extension services and facilitating improved market access for smallholder farmers and cooperatives. The aggregate global cost of investments and policy interventions required for the transition towards green agriculture is estimated to be US$198 billion per year from 2011 to 2050.

The value added in agricultural production increases by 9% compared with the projected “business as usual” scenario. Studies suggest that “return on investments” in agricultural knowledge, science and technology across countries and regions on average are high (40-50%) and have not declined over time. They are higher than the rate at which most governments can borrow money.

In terms of social gains, the Asian Development Bank Institute concluded that investment needed to move a household out of poverty, in parts of Asia, through engaging farmers in organic agriculture, could be as little as US$ 32 to US$ 38 per capita.

Green agriculture has the potential to be a net creator of jobs that provides higher return on labor than conventional agriculture. Additionally, facilities for ensuring food safety and higher quality of food processing in rural areas are projected to create new better quality jobs in the food production chain. Modeled scenarios suggest that investments aimed at greening agriculture could create 47 million additional jobs in the next 40 years.

A transition to green agriculture has significant environmental benefits. Green agriculture has the potential to: rebuild natural capital by restoring and maintaining soil fertility; reduce soil erosion and inorganic agro-chemical pollution; increase water-use efficiency; decrease deforestation, biodiversity loss and other land use impacts; and significantly reduce agricultural GHG emissions. Importantly, greening agriculture could transform agriculture from being a major emitter of GHG to one that is net neutral, and possibly even be a GHG sink, while reducing deforestation and freshwater use by 55% and 35% respectively.

Green agriculture will also require national and international policy reforms and innovations. Such policy changes should focus particularly on reforming environmentally harmful subsidies that artificially lower the costs of some agricultural inputs and lead to their inefficient and excessive use. In addition, they should promote policy measures that reward farmers for using environmentally friendly
agricultural inputs and farming practices and creating positive externalities such as improved ecosystem services. Changes in trade policies that increase access of green agricultural exports, originating in developing countries to markets in high-income countries, are also required, along with reforms of trade distorting production and export subsidies. These will facilitate greater participation by smallholder farmers, cooperatives and local food processing enterprises in food production value chains.

An aspect of any local situation that is particularly relevant to effective development programs is gender – meaning how projects are affected by the different roles, rights, responsibilities, and resources of men and women. The non-governmental organization Women Thrive Worldwide explained that the development community knows from experience that if these differences are not taken into account, foreign assistance strategies will be less effective at reducing poverty. For example, an agriculture program in Nigeria improved its effectiveness by considering gender. Nigerian officials noted that women produce two-thirds of the country’s food crops but have little access to agriculture extension services because of widespread assumptions that men make the key farm management decisions. With support from the World Bank’s West Africa program, the agriculture ministry created Women in Agriculture initiatives that were incorporated into existing agricultural extension services. The project doubled the number of female extension agents and tripled the number of women in contact with extension services. Female extension agents were able to train their male colleagues in supporting women’s agricultural work. The Women in Agriculture effort not only raised local women’s standard of living, but increased overall crop production by small farmers.

Urge your members of Congress to support foreign assistance programs that: meet the needs of local people, transparent and accountable, abides by “best practices,” considers gender and supports a green agriculture economy.

Capitol Switch Board – 1-800-826-3688