



# FEEDING THE WORLD?

## The Upper Mississippi River Navigation Project

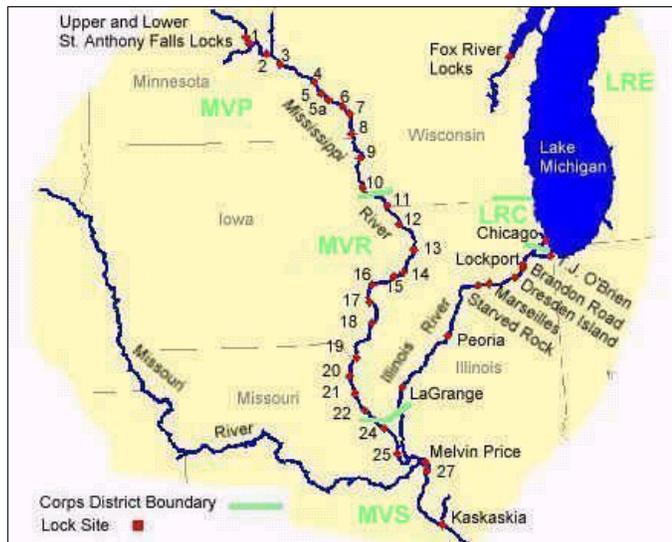
Mark Muller and Richard Levins

December 1999

INSTITUTE  
*for*  
AGRICULTURE  
*and*  
TRADE POLICY

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## The Upper Mississippi River Navigation Project



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The Mississippi River navigation system has been developed over the years to provide a channel for nine-foot draft vessels from the Gulf of Mexico as far north as Minneapolis. The vast system of locks, dams, and dredged channels has been built and maintained by the United States Army Corps of Engineers. In recent years, powerful towboats have arrived to tow more barges than can easily pass through the existing locks. Towboats usually need two passes to get barges through a traditional 600-foot lock. The extra time required increases river congestion and creates bottlenecks in some areas of the river system.

The Corps is currently conducting a seven-year study on the need for navigational improvements on the Upper Mississippi and Illinois Rivers and to quantify the environmental impacts of providing these improvements. Several multi-billion-dollar proposals are currently under consideration and have generated substantial public controversy.

Agribusiness and other interests that support the navigation project often claim it will allow the United States to better "feed the world". In this paper, we examine that claim.

### Feeding the World?

One often hears in the navigation debate that the U.S. has the ability and an obligation to feed a growing world. For example, in his testimony before the Senate Agriculture, Nutrition and Forestry Committee, Allen Anderson stated that: "We have the ability in the United States to grow the grain to feed the world."<sup>1</sup> Anderson is Chairman of the Midwest Area River Coalition 2000, a coalition of agribusiness and transportation interests better known as MARC 2000. Multinational grain trading companies also make similar claims, such as, "Our mission is to feed and nourish a growing world population"<sup>2</sup> and "helping farmers grow a wide variety of goods to feed a growing world".<sup>3</sup>

Granted, "feeding the world" is a phrase subject to interpretation. For most, however, it carries the clear connotation that it is the poor of the world, those most in danger of starvation, who are being fed. A recent high profile campaign to increase grain exports used a photograph of an emaciated child and the phrase "America's Surplus Soybeans Can Feed a Hungry World".<sup>4</sup> Expanding the export capacity of the Mississippi River is then perceived as a moral obligation.

The Institute for Agriculture and Trade Policy has assessed the use and destination of Midwest grains transported down the Mississippi River. Corn and soybeans constitute the vast majority of grains shipped down the Mississippi. These grains are shipped to those who can best afford them, not to those most in need. For example, we compared export destinations to 28 wealthy countries within the Organization for Economic Cooperation and Development (OECD) to the 25 countries that the United Nation's Food and Agriculture Organization (FAO) designated as Category 5, the countries with the world's most serious malnutrition problems. Here's what we found:

- For every ton of corn exported to one of these poor countries in 1996, 260 tons were exported to a wealthy OECD country.
- No soybeans were exported to Category 5 countries in 1996, while 17.8 million metric tons went to OECD countries.

The evidence is clear. Assertions that increasing the export capacity of the Mississippi River will improve global food security have no basis in fact.

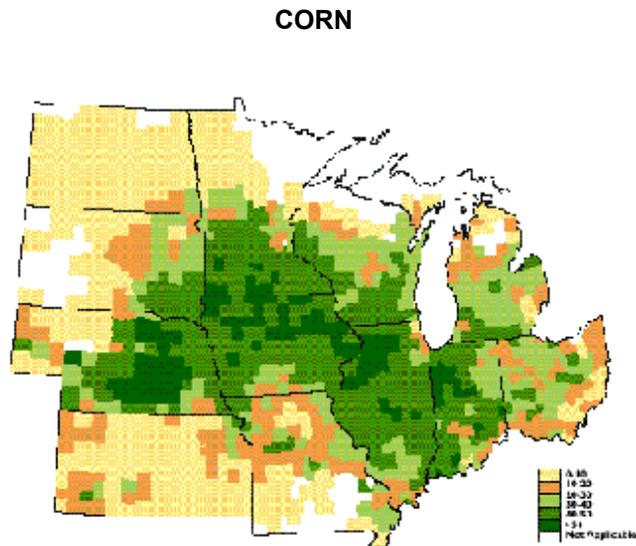
# The Upper Mississippi River Basin Grows Soybeans and Corn

The Mississippi River is well suited to provide transportation for the 12-state region of the Midwest known as the Corn Belt. The Corn Belt's fertile soil, favorable climate, and well-developed production technology has made it the world's premier producer of corn and soybeans.<sup>5</sup> Over 85% of the U.S. production of these grains occurs in this region. Furthermore, the trend is toward even more concentration in these two crops. In 1972, only one county in the Corn Belt had at least 75% of its acreage in corn and soybeans. By 1998, 86 counties could make that claim.<sup>6</sup>

**Fig. 1 Percentage of Land Planted to Corn, 1996**

Darker shades indicate higher percentages

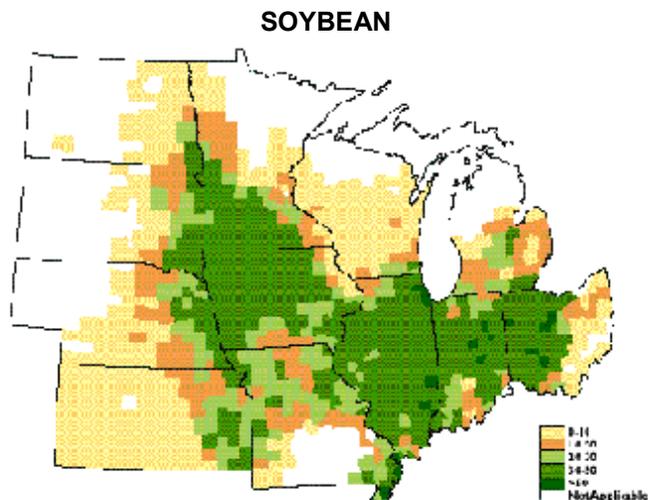
Source: National Agricultural Statistics Service



**Fig. 2 Percentage of Land Planted to Soybean, 1996**

Darker shades indicate higher percentages

Source: National Agricultural Statistics Service



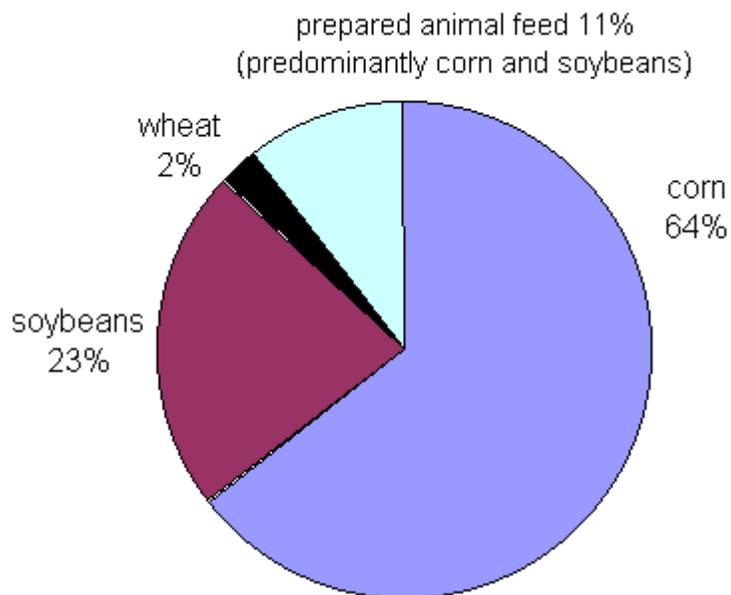
## The Mississippi River is a Key Transportation Route for Corn and Soybean Exports

Two-thirds of U.S. corn exports and three-quarters of U.S. soybean exports are shipped from ports on the Gulf of Mexico. Nearly all of this grain reaches the Gulf via the Mississippi River.<sup>7</sup> Corn and soybeans account for nearly half of all downbound commodities on the Mississippi River and almost all the grain traffic. Wheat, on the other hand, is generally grown further west in the Great Plains and accounts for only two percent of downbound river traffic.<sup>8</sup> The majority of U.S. wheat exports are shipped by rail to the Pacific Northwest or to Texas ports.

**Fig. 3 Mississippi River Grain Traffic, 1992**

**Twin Cities to Mouth of Missouri River**

Source: National Agricultural Statistics Service



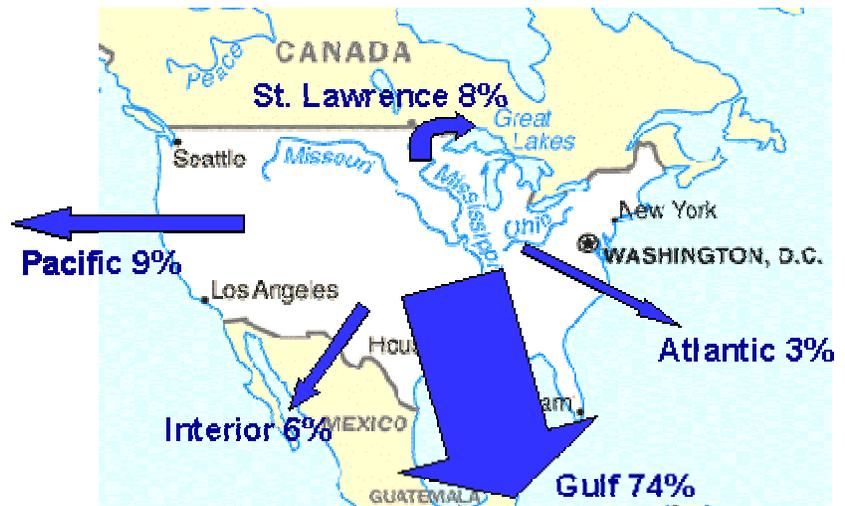
**Fig. 4 Corn Exports by Port Region**

Source: USDA/Grain Inspection Service



**Fig. 5 Soybean Exports by Port Region**

Source: USDA/Grain Inspection Service



## Corn Is Used by the Wealthy, Not the Poor

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Twenty percent of our total corn crop is exported.<sup>9</sup> Two-thirds of these exports go directly to 28 industrial OECD countries, a group that includes Japan and the entire European Union. These countries, like the U.S., have well-developed livestock economies and are hardly associated with starvation. This should not be a surprise, because wealthy countries use corn more for feeding animals than for people. For example, 76 percent of the corn used in the United States goes for animal feed. On the other hand, the Food and Agriculture Organization of the United Nations has grouped countries according to their level of undernourishment. FAO Category 5 is the 25 countries with at least 35 percent of their population undernourished.<sup>10</sup> Bangladesh, Somalia, and Ethiopia are examples. Less than three-tenths of one percent of our total corn exports went to the countries in this group in 1996. The same story can be told for FAO Category 4 countries. Here, undernourishment affects at least 20 percent of the population. Less than three percent of our total corn exports went to these 24 countries combined in 1996.

Put in another way, more U.S. corn goes to make alcoholic beverages in this country than is exported to feed the hungry in the world's 25 most undernourished countries combined.

### **Fig. 5 FAO Category 5 Countries**

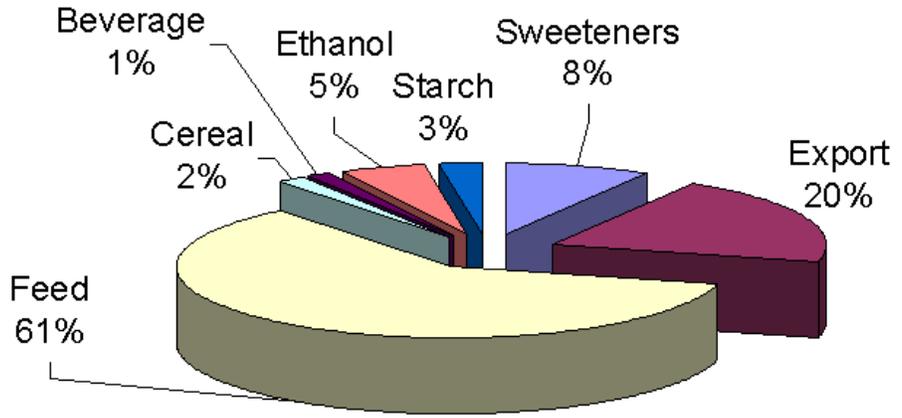
### **The World's 25 Most Undernourished Countries, 1996**

Source: FAO,  
<http://www.fao.org>

Afganistan	Madagascar
Angola	Malawi
Bangladesh	Mongolia
Burundi	Mozambique
Central African Rep	Niger
Chad	Rwanda
Congo, Dem Rep	Sierra Leone
Eritrea	Somalia
Ethiopia	Tanzania
Haiti	Yemen
Kenya	Zambia
Korea, DPR	Zimbabwe
Liberia	

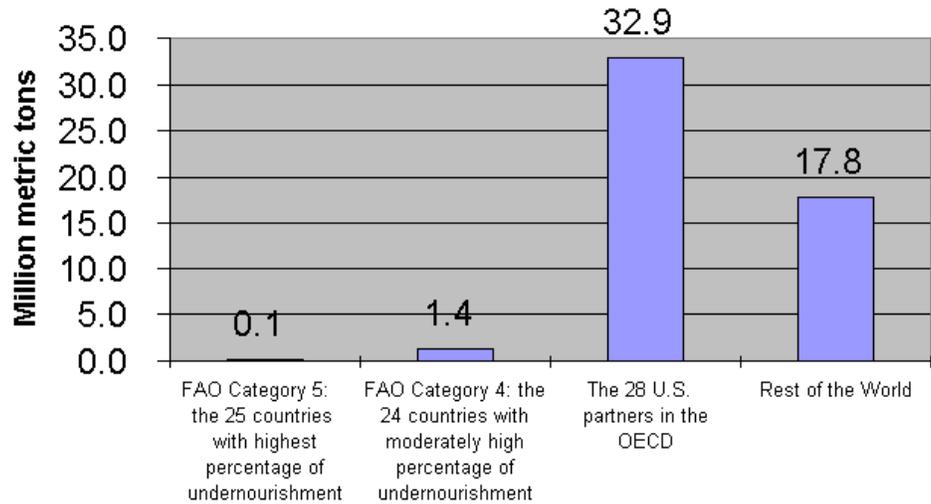
**Fig. 6 Corn Uses 1996**

Source: FAO,  
<http://www.fao.org>;  
 USDA Ag Trade Database,  
[www.econ.ag.gov](http://www.econ.ag.gov)



**Fig. 7 Destination of U.S. Corn Exports**

Source: FAO,  
<http://www.fao.org>;  
 USDA Ag Trade Database,  
[www.econ.ag.gov](http://www.econ.ag.gov)



## Soybeans Are Used by the Wealthy, Not the Poor

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Soybeans are not often consumed as whole beans. Instead, they are crushed in a process that results in two important products. One is a high-quality protein meal that is fed to livestock; the other is a vegetable oil. The volume of meal resulting from the crushing process greatly exceeds that of oil. The U.S. exports about one-third of its soybean crop and crushes most of the remainder.

As with corn, the 28 U.S. partner countries in the OECD are the primary beneficiaries of U.S. soybean exports. These relatively wealthy countries received 70 percent of U.S. soybean exports in 1996. On the other hand, the FAO Category 5 countries, those with the worst malnutrition problems, received none of our soybean exports. The FAO Category 4 countries fared only slightly better.<sup>11</sup> Even in 1998, a year of record-low soybean prices, the 25 most undernourished countries fared little better -- they received less than 0.027 percent of total U.S. soybean exports. As with corn, soybeans are exported to those who can most afford them, not to those who most need them.

### **Fig. 8 FAO Category 5 Countries**

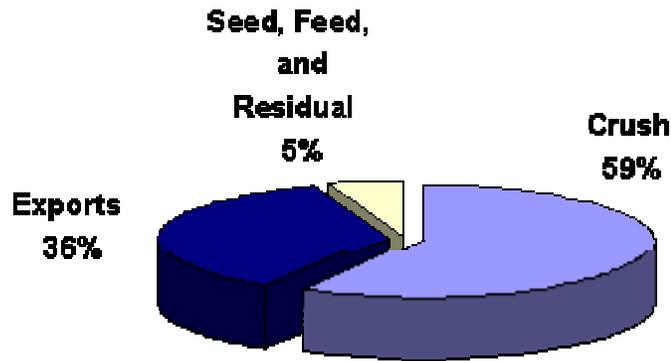
### **The World's 25 Most Undernourished Countries, 1996**

Source: FAO,  
<http://www.fao.org>

Afganistan	Madagascar
Angola	Malawi
Bangladesh	Mongolia
Burundi	Mozambique
Central African Rep	Niger
Chad	Rwanda
Congo, Dem Rep	Sierra Leone
Eritrea	Somalia
Ethiopia	Tanzania
Haiti	Yemen
Kenya	Zambia
Korea, DPR	Zimbabwe
Liberia	

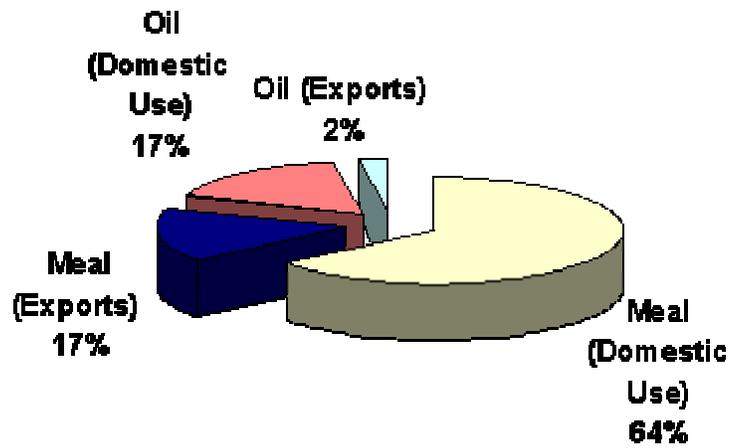
**Fig. 9 Soybean Uses**

Source: FAO,  
<http://www.fao.org>;  
USDA Ag Trade Database,  
[www.econ.ag.gov](http://www.econ.ag.gov)



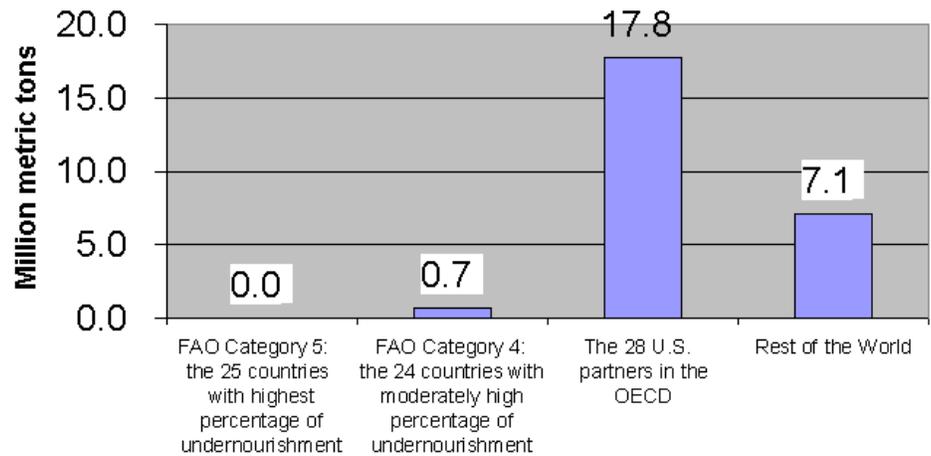
**Fig. 10 Crushed Soybean Uses 1996**

Source: FAO,  
<http://www.fao.org>;  
USDA Ag Trade Database,  
[www.econ.ag.gov](http://www.econ.ag.gov)



**Fig. 11 Destination of U.S. Soybean Exports 1996**

Source: FAO,  
<http://www.fao.org>;  
USDA Ag Trade Database,  
[www.econ.ag.gov](http://www.econ.ag.gov)



## Conclusion

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When Cargill Chairman Ernie Micek addressed the World Trade Organization in Seattle, he offered a vision of "a world where the regions that grow food best are linked through trade with the regions that need food most."<sup>12</sup> The Upper Mississippi River Navigation Project is an important part of this view of the global food system.

Our research shows that we must be careful when we hear agribusiness interests talk of those that "need food most." This sounds like those who are poor and undernourished, but really refers to those rich enough to pay the most for food. The agribusiness plan for the world food system, and the River project that supports that plan, will do virtually nothing to alleviate world hunger.

## References

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- 1 Testimony of Allen Anderson, Chairman, Midwest Area River Coalition 2000, before the Senate Agriculture, Nutrition and Forestry Committee, Washington, D.C., April 30, 1998. (<http://agriculture.senate.gov/aanderso.htm>).
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- 12 The Cargill Bulletin," Volume 7, No. 4, December 1999. Minneapolis, Minnesota.

## About the Institute for Agriculture and Trade Policy

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The Institute for Agriculture and Trade Policy (IATP) was established in 1986 as an independent nonprofit and tax-exempt research, education, and advocacy organization. IATP's mission is to foster environmentally and economically sustainable rural communities and regions through sound agricultural and trade policies. We assist public interest organizations in coalition building and influencing both domestic and international policymaking through research, education, outreach, and information systems management.



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This paper is one in a series on the impact of expanding the navigational infrastructure on the Upper Mississippi River. Comments or questions on the paper can be directed to Mark Muller at (612) 870-3420 or [mmuller@iatp.org](mailto:mmuller@iatp.org).

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