~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

OVERALL WINNER AND WINNER OF GLOBAL MARKET AND RECESSION CATEGORY

Three Decades Hence: Thinking About Global Agricultural Resource Allocation Policies

By William C. Motes

Abstract: The global outlook today is for enormous growth in demands for food, fuel and environmental protection, and for increasingly severe resource limitations so that supply growth can only come from accelerated productivity—the production of more and more with the same or fewer resources. This essay argues that global food security objectives require strong investment patterns that depend heavily on effective public policies. And, it suggests that recent policy developments threaten that essential framework. The essay asks whether market-oriented policies in the United States and elsewhere are in danger of being compromised, in part the result of increasing interventions to offset impacts of the recession and from increased price volatility as competition for resources grows. It describes shifts away from market reliance by some food-importing countries—rich and poor—who are concluding that they are no longer willing to rely on world markets for basic needs, and are taking steps to protect themselves in several ways, including buying or leasing land overseas and increased interventions at home. These policies have the potential to reduce food availability in developing countries, increase global market volatility, and to lead to increased tensions and future conflicts, especially in times of supply interruptions. They also can be expected to increase costs and reduce efficiency for the world's agricultural production systems—a drag the system can ill afford. The essay concludes that the overwhelming policy issue for the next three decades is, once again, how resources and production will be allocated to stimulate global productivity growth. It suggests a number of policy principles for consideration both by the United States and by other nations. It concludes that only strong, developed-country leadership based on comprehensive, principle-based policies can be expected to achieve the goals society will require over the next 30 years.
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Three decades is not long in many contexts, but it is important in human terms. Less than a generation, it is also 30 crop years—a lever long enough to magnify tiny differences in key trends into very large impacts.

For example, the world produced nearly 1.91 billion tons of wheat, rice and corn in 2008. Whether that system grows 2% or 1% annually could mean a difference of nearly 900 million tons of output by 2038—more than enough to change the food-security outlook for billions of people. How well the world meets its increasingly complex future agricultural resource needs will depend heavily on policy decisions made in the very near future.

Rapid demand growth and limited resources. While population and income growth continue to boost global food demand—by perhaps 100% by mid-century, experts tell us—our options to meet those needs are declining. Agriculture has always faced urban competition for its land and water, but now it is also being asked to produce very large amounts of renewable fuels and to take much better care of the environment at the same time—trends that require increased productivity, a performance goal that could become even more difficult as the climate shifts.

This essay argues that global food security objectives depend on strong public and private investment patterns, and that these in turn depend on effective public policies, many of which face tough future challenges in both developed and developing countries.

The focus on greater resource productivity is not new. Earlier efforts succeeded in the "Green Revolution" of the 1950s, and advances in output since then have generally been sufficient to provide better and more secure diets for most of the world's people. Those successes, however, also fostered complacency and slowed investment in agriculture in many areas—a trend that underscores the urgency of new measures to more effectively stimulate productivity growth in the near future.

The productivity gap. Many developed countries have invested heavily in agriculture and agricultural systems for many years, and have successfully stimulated strong productivity growth. The challenge for developed countries frequently is to continue to invest in the face of growing social policy needs and exploding budget deficits.

Many developing countries lack both supportive macroeconomic and agricultural policies and sources of private investment capital, so productivity has lagged—mainly the result of weak policies rather than resource constraints.

Still, the potential for improved productivity in developing countries appears high—ranging from eight- to 10-fold increases for coarse grains, to four- to five-fold for oilseeds, and two- to three-fold for food grains—depending on countries' resources and policies.

Productivity, of course, extends far beyond crop yields, and includes livestock yields (pigs per litter, meat per pound of feed) as well as technical advances in processing, packaging, or transport. Productivity growth requires investment across agricultural systems—infrastructure, marketing chains, information systems and the complex of public policies that affect farming, trade and the economy, as well as research and development and extension.

A major factor defining the productivity lag is simply the lack of resources in developing countries. However, reviews of global development experience since World War II offer positive and negative examples in both developed and developing countries. Such a review highlights some key factors for successful development work, including:

- Open markets, national economic stability, and effective policy support for investment and trade, as well as assistance for the poor and protection from domestic or international exploitation, including:
    - Access to stable, abundant capital and credit; and

    - Access to international markets—there is a powerful and demonstrable correlation between the openness of an economy and its citizens' prosperity.
- Social policies that promote health, education and food safety;
- National agricultural policies that allow markets to effectively allocate investment in food and fiber production, infrastructure and markets; and
- Access to technology in the form of farming machinery, inputs (including improved seeds, nutrients and protections), water management and training.

It is likely that successful future efforts to expand global agriculture will depend on a dual approach—first to help accelerate productivity gains where growth is lagging, and then to effectively address important constraints on agricultural growth and infrastructure in both developed and developing countries.

In many cases, communities with productive land, favorable climates and strong agricultural traditions have been slow to attract investment and to experience sustained productivity growth. There are several reasons for this, with lack of balance in investment likely the most important.

An additional constraint is skepticism about agricultural technology. In today's increasingly global market environment, a number of largely European groups and nations have adopted policies that reflect skepticism about the widespread application of advanced technologies. These include opposition, to differing extents, to the use of agricultural chemicals (pesticides and fertilizers), hormones, antibiotics and other treatments, and to biotech-modified plants and animals. In effect, these policies have meant that important technological advances readily available in other regions are denied to some developing countries, narrowing options to improve productivity. At the same time, pressure on available crop land is increased and, in some cases, environmental problems are worsened.

The foregoing sections have been largely about conventional productivity trends, with a focus on the difficulty of stimulating support for investment and R&D in agriculture in some countries. These challenges and opportunities are extremely important and deserve far greater attention than they have received in recent years.

Success in stimulating productivity growth also depends on effective policies, including recognition by global investors and their governments of the failure of central planning, both in the overtly centrally-planned nations of Europe and Asia, and in the West where interventions were fewer, but also very important. This understanding is important because there are still large areas of the global economy in both developed and developing countries where government interventions persist heavily—in spite of the fact that academics, government officials and lawmakers persistently argue that such policies are aberrations that can be expected to disappear over time.

Are market-oriented policies in danger? Realistic agriculture, energy and food policies recognize that the degree of market intervention in global agriculture depends on a number of important circumstances, and that policy approaches evolve in fits and starts, if at all—in developed and developing countries, East and West.

In the United States, for example, after more than a half-century of massive federal intervention in agriculture, the mid-1980 saw a succession of policy shifts to reduce supply-control efforts. These actions then followed:

- The U.S. Congress perceived the adjustment of global commodity prices to more normal levels in the late 1990s as a threat to producers and added significantly to the U.S. low-price safety net protections in the 2002 Farm Bill—The Farm Security and Rural Reinvestment Act. These were largely continued in the Food, Conservation and Energy Act of 2008.

- In 2005, and again in 2007, the United States implemented sweeping mandates and production/use incentives for renewable fuels. The nation is now committed to the use of 36 billion gallons of renewable fuels by 2022—15 billion gallons

from “first generation” fuels and the remainder from “advanced” fuels. For crop year 2008/09, one-third of domestic corn was used to produce fuel. An intense food versus fuel debate has emerged, focused particularly on the increases in feed costs for livestock and dairy producers, and the declines in net returns for these sectors.

- From the beginning of 2007 through the middle of 2008, soybean and rice prices jumped more than 100% in response to drought in several regions and some relatively modest declines in food stocks. Ukraine and India banned wheat exports temporarily, and Argentina increased export taxes sharply. Dozens of other countries intervened in their markets to some degree to protect their consumers. In response, United Nations Secretary General Ban Ki-moon called a global conference in mid-2008 to discuss the crisis and to consider new measures “beyond the usual emergency food relief.” He observed that floods, drought, changes in consumption patterns, biofuel production, shifting market structures and trade policy issues all had contributed to the situation. "All these issues should be addressed," he stated.

  Press reports at the time and since indicate that many food-importing countries—rich and poor—are concluding that they are no longer willing to rely on world markets for basic supplies, and are taking steps to protect themselves. This includes wealthy importers like Saudi Arabia, which has decided it cannot afford to deplete its limited water resources by being self-sufficient in food, but that it also wants to avoid full reliance on global markets. As a result, Sandi Arabia and other nations are buying and leasing large amounts of cropland in Africa and elsewhere. Huge consumers such as China and Korea, have “outsourced” production to varying degrees for many of the same reasons, and are reported to be considering additional investments.

  These policies have the potential to reduce food availability in developing countries, to increase global market volatility, and to lead to tensions and future

conflicts, especially in times of bad weather or other supply interruptions. They also can be expected to increase costs and reduce efficiency for the world's agricultural production systems—a drag the system can ill afford.

- One further result of these trends has been the "moralization" of resource uses. For example, in mid-2008, a FAO/OECD report concluded that the recent food price shocks were indications of a change in market structure and likely would persist. The report singled out biofuel production as a main cause "underpinning the upward shift in agricultural commodity prices." The report concluded that it was "time to consider alternatives."

  That report's treatment of the causes of the price run-up was highly controversial in some circles, since it came down hard on biofuels while saying little about the two-decade-long pull-back by global institutions from support for agricultural development. But it was welcomed by many others, including advocates for developing country food security.

Can resource/commodity market trust be rebuilt? Perhaps the overwhelming policy issue for the next three decades is, once again, how resources and production will be allocated—because the challenges are increasingly global and far reaching, and the costs of reverting to "modified central planning" to allocate resources can be expected to be at least as great as in the 1960-90 decades.

While there are many who argue against "over-reliance" on markets, there really is no effective alternative for dealing with one of the world's toughest and still emerging problems—controlling greenhouse gas (GHG) emissions in both developed and developing countries. That process is made hugely more difficult because:

- It will involve increased production costs that apply unevenly across developed and developing economies, and across economic sectors in all economies—including many of the most powerful segments.

- It will be considered initially in the midst of the most severe economic recession in decades when protectionist instincts are very strong—and a period in which global leadership toward the development of strong markets and increased reliance on trade is politically dangerous in many countries, including the United States.

- It will involve resources not normally considered "tradable," such as water and air.

- It could lead to many important, unintended and counter-intuitive consequences. One example is the possibility of defining and trading credits for carbon sequestration, which some analysts believe could lead to the purchase of carbon credits by large GHG emitters and the conversion of cropland to sequestering uses—adding to the already intense debate over "moral" priorities for land use, food versus fuel production, and food versus electricity. A second example is the growing call for the revival of failed policies, such as "isolated" grain reserves—which proved unmanageable in the past—and other government interventions to stimulate production, protect consumers, or serve other strong "moral" purposes.

Policy principles. The nation's agricultural policy objectives, and those of many other countries, are frequently articulated and widely understood. These include support for small family farms and rural areas; production of adequate amounts of healthy food and fiber products; production efficiency and equitable returns; and protection of national land resources and environment. These objectives suggest policy principles both for the United States and for other nations that are:

- **Market-oriented, innovative and forward looking.** Programs should encourage, rather than discourage, producers from investing in growth areas, including new energy and export markets. They should ensure that producers compete globally, develop innovative products, and add value throughout the supply chains. And, they should be designed to stimulate future investment,

growth and development throughout the sector by anticipating future needs, rather than attempting to protect against market changes.

- **Minimally market-distorting**. Agriculture's expanding and increasingly dynamic markets require that producers be free to produce any crop, including energy crops, based on market expectations rather than on government-established priorities.

- **Designed to serve well-defined social purposes**. These include the broader needs of producers, rural communities, taxpayers, and food, feed and energy consumers. Policies should recognize the important role producers play in protecting the environment. Policies should avoid the temptation to concentrate program benefits on a few highly productive commodities or on higher-income households.

- **Depend increasingly on private, not public, risk management**. Individual producers should have access to a range of risk management tools provided by the private sector and be free to choose the level of business risk they assume themselves, while relying minimally on market-distorting government interventions.

- **Focused on structure-based needs**. U.S. agriculture is multi-modal, but primarily commercial in nature, supported by modern technologies, able management and abundant capital. It includes at least three categories of producers, each with substantially different policy needs. Those needs range from better access to growing markets for commercial farmers; adequate finance and technical assistance for transition farmers; and stronger rural development programs for lifestyle farmers;

- **Highly transparent, equitable and simple to understand.** Current programs are often highly complex, not easily understood by producers or taxpayers, have

costs that are sometimes hidden and beneficiaries who often are not the small family farms that society generally considers most worthy of assistance.

- **Consistent with international trade obligations**. Producers should not be faced with the uncertainty arising from possible WTO litigation, and the wider U.S. economy should not be at risk from retaliation from trading partners.

- **Capable of providing transition assistance**. Government assistance should be available to producers for limited periods to ensure smooth transitions to new policies, as necessary.

- **Fiscally prudent**. U.S. agricultural policy will need to "do more with less," given the competing needs for resources in this period of budget deficits.

What does it mean? As global resource constraints intensify, the need for agricultural productivity growth and effective global policies that promote necessary investments in the sector will continue to intensify. The growing skepticism about whether market mechanisms can be relied upon when prices are volatile could increasingly threaten long-term productivity goals. Only strong developed-country leadership based on comprehensive, principle-based policies can be expected to achieve the goals society will require over the next 30 years.

About the author: William C Motes is chief economist at Informa Economics Inc., but submitted this entry as a private individual. Dr. Motes formerly had appointments in the U.S. Department of Agriculture and on the U.S. Senate Agriculture Committee. He earned his bachelor and masters degrees at Kansas State University, and his Ph.D. at Iowa State University.

###