

**FEDERAL RESPONSE TO THE MIDWEST FLOODS OF  
1993**

Y 4. P 96/10: S. HRG. 103-434

Federal Response to the Midwest Flo...

**HEARING  
BEFORE THE  
COMMITTEE ON  
ENVIRONMENT AND PUBLIC WORKS  
UNITED STATES SENATE  
ONE HUNDRED THIRD CONGRESS**

**FIRST SESSION**

**NOVEMBER 9, 1993**



APR 19 1994

Printed for the Committee on Environment and Public Works

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# FEDERAL RESPONSE TO THE MIDWEST FLOODS OF 1993

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TUESDAY, NOVEMBER 9, 1993

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
*Washington, DC.*

The committee met, pursuant to notice, at 10:26 a.m. in room SD-406, Dirksen Senate Office Building, Hon. Max Baucus [chairman of the committee] presiding.

Present: Senators Baucus, Boxer, and Chafee.

## OPENING STATEMENT OF HON. MAX BAUCUS, U.S. SENATOR FROM THE STATE OF MONTANA

Senator BAUCUS. The hearing will come to order.

Good morning, everyone. I apologize to the witnesses for the delay. I like to be punctual. I was testifying at another hearing; a hearing on risk assessment held by Senator Johnston, Chairman of the Energy Committee.

Today the Environment and Public Works Committee will hear from a number of witnesses regarding this summer's flooding in the Midwest. Specifically, we'll focus on the response of the Federal Emergency Management Agency and the Corps of Engineers to that disaster.

The flood of 1993 was a devastating event of tremendous magnitude. The costs, not only in dollars but in human suffering, have yet to be fully realized. Disasters of this scope are well beyond the capabilities of State and local authorities and it is these types of events that require Federal action. That Federal response must be timely, efficient and produce the most benefits with the available resources. Both FEMA and the Corps have worked long and hard to respond to the needs of the flood victims.

While there is always room for improvement and lessons to be learned, I applaud the efforts of both of these agencies and, in fact, all of those who contributed to alleviating the suffering caused by the floods. None of us will ever forget the images of those desperately fighting the rising waters.

The flood raises important questions. For instance, should the Federal Government repair levees that have not been properly maintained or should we focus on the creation of nonstructural solutions like wetlands instead? Moreover, how do we pay for needed repairs to all levees with limited Federal resources?

My Senate colleagues from the affected States are here this morning to testify to the damage and destruction they have person-



ally witnesses. We will also hear from local officials and residents from Illinois, Iowa and Missouri, those who were on the front line fighting the rising tide of water.

While we are still feeling the effects of the floods, it is important that we take this time to hear from these witnesses so that we can assess Federal disaster assistance policy. In the next session of Congress, this committee will be working on the reorganization of FEMA and the reauthorization of the Corps. In order to assist us in this process, we need to clearly define those areas that may need improvement.

Many controversial issues have arisen due to the floods, including the Corps' flood control policies and FEMA's Relocation and Acquisition Program. These issues will be addressed during the reorganization and reauthorization of those agencies.

I must also mention the tragic events of the past two weeks in California. I was horrified to see the extent of the devastation and the loss of life brought about by the wildfires, especially in light of the fact that a majority of those fires were intentionally set. My colleague, Senator Boxer, will have some questions for FEMA regarding its response to the event. It is my intention to hold oversight hearings on the California wildfires in the next session. I look for to working with my colleague from California at that hearing.

Now, I'd like to turn to my colleague from California who has a statement she'd like to make.

#### OPENING STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator BOXER. Thank you very much, Mr. Chairman.

I am here to say that I am with you, my colleagues in whatever we can do. I know the Chairman feels very strongly about this. You can count on me as an ally and a friend.

I would like to very briefly address the wildfires that have claimed three lives and devastated nearly 200,000 acres. I know many of you have come out to California perhaps to these very areas and feel with me the pain when we look at the total devastation. Mr. Chairman, I do want to thank you for agreeing to hold an oversight hearing regarding the California wildfires and flood control as early as possible next year.

Almost all of the 26 wildfires are now under control or extinguished. We know most of them were caused by arsonists. We are taking action on the crime bill to up the penalties for arson. We need to do more in that regard. The Topanga Canyon blaze is nearly contained, the fires caused 160 injuries, mostly of firefighters who are the true heroes of this catastrophe.

The State Office of Emergency Services reports 863 homes were destroyed and hundreds more damaged. However, another threat looms on the horizon, Mr. Chairman, and that is the potential for mud slides and flooding when winter rains turn those burned out canyons into rivers of mud. There is a real threat and we could lose the very homes that we saved from the fire if the receding program fails. Fear over floods may seem paradoxical when you have a fire disaster, but fire of this intensity often creates soil conditions which prevent water from soaking into the soil. Heavy rains for a



short time or lighter rains over extended periods of time could saturate the ground causing soil to erode off the steep hillsides. This debris could be flushed into inlets and stream channels. This in turn could reduce the carrying capacity of the streams, raise the flood elevations spreading the flows over a greater area. Structures normally outside the usual flood hazard areas prior to the fire could face major flood damage from winter rains.

Because of the budget cuts and other factors, many debris dams used to trap the runoff are already full. Today, I urge the Army Corps to provide immediate assistance. I understand the Forest Service is interested in rehiring people from south central Los Angeles who were used for this kind of work before. This authority should be granted as soon as possible, and Mr. Chairman, I hope to talk to you and your staff about how we can do this. I don't think it requires additional funds; I think we just need to grant certain authority.

We are in a race to seed these hillsides before the rains come. Aerial reseeded began Sunday in the mountainous areas north of Altadena to establish vegetation on the fire-scarred hillsides as rapidly as possible. Communities of Altadena, Laguna Beach and Malibu are particularly threatened by excessive runoff according to the Soil Conservation Service, which has outlined a \$13-million emergency protection program to restore 85,000 acres. This plan, which addresses the initial 17 wildfires, includes \$7 million for seeding and mulching, \$3 million for installing hay bales, \$500,000 for clearing burned trees, \$1 million to assist urban groups and associations and \$1.2 million for Soil Conservation Service technical needs. The total Federal outlays are expected to be about \$9.7 million for the initial fires with the balance paid by State or local government. A second damage survey report is expected this week to account for last week's blaze.

I urge FEMA to move as soon as possible to compile its hazard mitigation report which will recommend actions to lessen such a disaster reoccurred. We need to look closely at the need for controlled burns and other measures to dampen the destructive effect of wildfires in the future. The State finally approved building fire standards in legislation passed last year, but they don't take effect until 1995.

Before I close, I would like to mention my appreciation for the work of the Federal Emergency Management Agency. Mr. Chairman, as a Congresswoman, I went through five disasters in my congressional district. I want to say that I had to push and prod and cajole FEMA to act in the spirit and the letter of the law. I am very pleased to tell you that this is a new FEMA and they have performed very well. This FEMA, under the new Administration, has removed that blotch on the Federal Government from past years when it stepped in to help. When FEMA Director James Lee Witt says, "I'm from the Federal Government and I'm here to help"—and he says it with an Arkansas accent—people of California are getting to know that accent and are getting to know James Lee Witt. There are no smirks because he means it when he says he's going to help, and he has provided that help.

Two days after the President declared five California counties disaster areas, FEMA was able to establish four disaster centers to

take applications for immediate temporary housing and reconstruction loans for those residents who were not insured. The first assistance checks were out in a matter of days. Besides his alert response to this tragedy, Mr. Witt deserves special praise for establishing these unprecedented, one-stop centers where victims can apply for Federal, local and private insurance relief. Mr. Chairman, that's the first time that I've ever seen it where the private insurance companies came into the FEMA center. For the first time, the American Insurance Association had representatives there. Those whose losses exceeded their insurance can apply for this Federal relief to bridge the gap that exists. This is common sense reform. We need to do more of it and as sad as these experiences have been for me, I'm heartened with this new FEMA.

I am here again to say to my friends and colleagues from the Midwest, I stand with them, ready to help them in any way I can, working along with my good Chairman.

I thank you very much for this time, Mr. Chairman.

Senator BAUCUS. Thank you very much, Senator.

Senator Chafee?

Senator CHAFEE. Mr. Chairman, Senator Durenberger has an opening statement to be put in the record.

Senator BAUCUS. Without objection.

[Senator Durenberger's statement follows:]

STATEMENT OF HON. DAVE DURENBERGER, U.S. SENATOR FROM THE STATE OF MINNESOTA

Mr. Chairman, as one who was active in securing needed flood relief for Minnesota and much of the Midwest, I wish to thank you for holding this important hearing. I welcome the opportunity to discuss the recovery efforts undertaken in the aftermath of the most devastating flooding of the Mississippi River our nation has experienced in this century. At first blush, hearings like these might be dismissed as purely academic. But, because experience is our greatest teacher, deeper reflection on the purpose of these hearings reveals their true importance.

This hearing is the first step in avoiding the quagmire which too often results from the granting of disaster relief. In the past, the prevailing view has been that the job is done once such relief is accorded. And, in the past we are met time and again by the same devastation—unabated by precaution, unbridled by preparation. By holding these hearings, we are recognizing that our job does not end with disaster relief but begins with it. We must evaluate the 1993 disaster from the perspective of where our efforts to minimize the effects of the flooding succeeded and where they fell short. In this way, we can develop policies and programs to better protect people and property from the threats of destruction which mother nature from time-to-time unleashes.

There are encouraging signs that this process of evaluation is already unfolding. The progress can be demonstrated by the growing consensus among those inhabiting the flood plains that relocation to more hospitable terrain is the most viable option. Further evidence of this progress is the increasing support for the buyout of certain levee districts and nearby countryside which are particularly susceptible to severe flooding. No doubt, these are difficult and painful decisions to make. However, it is clear from experience that to chance life in the flood plains again, whether by decision or inaction, might prove even more difficult—and more painful.

As a partner to State and local government, the Federal Government must stand ready to facilitate these ends. From a policy standpoint, it would appear that relocations and buyouts are preferable to simply rebuilding. This is true both in practice and in price. In practice, the flood plains could serve as natural wetlands and as a buffer zone between an unyielding river and our farms, towns, and cities. In terms of price, it would seem that the cost of relocating and building once would pale in comparison with the costs associated with the cycle of flood-and-rebuild, flood-and-rebuild. Accordingly, we must evaluate and then tailor Federal policies and programs to ensure that they further these flood mitigation efforts. And, because part-

ners share responsibility in any enterprise, this one must not entail the heaping of unfunded Federal mandates upon State and local governments.

To the extent that same-site rebuilding is occasionally necessary or otherwise preferable to relocation, disaster relief must not be employed solely to restore infrastructure to its original State. It is my view that if the original structures were durable in the face of disaster, rebuilding would not have been necessary. Rather, if we are to break the cycle of flood-and-rebuild, we must improve upon our infrastructure to ensure that it is sturdy and lasting. This effort must also enjoy a spirit of cooperation between Federal, State, and local governments in order to be a success.

Of course, mitigation is not a concern which is exclusive to the Midwest or even to flooding. Prudence demands that mitigation efforts be undertaken to address every region and the disasters peculiar to each. The location of mobile homes in hurricane-prone regions and the construction of dwellings on fragile hill-sides are two practices which might be reconsidered if effective and universally applicable disaster mitigation policies and programs were in place.

One universally applicable disaster mitigation effort with which I have been involved is the reform of our Federal Crop Insurance program. Before the great floods of 1993, I introduced reform legislation. Unfortunately, it was not until after the flooding occurred that the need for crop insurance reform was so clearly illuminated. With millions of acres of crops destroyed, the crop insurance program was put to the test—and it failed. Riddled with problems including poor participation and inadequate coverage levels, the need for reform soon became evident.

During the debate in July on the flood relief measure, a number of my colleagues joined me in advocating the immediate reform of the crop insurance program. Although immediate reform was not realized, timely action on the matter was promised by the Chairman of the Agriculture Committee. Last month, sixteen of my colleagues joined with me in writing a letter to the Chairman in which we requested action on crop insurance reform this year.

The Administration has already responded to our calls for reform by indicating that it is currently drafting a reform package which adopts most of the components included in the reform bill I sponsored in March. The cost of this proposal is less than the cost of the current program coupled with the cost of disaster payments. A number of the changes provided for in my bill have already been adopted—and will be effective in 1994. This is very good news for Midwest farmers because many of them had a hand in writing my bill.

While the FCIC's current proposal does differ in some respects from my own, I believe that the two can be reconciled in order to provide a vehicle for the disaster protection our nation's farmers deserve.

I recognize that the shortcomings of crop insurance is only a part of a much larger problem. But, in States like Minnesota where agriculture plays such an integral role in our lives, solving this problem is of paramount importance to us all.

Mr. Chairman, the bottom line is this: We have to move forward on crop insurance reform and all other means of disaster mitigation before we forget the devastating effects of the 1993 disaster and before yet another one strikes. With proper precaution and preparation, we can avoid in the future much of the pain and hardship we endured in the past.

## OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. I'll put my statement in the record likewise.  
[Senator Chafee's statement follows:]

### STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Mr. Chairman, I am pleased to be here this morning to hear testimony from our witnesses regarding the recent floods in the Midwest.

Thousands of people have suffered losses as a result of these floods. They have lost homes, personal possessions, and in some cases their livelihoods. Unlike some disasters that strike and are over quickly, this flood disaster has been a prolonged one. Even now, after several months, some residents have not been able to return to their homes.

During a time of disaster the Federal Government must provide assistance, and I have been pleased to hear very positive reports of the swift and helpful response of the agencies involved in this relief effort. At the same time, the floods have remind-



ed us once again of the costs of developing flood plains and other disaster prone areas, and our inability to control nature.

I hope we will use this flood disaster and the other large disasters we have had in recent years to take a hard look at how we manage flood plains, coastal areas, earthquake faults, and locations likely to experience major natural disasters. Certainly, some areas are not appropriate for development. We must, too, examine Federal programs that unintentionally encourage development in these areas, such as the flood insurance program. There is a real need for reform, and I believe we can save the taxpayer money if we attack the problem before it occurs.

So, Mr. Chairman, I want to thank you for holding this hearing, and I look forward to hearing not only about the Federal Government's response to the floods but also recommendations on lessening the impact of future disasters.

Senator CHAFFEE. I'll say one thing, if I might. That is that I do hope, Mr. Chairman, that we use this flood disaster and other large disaster we've had in recent years to take a hard look at how we manage flood plains, coastal areas, earthquake faults and locations likely to experience major natural disasters. Certainly some areas are not appropriate for development.

We must, it seems to me, examine Federal programs that unintentionally encourage development in these areas such as the flood insurance program. There is a real need for reform. I believe we can save the taxpayer money if we attack the problem before it occurs.

That's not to set aside any of the problems of the past that are there and the real causes of concern that are represented by the witnesses before us today.

Senator BAUCUS. That's a good point, Senator. I know that Senator Harkin, and other Senators, as well as well as Congressman Volkmer, have relocation legislation that goes to part of the point you made.

We are honored to have the Senators from the Midwest who were affected by the floods to give us their views. I know all of them have seen the results of the floods firsthand and are very much involved with the problems. I know each of you has personally come to me and explained the problems that you have and we've mutually explored ways to deal with the problems that you face in your States.

I might say to all of the Senators here, we have a first-come, first-speak rule in this committee. According to my record, the order of appearances are Senator Grassley, Senator Simon, Senator Harkin and Senator Moseley-Braun. With that, we'll begin with Senator Grassley.

#### STATEMENT OF HON. CHARLES E. GRASSLEY, U.S. SENATOR FROM THE STATE OF IOWA

Senator GRASSLEY. Let me thank you for a responsible rule.

[Laughter.]

Senator GRASSLEY. First of all, I thank you very much for the opportunity to make a few brief comments in regard to what Iowa and our neighboring States experienced this summer, and also an opportunity to welcome two Iowans who will be testifying, Mayor Pat Dorrian of our largest city, Des Moines, and Ronald Bramhall, Mayor of Keokuk, Iowa in the extreme southeast corner of Iowa.

The financial loss and the human suffering that Iowans struggled with this summer still continues for some individuals and

communities, and will long be remembered by Iowans. Scenes of our tragedy were brought to the Nation in graphic images that moved many Americans to come to our assistance. To them and to President Clinton, and to my colleagues who supported the relief efforts, I would like to take this opportunity to express thanks. Iowa has experienced hardships in the past and I know that we will overcome these challenges to emerge stronger and more resilient from the test.

I also want to express my appreciation for those individuals from the State and Federal agencies who fought the flood waters alongside the citizens and the affected communities. Their efforts and long hours were often above and beyond the call of duty.

I must also take this opportunity to look at the current situation and to express my hope that we can work to resolve the remaining concerns and to do it in a rapid fashion. As we near the start of an Iowa winter, you can't help but think about what's going to happen next spring when we have the spring thaw. I cannot emphasize enough the urgency of resolving remaining problems prior to that time. My worse fear is that flood protection measures will not be in place in time to meet the spring weather.

I do not criticize current efforts. I would just say that it does not matter to a threatened family whether the Corps of Engineers, the Soil Conservation Service, or the Federal Emergency Management Agency has the responsibility to assist in levee repair. It matters only that the help be available and that the structure be ready for rising waters maybe just a few months off.

I would ask that a recent article along this line from the Des Moines Sunday Register entitled, "Flood Victims Worry: Levees not Repaired," be included in the record. I want to quote just one paragraph because I think it brings it home on a very personal level.

A widow by the name of Sanders, who manages her farm and raises two children, said, "I wouldn't plant a crop if the levee is not fixed. No way," said Sanders, who has endured plenty of adversity. She has raised two children and managed the farm herself since her husband was stricken by a brain tumor that took his life two years ago."

That's just one very personal example of individuals out there still affected by inaction on the part of our Government.

I urge all agencies then to focus their sight on the protection of people and property and the time limitations imposed by the oncoming winter freeze and not on which Government agency should take the lead role. I'm confident that this will be the case and the assistance will be available.

I know that Federal agencies work together with communities to find creative solutions to resolve their flood risk situations. I commend them for that and urge them to redouble their efforts. It is frustrating for those families that do not yet know how their problems will be resolved as we move into a holiday season.

The passage of the Comprehensive Cost Effective Relocation Act of 1993, S. 1486, which is currently before the committee, would be helpful in increasing the opportunities available for communities to deal with these hazard mitigation issues. I believe that the agencies involved in disaster recovery efforts have run a fine race but it is a race that is not over yet and we must make sure that we cross

the finish line together for the successful conclusion of the recovery efforts.

So, Mr. Chairman, I know that the words of the distinguished Iowa Mayors who are here today will further express the trials that my State of Iowa has been through. I thank you for allowing me to address the committee and commend you for holding this hearing.

[The article from the Des Moines Register, previously referred to, follows:]

[From the Des Moines Register]

#### FLOOD VICTIMS WORRY: LEVEES NOT REPAIRED

(By Jonathan Ross and Perry Beeman)

THE REBUILDING MAY HAVE TO WAIT FOR SPRING, BUT THAT MAY BE TOO LATE IF PREDICTIONS OF FLOODING COME TRUE

FARRAGUT, IA.—Sheryl Sanders has only to look out the window of her farmhouse to see disaster staring her in the face, again.

On the other side of what was a soybean field—now covered by a crust of silt and sand—is a gaping hole in a levee that failed to protect her farm from the Nishnabotna River last summer.

The floodwaters that poured onto Duck Puddle Farm in July, turning it into a lake of more than 200 acres, could easily return next spring unless the gap in the levee is filled.

But Sanders, 47, and her Fremont County neighbors are still waiting for the Government's help. "It's the first of November and all of us around here are getting a little more nervous all the time," she said.

Her only line of defense now consists of sandbags stacked around the house.

"I wouldn't plant a crop if the levee's not fixed. No way," said Sanders, who has endured plenty of adversity. She has raised two children and managed the farm herself since her husband was stricken by a brain tumor that took his life two years ago.

Other Iowans also are wondering when flood-damaged levees will be rebuilt.

Richard Ellis of Des Moines worries about the patched-up levee near his home, between Southeast Sixth and Southeast 14th streets. The levee nearly broke in July when the Des Moines River was raging.

"I think we were forgotten down here," said Ellis, 30. "You don't see any city trucks down here or anything—just little city cars. Those little cars don't bring dirt and mud—things you need."

Although emergency repairs were made to the levee, which is next to his house, the project to replace part of the levee has been slow to get off the ground. "People are going to be mad if the levee breaks," said Ellis, who moved out of the 20-year-old house at 700 Railroad Avenue in July and doesn't plan to return.

"I don't know how to swim, and the water scared me to death," said Ellis, who is living with his mother at 1607 E. Walnut Street.

#### WILL CITY BUY HOME?

He plans to ask the Des Moines City Council Monday to buy the house rather than slice off 15 to 20 feet of the yard for the new levee, which is supposed to be done in six months.

All across Iowa last summer, many miles of river levees were breached or severely eroded. The U.S. Soil Conservation Service has received more than 100 reports of levee damage from 27 counties.

However, only a portion of the damage has been repaired this fall because of a shortage of money and a lack of time to do the work before winter weather arrives.

Officials concede that many of the repairs will have to wait until next spring, but by then it could be too late if predictions of more flooding come true.

"We've got a lot of vulnerable ag land," said Marty Adkins, coordinator of the Soil Conservation Service's emergency watershed protection program.

Of 46 levee repair projects being handled by the agency, half are still awaiting money. They include the broken levee on Sanders' 240-acre farm in southwest Iowa.



"There's a good possibility it may not be funded until next spring. It's been very frustrating for both landowners and myself," said Randy Robb, the Soil Conservation Service's district coordinator in Fremont County.

#### TEMPORARY DIKE

Sanders said she may have to take matters into her own hands by constructing a temporary dike around her house and grain storage bins.

She also is keeping her fingers crossed. "You have this hope that this won't happen again. But that's the external hope of the farmer, that next year is going to be better."

To make matters worse, contractors are in short supply because there was so much flood damage throughout the Midwest.

The usual government paperwork also has played a role in delays of levee repairs. In general, levees that protect cities have received higher priority than those that protect primarily farmland.

Several major levee projects are in the works for the Des Moines area, including replacement of the heavily damaged embankment in Ellis' neighborhood. But the projects won't be done by early spring, when some meteorologists have predicted the likelihood of more major flooding.

#### "POTENTIAL IS SCARY"

Des Moines Public Works Director John Bellizzi is taking the spring flood threat seriously. "The potential is scary," he said. "If we get a repeat, it would cause significant problems."

Workers have shored up some levees around town, but Bellizzi said only the one in the Central Place business district is high enough to handle a flood as massive as this year's.

While some measure of flood protection has been restored in most Iowa cities, broken or weakened levees have left thousands of acres of cropland exposed to more flooding.

The Soil Conservation Service has a list of damages to levees and drainage structures in Iowa that will cost an estimated \$27 million to fix, but the Federal Government has allocated only \$6.2 million so far.

Damage to levees alone is about \$8 million, although not all of that damage will be eligible for compensation.

Iowa officials have appealed to the Office of Management and Budget, an agency that keeps an eye on the Federal purse strings for the President, to release \$25 million for levee reconstruction and other flood repairs in nine Midwestern States, including Iowa.

#### SOME AREAS NOT SCHEDULED FOR LEVEE REPAIR

While several flood-control projects are in the works in the Des Moines area, there are several noteworthy areas not scheduled for immediate levee improvements: Four Mile Creek in eastern Des Moines, the Morningstar Drive area of Saylor Township and the Walnut Creek corridor in Clive.

Roger Less, a U.S. Army Corps of Engineers project manager, said it would not be practical to build a levee to protect the scattered homes in the Morningstar area.

Des Moines Public Works Director John Bellizzi said Four Mile is part of an overall review of long-range Corps plans.

Clive City Manager Dan Olson said he hopes the Corps will decide within six to eight months whether to pursue a much-studied levee along Walnut Creek in Clive.

In addition, the Martin Luther King Parkway levee, built by the city along an abandoned railroad right of way north of Euclid Avenue, does not protect the Target store and a lumberyard in the area—both of which were hit hard by this year's flood. Bellizzi said the expense and time needed to design a flood-control system for those businesses would be excessive and will have to be studied by the Corps.

Senator BAUCUS. Thank you very much, Senator.  
Senator Simon?



STATEMENT OF HON. PAUL SIMON, U.S. SENATOR FROM THE  
STATE OF ILLINOIS

Senator SIMON. Thank you, and I like your system. The only system that would be better would be if you do it alphabetically in reverse. That would be even better.

[Laughter.]

Senator SIMON. First of all, Mr. Chairman, you said that the damage is yet to be fully realized. Floods are worse than some forms of disaster in that there is this residue problem that lasts for a long time. I'm accustomed, frankly, to every 2 or 3 years having small floods, that's kind of what life is like in the Midwest and we've become accustomed to that. But nothing like this. This is the greatest natural disaster in this century in the Midwest. It is beyond belief.

I would simply like to commend everyone. We had cooperation. Senator Boxer mentioned FEMA. James Witt and the FEMA crew were just great; the Corps of Engineers did a great job. We had SBA, the Governor's Office in Illinois—and you're going to be hearing from Al Grosboll from the Governor's Office, local officials, everyone really cooperating very, very well. We do have some problems. Let me just outline some of the problems very briefly. We've had some purposely breached levees where in order to save Prairie Du Rocher, for example, you breach the levee above that. There were people who were hurt as a result of the breached levee who feel they are entitled to some kind of assistance. The Corps of Engineers feels it's not their responsibility because a local group came and said, can we do this in order to save Prairie Du Rocher. The local group feels it is not their responsibility but these people out there don't care who should help but they do feel someone should help.

Rebuilding levees, the Corps is working on that, they are doing a good job, but we have to move as rapidly as we can. Whatever we don't get done by December 15, we're inviting spring flood problems in those areas.

There are some areas that can be converted to wetlands. Henderson County, for example, has about 2300 acres there where landowners are willing to do that, but contrary to the public image, there are not levees all up and down the Mississippi. Only about 50 percent of the Mississippi has levees, so you're not talking about something where there is no place for water to go at the present time.

I think we also ought to study what should be done. This is the time to take a long-term study. South of Cairo Illinois, the tip of Illinois since 1927, the Corps of Engineers has handled the whole Mississippi River there and that happened as the result of a flood in the 1920's. North of Cairo, Illinois, it's just patchwork, the Corps of Engineers takes this, a local levee or drainage district takes that, a State takes that. There is no system and I think we ought to look at what should be done.

We face one very specific problem in Alexander County. They are the next to the poorest county in my State that was flooded. FEMA answered promptly to these emergencies and went and made payments to people of \$1,000 to \$10,000. Now FEMA says we

incorrectly made the payments and these are people who have used that money to fix up their homes and everything, and they just don't have the money. I don't know what we're going to do but this is a very real problem.

Relocation, we have 26 communities in Illinois that are talking about relocation. You're going to hear from Mayor Knobloch of Valmeyer, a community that is ahead of others. It is unbelievable to visit Valmeyer even today and see the devastation that is there. We need help and to cooperate with these communities.

We have two areas in Green County where the Corps of Engineers has redone the levee but there is water on the inside. We need some pumps to get the water out so that we don't have an enclosed lake on the other side.

Just in general, again, I want to commend everyone. There are problems and I hope we can get these problems worked out, but I have to say, in general, FEMA, the Corps, SBA, the Soil Conservation Service, whatever the agency—I remember calling Les Aspin, the Secretary of Defense when we needed helicopters to get some people out of a hospital. He got those helicopters there in a matter of hours. Everyone, really, was great in this emergency.

Senator BAUCUS. Thank you very much, Senator.  
Senator Harkin?

#### STATEMENT OF HON. TOM HARKIN, U.S. SENATOR FROM THE STATE OF IOWA

Senator HARKIN. Thank you very much, Mr. Chairman.

Just remember, Senator, the Bible says the last shall be first, regardless of what the Chairman says.

[Laughter.]

Senator HARKIN. Mr. Chairman, Senator Chafee, Senator Boxer, again, I appreciate your holding this hearing on the midwest floods. Before I begin my recommendations, I want to thank you, Mr. Chairman, Senator Chafee and Senator Boxer for all of your efforts and those of the committee in helping to provide the needed assistance to the flood areas. It is greatly appreciated. I want to join my colleague, Senator Grassley, in commending to you the testimony of both Mayor Pat Dorrian of the capital City of Des Moines and also Mayor Ron Bramhall of the City of Keokuk, which is located on the Mississippi River.

I have a statement for the record and I'd ask that it be entered in its entirety.

Senator BAUCUS. Without objection.

Senator HARKIN. I'd just like to briefly review just a couple of recommendations orally, one of which was covered by both of the previous speakers, and that has to do with the levees. I don't need to go over that again.

Again, let me join in commending James Lee Witt and his strong leadership at FEMA. They responded admirably in Iowa. I had never met James Lee Witt before. I called him up about 10 or 11 a.m. on a Sunday morning after I found out what had happened in Des Moines the night before and found that the hospitals in Des Moines were without fresh water. Someone had told me that FEMA had these water distillation plants or something that they

could bring in. I had a 4 o'clock flight out that afternoon and right before I got on the plane, he called to say that he had located two or three of them, already had the aircraft and they were headed to Iowa. They were installed within two days at the hospitals in Des Moines when we were without water for so many days. So it was just that kind of quick reaction that FEMA took that I really want to commend.

I also want to commend President Clinton and all of the Secretaries who came out.

I want to highlight three recommendations in my written testimony. First, the Corps needs to streamline its processes so it can complete needed flood control projects more quickly. I specifically want to point to one: there needs to be some ongoing authority for the Corps to make improvements when deficiencies are found in existing flood control projects. Deficiencies in completed projects of less than \$5 million, should not have to go to Congress for authorization.

For example, we have a flood control project in Des Moines which was designed in 1944, it was built and there are now some recognized deficiencies there. One is a \$600,000 item, not that big, and yet because it is a deficiency, the Corps has to go all the way to Congress to get the approval of Congress to fix it. I don't think that ought to be. For some amount—I suggest \$5 million—the Corps ought to be able to go ahead and fix deficiencies in already-approved and completed projects as long as they meet, of course, environmental and cost benefit analysis standards. That would streamline it and would cut the time down considerably because, as Senator Grassley said, we're looking at the spring floods coming and some of these small items could be done in that short a period of time, but if it has to come to Congress, get all the way here, get approval, then it is going to take far too long. It's something the Corps could decide to do right away. As I said, in some cases, it's a small item, \$600,000, they could do it right away. I would recommend that to you.

The Mayor of Keokuk will talk about his situation. He has a related problem. A large number of jobs are dependent on improving the ability of several major manufacturers to resist future flooding and he will discuss that, but again, we need to move more rapidly. Under current proceeding the project could take eight years or more. That is too long.

Second, FEMA should be mandated to develop with each State a mechanism for administering individual and family assistance grants that centralizes paperwork in just one agency. Handing off applicants from Federal jurisdiction to the State causes a delay in processing. In Iowa, for example, FEMA schedules the inspection for an individual home, that paperwork goes to Kansas City for processing, a letter is generated stating what the award will be, the letter is then sent to the State of Iowa for review rather than to the applicant, the State then decides if the award is appropriate and checks to make sure all the paperwork is with the claim.

It seems to me there should be a way to develop agreements between FEMA and each State so that only one agency would do the paperwork. That would simplify the process and speed the funds to those in need.



Third, and this was alluded to earlier, authorization should be increased for funding to help relocate the homes that have been extensively damaged and which, because of their location, are likely to be damaged in some flood again.

I understand the House Public Works Committee may mark up that legislation today. I urge this committee to move as quickly as possible also on that legislation. As you know, FEMA provides some support to communities through the Hazard Mitigation Program. Each State can receive up to 10 percent of the cost of permanent Government facilities replaced by FEMA for hazard mitigation if those funds are matched on an equal basis, 50-50 by the State or local government.

Congressman Volkmer in the House and I in the Senate have sponsored legislation that would increase the funding to 15 percent of the facilities replaced and reduce the match to 25 percent. This legislation has strong bipartisan support, including the co-sponsorship of all of the Senators seated here at the table. I hope you can move that legislation as rapidly as possible, Mr. Chairman.

Last, I do believe that far more funds are needed. I must say personally, I'm in favor of the amendment proposed by Majority Leader Gephardt which would increase the Federal match to include 15 percent of both the public and individual assistance grants. What Congressman Gephardt says is add up all of the public and the private and then you take 15 percent of that. He does support also our lowering the match to 25 percent. So while our bill doesn't do the former, I would be much in favor of that. I would hope that Congressman Gephardt's amendment will carry in the House and I would commend that to you perhaps when you go to conference or else do it in the Senate.

Mr. Chairman, the recommendations I have discussed are the process on the deficiencies, having the Corps handle things without going all the way up and down the ladder; streamlining the paperwork so we don't have the bouncing around of paperwork from State to Kansas City or whatever, back again, back again—we're getting bounced around two or three times; and lastly, on the hazard mitigation, getting some more money in there. I know it costs a little bit more but it's going to save us more money in the long run if we can get people to move their homes and things like that to places where they will not be flooded again.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you very much.

#### STATEMENT OF HON. CAROL MOSELEY-BRAUN, U.S. SENATOR FROM THE STATE OF ILLINOIS

Senator MOSELEY-BRAUN. Thank you very much, Mr. Chairman, and thank you for allowing me this opportunity to testify this morning.

To my colleagues, I would want to associate myself with their remarks, especially the remarks of my senior Senator, Senator Simon.

Mr. Chairman, I'm here this morning to add my voice in support of the plea from the members here assembled that we do as good a job as we can in coordinating our Federal response with State and

local government, with the individuals who have suffered the damage from this flood, and that we do everything we can to improve the efficiency of our overall operation.

Certainly in Illinois alone with regard to this flood, it's a mammoth task. We've had in our State deaths occur, three deaths occurred because of the flood, thousands of people were left homeless who have asked the Federal Government to help them permanently move, entire communities relocating—and you'll hear from the Mayor of Valmeyer this morning, close to half a billion dollars in crop losses, an estimated 1 million acres of flooded farmland, clean up and restoration for farm equipment and structures is estimated to cost in the hundreds of millions of dollars, almost all commercial use of the Mississippi as well as other rivers in the Midwest came to a halt with all of the resulting economic damage there, several bridges collapsed or were closed, and then, of course, there is the situation with the levees where the levees failed or were ruptured, and in many cases are still in very precarious states.

I'd like to call the committee's attention specifically to the levee situation in Illinois. Senator Simon was exactly on point when he made reference to the fact that we really do need to get this work not just started but concluded because we stand in jeopardy of having even greater damage or further damage occur by our delay or by any delay associated with levee repair.

I received a letter, as did Senator Simon and one of the congressmen in our State, from the Army Corps of Engineers, which gives us a report on the status of levee rehabilitation programs. Several levee projects have responded, in many cases, almost 100 different levees where assistance has been requested and the Army Corps is at one stage or another of responding to that assistance. That is to say, construction has been approved or they are looking at beginning construction, reconstruction and the like. For the record, I will submit some kind of document but to call that to your attention, this is the group of levee repairs which I think we have to really move forward on quickly to try to get this concluded in terms of repairing the damage along the rivers in Illinois.

The second category really does go, I think, to the heart of the call for coordination and greater proficiency. That is a part of this report speaks to levee projects which are eligible for Public Law 84-99 funding but have "not requested assistance." We have about 60 levees that are eligible for assistance that the Federal Government recognizes, the Army Corps recognizes as eligible for assistance, but the communities themselves have not reached out. There has been some failure in communication.

It seems to me that in the interest of coordinating our efforts, in the interest of efficiency, it would make sense for us at the Federal level to reach out to these communities to undertake to do the kind of levee repair and restructuring that obviously is called for in order to prevent the damage. It's not just a matter of, well, you may be eligible, but we're not going to tell you about it, it should not be that way. We should, I think, take some affirmative initiative to reach out to these communities, to reach out and start the repair on these levees that are eligible for assistance but have not been pursued. Again, there are 60 different instances of that cited.

The third area, which I think causes concern, is the list of levee projects which are ineligible for assistance but that are known to be Army Corps of Engineer projects. That list of levees consists of close to 110 different levees that may or may not be eligible for assistance. I am concerned, Mr. Chairman, that in some of these instances, we need to have a process for determining whether in fact these levees may, in fact, be eligible. Under some reading of the law, there may be some facts that may not be known to the Army Corps, there may be some circumstances that will make it in our interest, nonetheless, to repair these levees.

For example, one of the levees that is mentioned in the ineligible list is the levee for Streeter, Illinois. This is a locally maintained levee but I daresay there may be some debate as to whether or not there is some Federal role or responsibility. In any event, without just suggesting simply that Uncle Sam the deep pocket here and should weigh in—although frankly, there are those who would make that suggestion and I probably would join them—deep pockets not withstanding, it seems to me it is in our national interest to have a comprehensive, coordinated policy for dealing with this situation.

Hopefully, we won't have to face these floods anytime soon again, but the fact that we did not have the coordination going in meant that we are now faced with having to one, find out where the problem areas are, and then structure a response in record time. I daresay the response has been very positive from the Army Corps, it has been very positive from FEMA, it has been very positive and I think every agency and instrumentality of the Federal Government is to be commended for the hard work, the dedication and for the responsiveness of their reaction so far to the floods.

However, we have some long-term issues I think that we have to address. This situation now, I think, forces us to address some of those long-term issues. I would like to see a response from this committee or from the Legislative Branch to begin to coordinate, categorize and work through these issues for the long-term.

The White House has already established a task force to categorize the approximately 2,000 levees that need repair or need to be replaced, but the initiative I would suggest to you, Mr. Chairman and the committee, is to be the fulcrum, be the point where we can bring all of these things together to help with the coordination so that we can get the relief out there, so the levees can be repaired before the spring, so that the people can be relieved of the potential second round of damage that may occur if we wind up talking about these issues instead of getting them solved.

Thank you very much, Mr. Chairman.

Senator BAUCUS. Thank you all very much. This has been extremely helpful. Your testimony, first of all, is obviously heartfelt. Second, it's very specific; it's not just platitudes and generalities. You've given specific recommendations which have a lot of merit.

I also would like to tell you how much I am personally impressed with the personal dedication each of the four of you has indicated as you attempt to solve the problems created in your home States caused by the floods. I hope that the residents of your States know it, they all should know it. You've all been extremely challenging, each of the four of you, in addressing me and Senator Chafee and



others of the committee to come up with ideas and I hope the people in your States recognize and know that. You're to be commended.

I have one basic question I'd like each of you to answer. It's in two parts. First, what has essentially worked here? This is essentially an oversight hearing so I'd like each of you to say what has worked, what has gone right with FEMA and the Corps as they have attempted to deal with the catastrophe caused by the flood? Second, what is the essential lesson learned here that we can use as we work on hopefully passing Senator Harkin's bill this year and also as we reauthorize the FEMA and Corps statutes in the next year?

I will start first with you, Senator Grassley.

Senator GRASSLEY. I would think one thing that Senator Boxer alluded to, a great deal of cooperation between levels of government—the Federal, State and local—and then the private sector at disaster relief centers, one place that people are in a great deal of trouble can come once and hopefully get all of their questions answered.

I think early on another lesson that was learned was the massive amount of paperwork in some applications. The Small Business Administration, for one, has taken some corrective action. I don't know whether it is enough but just recognizing that it is a problem and trying to do something about it.

Senator BAUCUS. You're saying that there was much too much and we have to find ways to reduce it?

Senator GRASSLEY. Yes, but then I wanted to say the Small Business Administration has changed some of their application requirements, less paperwork, hopefully, that it has worked out to a good end.

I think if there is a lack of understanding still in government, maybe more here in Washington than at the local level, but that is unjust amount of time that it takes to make a decision.

Senator BAUCUS. You mean in FEMA, the Corps? Where?

Senator GRASSLEY. No, I'd say it's more turf and whether people are protecting turf, I don't know, or just the inability to make a decision when you involve more than one agency, and then that leads to something Senator Harkin and I referred to that there's people out there, for instance farmers, that will lose 2 years crop and not 1 if something isn't done within the next month or two. I just wonder whether anybody appreciates that in this town. It takes a certain amount of time to get the land ready for the following year and you don't get the land ready if you can't get the water off of it.

Senator BAUCUS. Senator Simon?

Senator SIMON. First of all, I'd like to underscore cooperation across the board has generally been great. I think there are areas where there are turf concerns. I mentioned Green County and the Corps rebuilding levees, but there is water on the inside of the levee. FEMA says that's not our responsibility, the Corps says that's not their responsibility. Somehow, we've got to get the job done. So sometimes people fall through the cracks.

I think the second big need is an overall study, a long-term study that may take 2 or 3 years—what do we really do in the upper Mis-



issippi. I think we ought to be looking at that in terms of where we ought to have wetlands, where we ought to have levees, how we protect communities. That whole long-term study I think is clearly a necessity.

Senator BAUCUS. Thank you very much.

Senator Harkin?

Senator HARKIN. Mr. Chairman, the good things that FEMA set up, the hotline they set up for people to call in, worked wonderfully well and the majority of the applications they took in Iowa were from that hotline. In a rural area, it's very difficult for people sometimes to get to their disaster centers.

We've been focusing so much on FEMA here, but I have to give the highest praise to both the Iowa National Guard and the Army Corps of Engineers. They just did a superb job. I could give you a lot of instances. One was in Spirit Lake where they just did a marvelous job. I won't go into all the details of what they did up there but I daresay they saved numerous homes and farmland through just quick action. This was both the Corps and National Guard working up there. The Army Corps along the Des Moines River and Raccosh River again, I think they deserve a lot of praise too for what they've done.

One other good thing FEMA did was getting the money out. They really were very good at getting the money out. I jotted down one thing that wasn't in my prepared testimony, something I came across this weekend. A lot of the communities in Iowa, for example, have put in to FEMA for public assistance grants for things that were hurt in the communities. FEMA did a good job this summer of getting those applications, approving them and getting the money out.

I am now told that, and I've got the list of the cities in Iowa where the State got the money 30 to 45 days ago but the communities haven't gotten the money. So I've inquired of FEMA as to what is the normal amount of time, once the States got the money, that it takes it get it out to the communities. They said usually 48 to 72 hours. We've got communities in Iowa that have been waiting over 30 days for this money. Some communities have had to go out and borrow money to do things so that people can get back to work and to fix up some of their local communities, even though FEMA has given the money to the States and have approved the projects and grants to the local communities and the money hasn't gotten out.

I'm wondering if this committee ought not to look at some kind of a time frame which if the States are going to be involved in this process, if FEMA gets the money out, there ought to be some time frame to get the States to get that money out to the local community rather than just sitting on it. It's been approved. Everything has been approved and yet the money hasn't gone out to the communities.

Senator SIMON. If I could just inject, I should have mentioned the National Guard too. They were just absolutely great out there in those tents, with all the insects and everything else. They were just marvelous.

Senator BAUCUS. Thank you.

Senator Moseley-Braun?

Senator MOSELEY-BRAUN. Mr. Chairman, I think I must echo my colleagues remarks. The good news is that things have worked better than ever before. The bad news is that they could work a lot better still and that is the point at which I think this committee might really weigh in because we really have to be proactive. Senator Simon referred to a study, whatever the mechanism, we have to review our floodplain management policy, we have to review our hazard mitigation policy, we have to be proactive in these areas. It is an old salt to say, a stitch in time saves nine or an ounce of prevention is a pound of cure, but that's certainly the case. Here is a situation where if we had used some thought beforehand, who knows how much of this damage could have been prevented. The floods couldn't have been prevented but some of the damage probably could have. It would have been an overall savings to the taxpayers, it would have been an overall savings in terms of the tragedy and the suffering that the people have had to experience.

We did not do that and frankly, this institution, like many, reacts better to crises than it does planning. I daresay that planning and the kind of planning for what are we going to do about flood plains, what are we going to do about hazard mitigation, can we get ourselves together so that the next time when the Santa Anna winds come down in California that we are prepared for hazard mitigation.

Senator BAUCUS. That's a good point because FEMA would like to reposition more than they have the authority to do thus far. There was some prepositioning in this case which did help.

Senator MOSELEY-BRAUN. Just to conclude, Senator Simon and Senator Harkin's responses regarding the Army Corps is well taken. They have been wonderful. They provided my office with all of the information that we need but certainly one would think that with all these agencies involved, it should not be beyond us to put together almost a military style operation or military in the sense that we have military efficiency to know where the problems are going to be and to have a response.

Senator BAUCUS. Thank you very much.

Senator Boxer.

Senator BOXER. Thank you, Mr. Chairman.

I'm very disturbed about two things that you said, one, that the States got the money for certain projects and they haven't distributed it. I wonder if you could give us an example, Senator Harkin, of that? Senator Simon, I'm concerned about your comment that people were given money and then told that it was given in error and now they have to return the money. Can you explain a little more what was the error because you can't just say never mind.

Senator SIMON. Let me just say it is apparently FEMA, in trying to act very quickly, saw these needs and thought people were eligible when technically for some reason or another, they weren't eligible.

Senator BOXER. Because of income?

Senator SIMON. Because of income or I frankly don't know the full story but these are people with very limited incomes.

Senator BOXER. Senator, I think we need to look at this. Obviously if someone was a multimillionaire and got money, that's one thing, but if these are people who don't have the wherewithal to

return these payments, I think we're going to need to look at that. I'd look forward to seeing what you could put together in that case.

Senator Harkin, I didn't mean to stump you with the question and specifics, but if you have an example?

Senator HARKIN. I do. I have a whole packet of them. I just don't have them with me. I'd be glad to furnish those to the committee. I remember one in particular was the City of Ames, again, approved, the money was sent to the State I think well over 30 days ago.

Senator BOXER. Was it to repair public buildings?

Senator HARKIN. Yes. These are for public projects under public assistance grants.

Senator BOXER. Is there anything in the law, do you know, that the State would have to return the money to us unless they distributed it?

Senator HARKIN. Not that I know of. I'm not that familiar with the law. I was just astounded when I looked through the list. I have a list of all the communities in Iowa that had been approved for public assistance grants and the date on which the money was sent to Iowa varies from 5 days to 45 days. So I asked FEMA, what do you do in other States and they said, they've got the average down to maybe 48 to 72 hours, two to three days, that they would get the money out to people because everything has already been done. Once the money has gone to the State, everything has really kind of been done or should have been done at the State level, all the approvals. I just raised that because I was astounded. I know of another community that actually had to go out and borrow money. Eddyville had to go out and borrow money and this is a small town that was devastated. They just don't have much.

Senator BOXER. Again, I will work with both of you on these very specific problems and with all of you in every way that I can.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you, Senator.

Senator Chafee?

Senator CHAFEE. Thank you, Mr. Chairman.

Senator Harkin, I suppose, and I don't know, the deficiency problem you mentioned comes perhaps not from lack of authority but lack of money. In other words, I don't know. I suppose the Corps doesn't have an unlimited pocket there. You were suggesting a cap of \$5 million but you weren't firm in that, just some cap, that they have the flexibility to move around and that does seem to make sense.

The other problem, as we all know, is that we all seek to cut through paperwork, red tape, getting to it. Then on the other side, when it's all over with, there's a big investigation before Congressman Dingell's committee and we find scandals out there that somebody has paid \$3,000 for a \$200 water pump of some kind. We've got to be prepared to weigh that. I've always felt that a little waste is worth it. Admiral Rickover over in the Pentagon used to say that the perfect way to have no waste is to have everybody be a checker, no doers, all checkers and I think he's right. I think we have to give people freedom and if things come in more expensively, that's life. The reward on the other side is you move faster.

I'd like to pose this to you. Senator Moseley-Braun referred to the deep pockets of the United States Government. Indeed, we do



have deep pockets or seemingly. However, everybody knows where it's all borrowed. Everything we do, we're passing on to our children to pay for.

The question that I wrestle with, and would suggest we all consider, is what is the proper Federal-State match? Members of this committee are bored with my telling them that as Governor, I always felt anything as high as 90-10, 90 percent Federal-10 percent State, was something we didn't worry about, take it, whatever it is. Ten cents-dollar is really wonderful.

Where do you think restraint on the part of the locals is thrown to the winds, at what break point? Is 80-20 as high as we should go on levees, for example, or should it be 90-10, or how about 100 percent Federal? Would you give me some thoughts on that, Senator Simon?

I know that every self-respecting Mayor in the United States that has a crisis, 100 percent Federal is the answer. Why not, and I don't blame them. If I were a Mayor, I'd do it too and as Governor, I frequently did it. I just wonder where you cross the divide into lack of local responsibility or local caring.

Senator SIMON. I don't know any magic formula here. I think we have to be careful how we use the funds and in part, it may be that we look at the resources the community has. That's something we haven't done up to this point, but there are some communities, frankly, where they could afford 50 percent. There are other communities where, frankly, coming up with 20 percent makes it, almost impossible.

Senator CHAFEE. We've got to remember it isn't solely on the other end of the scale, solely community. There is a State there too, but we're working from a Federal Government that we all know is not paying its bills or we're charging them to our children. I don't want to sound like the Grinch at Christmas but these are serious problems that I think it's worthwhile giving some thought.

Senator Moseley-Braun?

Senator MOSELEY-BRAUN. Senator Chafee, when I was little, the thing that used to infuriate me the most was when my brother would get his allowance without having to wash the dishes and I had to always wash the dishes to get my allowance.

The fact is, with regard to the Mississippi, the lower Mississippi levees, for example, are 100 percent Federal. There is no logical reason why our end of the Mississippi is not covered that way. In the first instance, this is a threshold kind of issue, and we are being called upon to wash the dishes, if you will, to be a contributor in the repair issue when, in fact, I would think—and I think there are many who would concur—that there is a Federal interest along this great economic highway for our country that is not dissectible at Cairo, Illinois. So in that regard, Senator Simon is correct, in some instances maybe it means we come up with a formula that says for the whole kit and caboodle, there is this sharing formula, but right now, we are faced in the upper Mississippi with a situation that is I think unique to just this region.

Senator CHAFEE. Senator Grassley, a noted conservative?

Senator GRASSLEY. We've got a policy of self-insurance. It's probably not written but that's been our policy for three or four decades at least, where we're going to meet these natural disasters.

Where we've come up short is in what the match is between local and State. The fact is that we haven't encouraged State and local governments to set aside some money for natural disasters that are unpredictable and also we haven't done enough of a job ourselves. We set a little money aside each year but not anywhere near enough with the recent disasters in the last four or five years. We should be setting aside a little bit more. Perhaps that's not going to be enough, so you always have an occasion to borrow in those instances but the policy of self insurance is that all of society is going to pull together one way or the other to meet our obligations.

Senator BAUCUS. If I might ask just one question, your general thoughts on the so-called tradeoff between insurance and self-control on the one hand and Federal Government providing disaster assistance on the other. It's a problem we faced in the farm program, the degree to which we insure and provide government insurance and crop insurance for farmers on the one hand and on the other, the degree to which we encourage no crop insurance but when there is disaster, Uncle Sam comes along and does the best it can under the circumstances to try to help out. Just your basic thoughts on that.

Senator GRASSLEY. My basic thought is that where we can manage risk, we ought to encourage management of risk.

Senator BAUCUS. That is you tend toward the former?

Senator GRASSLEY. Crop insurance, yes, but the political facts of life are if there is a natural disaster and farmers pay for disaster relief for city people, our farmers are going to be calling for disaster relief. The point is that we should be willing to stick by a policy of encouraging the risk management as much as we can.

Senator BAUCUS. I don't want to get into the farm bill right now.

Senator CHAFEE. The reason I bring up this percentage thing is I think it is important in this respect. At what point does something become a national concern? If 3,000 houses are burned in California, that's a terrible disaster. If 6 houses are burned in a row in Providence, Rhode Island, each person affected is out just as desperately as each individual in the California situation, but I don't think we would respond if the Mayor of Providence said, this is a terrible disaster, come here and help me.

Senator GRASSLEY. In agriculture, we've answered that with a long-term policy of the Federal Government that you have to have a 30 percent loss in one county. If you've got a county that only has 29 percent loss but you've got a bunch of farmers with 100 percent loss, those farmers don't get any help in that county unless the whole county has at least a 30 percent loss.

Senator CHAFEE. Maybe that is a formula to follow. I don't know but I will say this: We've had in this committee for many years, people coming in and using FEMA as a punching bag, this is the first time that we've had elected representatives come in and say what a marvelous job FEMA has done. So my hat is off to Mr. Witt, he must have done something quite right there in your areas because you all have said nice things about him.

Senator BAUCUS. And the Corps too.

Senator CHAFEE. We're always for the Corps. We're for the Corps to start with usually.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you all very much. We appreciate your time.

We'll now turn to our panel of folks from home. Our second panel will be representatives of both the Corps and FEMA.

The first panel consists of: Mr. Allen Grosboll, Executive Assistant, Office of the Governor; The Honorable Dennis Knobloch, Village President of Valmeyer, Illinois; The Honorable Pat Dorrian, Mayor of the City of Des Moines; The Honorable Ronald Bramhall, Mayor of Keokuk, Iowa; Mr. Charles Kruse, President of the Missouri Farm Bureau Federation; and Dr. Abner Womack, Co-Director of the Food and Agricultural Policy Research Institute, University of Missouri. Mr. Grosboll, why don't you proceed?

Let me remind all of you that the 5-minute rule applies but your entire testimony will be included in the record.

**STATEMENT OF ALLEN GROSBOLL, EXECUTIVE ASSISTANT,  
OFFICE OF THE GOVERNOR, SPRINGFIELD, ILLINOIS**

Mr. GROSBOLL. Mr. Chairman, ladies and gentlemen, thank you for the opportunity to appear today and address issues related to the great flood of 1993. On behalf of Governor Jim Edgar and the citizens of Illinois, I wish to give special attention to what we believe to be the central issue, hazard mitigation.

In the early weeks and months of the flood, our efforts were directed at preventing property damage and protecting lives. Then our focus shifted to helping those people, those victims that needed to be clothed, fed and housed. Now we need to look to preventive measures so that the problems of 1993 never happen again.

The great flood of 1993 represents the worse disaster in Illinois in the 20th century—16,000 citizens were forced out of their homes; 872,000 acres of farmland were inundated; entire communities were flooded; hundreds of small businesses were damaged or destroyed; an overall, millions of dollars of personal property were lost. The full resources of the State of Illinois were used to fight the flood. Nearly 9,000 National Guardsmen were called up; hundreds of prisoners were used to sandbag, and are continuing to be used in our clean-up efforts; tens of millions of sandbags were used and millions of gallons of clean, safe drinking water were distributed to our citizens.

In Illinois, Governor Edgar established our Flood Recovery Task Force consisting of representatives of all State agencies involved in the recovery. We've invited representatives of the various Federal agencies to also sit in and in addition to that, we've invited participation from our regional planning commissions.

I've been designated by the Governor to serve as his State Flood Response Coordinator and to serve as Chairman of this Task Force. We meet weekly and we share information about what each agency is doing, what our problems are and what our progress is. This structure has been very effective, not only in sharing that information, but in avoiding duplication.

Just as our full resources have been dedicated to fighting the flood, today we are committing those same resources to recovering from the flood. This has been a difficult, painful experience, but it also provides opportunities, opportunities to employ the knowledge



we gained from the flooding in an effort to reduce the impact it can have in the future. We will lose this opportunity again and endure significant hardship in the future if we respond to the flood by merely repairing and replacing damaged facilities without giving consideration to mitigation.

There are three words worth emphasizing today. First is mitigation so that we can prevent future tragedies. Second is flexibility so that we can maximize our resources to get the job done. Finally, I believe we need to underscore the word focus.

Concerning our mitigation efforts, Mr. Chairman, I've spent hundreds of hours in the last few months with Federal and State officials, municipal and county leaders, and with citizens. There is a clear consensus that we should be encouraging floodplain communities to move from the threatened areas and similarly, there is a sense we should be considering the buyout of critical levee districts and farmlands that are particularly flood prone.

Although we believe in mitigation and there is considerable support for buyouts and community relocations, our Federal policies do not always, in fact, serve to encourage these outcomes. In fact, I believe we actually have disincentives in Federal law. Federal requirements and time lag all join together to make mitigation an unappealing and often unavailable option for flood victims. Various Federal funds are available at 100 percent, 90 percent, 80 percent to 75 percent matching ratios, but currently the Stafford Act provides only a 50 percent match for mitigation. I think this was talked about earlier, a proposal to move this to 75 percent and we support that.

I'd also like to point out that there has been some confusion about the 10 percent issue that if you take funds that a community qualifies for, there is a 10 percent penalty if those are then used for mitigation. FEMA has indicated that they can either waive that or that there are other ways they can get around that, but that issue needs to be clarified. We ought to be doing whatever we can to encourage these communities to move, not to penalize them.

I notice my time is running out so let me just skip to a point I want to make here and that is that I think it is worthwhile to put yourselves in the shoes of Mayor Knobloch of Valmeyer who sits to my left or Mayor Nairn of Grafton, Illinois. These are mayors that are looking at devastation in their home areas. Their tax base is devastated at this point in time, their citizenry is depressed at this time, and yet, what they are facing at this point in time is a situation of having myriad Federal agencies coming in and saying, yes, we want to help. So at the time they are dealing with some of the most frustrating, difficult experiences, they are looking at a whole variety of Federal agencies and trying to figure out how in the world to get their town back on its feet.

One of the things I want to stress today is that we've got to focus on getting the job done, of getting these communities moved. That's not going to be easy but it is extremely important that we focus on what the job is and what the job ought to be is getting them moved.

Mr. Chairman, earlier you asked the question, what have we learned and what can we do. I think what we've learned is we need to move communities out of the flood plain. It's as simple as that.



Right now, the structure and the bureaucracy that we have—putting any blame on anyone—it is simply saying that structure does not always focus on getting that job done and learning from the lesson that we've learned here.

Thank you.

Senator BAUCUS. Thank you very much.

Next is Mr. Knobloch.

**STATEMENT OF HON. DENNIS KNOBLOCH, VILLAGE PRESIDENT,  
VALMEYER, ILLINOIS**

Mr. KNOBLOCH. Thank you, Mr. Chairman.

I'm honored to be allowed to present to you the views of the small midwestern town that has been drastically affected by this summer's record flooding. The local citizens fought valiantly with the assistance of countless volunteers. Monitoring of sand boils and 24-hour levee patrols began in early July and efforts were stepped up as the river levels steadily increased. On August 1, we watched in shock and disbelief, as many of you did, as the levee gave way near Columbia and swept away complete farmsteads in its path. Within 18-hours, the water overtop the plank levee protecting our town and by 4 a.m. on Monday, August 2, water made its way through Valmeyer. The water rapidly inundated our town's 350 structures, eventually to leave only 8 dry. Water levels reached 16-feet which when combined with current and mud reduced 80 percent of our town's structures to worthless shells.

The Army Corps of Engineers was on hand throughout our flood fight. Due to the scale of this event, they weren't always able to supply the manpower necessary to fully assess our immediate needs, efforts which could possibly have saved Valmeyer were not pursued and those same techniques were later used to save the town of Prairie Du Rocher. We are appreciative of the efforts of the Army Corps in erecting a temporary dike around our levee breach. For more than 2 months water flowed freely through our town until this work was completed the second week in October. This temporary repair and the anticipated permanent repairs are essential to restore our county's deflated agricultural economy.

The Federal Emergency Management Agency has been extremely helpful during this crisis—900 Valmeyer residents were forced from their homes in early August and it is due to the efforts of FEMA, through rental subsidies and mobile homes that most of these people now have a temporary roof over their heads. Not helpful, however, was the fact that local officials, as well as residents, found it difficult to get consistent answers.

As the water slowly started to recede, it was evident that a major portion of our town had sustained substantial damage. The only option for most people would be relocation, either at the individual's option or as an organized, united effort. Discussions with FEMA yielded unsatisfactory responses. A project this size had never been attempted before. According to historical data, a relocation effort such as this was predicted to take 5 to 10 years. By that time, our residents would be dispersed like dandelion seeds in the wind. This was not acceptable to us, so we took matters into our own hands. We could not accept the death of our community.

With little or no technical assistance from the Federal agencies, we began our own relocation efforts. Committees comprised of town residents were formed and with our regional planning commission serving in an advisory and resource capacity, weekly meetings began in early October. A preliminary but highly detailed town plan and accompanying course of action will be presented to our entire community on November 10.

We have been able to secure an option on a 500-acre tract of land one mile east of our current town and 350 feet higher in elevation atop a bluff. Our plan calls for the sale of residential lots by December 15, with construction starts as early as next summer. The community will include our K through 12 school district, churches, business and industries, park and residential areas, and as I speak, construction has begun for one of our industries, a printing company from our town that employs 90 people.

The planning efforts for the relocation of our town to a nonflood zone has been therapeutic for the Valmeyer residents. Their focus has changed from the summer's devastation to working to help shape their futures. We are sympathetic to the hundreds of smaller communities who are waiting for guidance from the Government to begin such efforts because until they do, they will continue to flounder in their misfortune.

Working with FEMA during the past 30 days has been characterized by improved relations, yielding faster results. We are working very closely with local FEMA officials on details of our buyout. They have been particularly effective in working with State agencies. FEMA recently worked with the Illinois Arts Council on a project to restore and move a mural which was recently painted in the school library by an internationally known artist.

We are, by no means, looking to take a free ride at the Government's expense. Governor Edgar's office and the affiliated State agencies have been particularly helpful to us in our efforts. If Valmeyer, however, is to begin its new life as an economically sound, environmentally clean, and enterprise healthy community, we will need some assistance from the Federal Government.

If we were to ask for one gift today, it would be to have an expediter at the Federal level who could provide quick answers to our questions through their communications with the various agencies. Also particularly important is a timely response to the financial requirements of the FEMA Buyout Program.

Please be mindful that all the procedures used to rebuild a community such as Valmeyer could be transferred to any other type of redevelopment. We would be very happy to serve as a national pilot case and look forward to your approval of such a situation. Please help us help ourselves.

On behalf of the Valmeyer area, I would like to thank you for giving me the opportunity to tell our story.

Senator BAUCUS. Thank you very much.

Senator CHAFEE. Mr. Chairman, I have to leave fairly soon and I wonder if I might ask one quick question of Mayor Knobloch.

It seems to me that this is rather dramatic, what you've done, indeed picking up your whole village, as it were, and moving it. What happens to the land you left? Let's say the Federal Government steps in and gives a hand financially to this move. What as-

surances are there that people aren't just going to move right in on the land you vacated? Then we go through the whole horrible, regrettable experience, once again?

Mr. KNOBLOCH. Through the details of the 1362 Buyout Program, the property would be turned over to the town. It is still going to be part of the town. At that point, the town itself is responsible to maintain that area as green space, no construction would be allowed there from that point on. We would monitor that on the local level and I'm sure that would also be monitored at the Federal level as are two activities in that area.

Senator CHAFEE. You quoted some statute. What statute is that?

Mr. KNOBLOCH. 1362 is the FEMA Buyout Program.

Senator CHAFEE. Thank you very much.

Thank you, Mr. Chairman.

Senator BAUCUS. Next is Mayor Dorrian.

#### STATEMENT OF HON. PAT DORRIAN, MAYOR, CITY OF DES MOINES, IOWA

Mayor DORRIAN. Thank you for the opportunity to address your committee and to discuss the response and mitigation efforts of the Federal Emergency Management Agency and the Army Corps of Engineers.

As you are aware, the City of Des Moines sustained unprecedented flood damage on July 9, 1993. The Army Corps of Engineers and the Federal Emergency Management Agency have responded within the purview of their standard operating procedures and their personnel have been extremely courteous and informative. They have explained the regulations, the authority and procedures, and it is now November 9 and we have the following concerns.

First, the U.S. Army Corps of Engineers. As you know, the Corps can undertake projects under three different sections of authorization—large projects with congressional authorization and appropriation of funds. After some 20 years of planning and waiting for the funding, we have been successful in fast tracking a \$20 million flood projection project for which the first contract was let just last month. However, we have continued concerns for Corps of Engineers' policy and practices on requests for smaller projects.

Public Law 99 project funds are authorized for flood damage to existing flood protection facilities or flood protection facilities deficiencies. After post-flood damage assessment and several meetings with Corps personnel, we have been told that only two small repair projects will be authorized and that any assessment for review of the levee system or additional deficiencies would have to go through the normal 2 to 6 year process. The city has repeatedly attempted to get Corps authorization for a critical flood gate which has now been determined by all parties to be the most important single deficiency in the entire levee system. Had such a gate been in place during the 1993 floods, this estimate of \$600,000 in costs, part of the flood protection system, would have prevented a significant part of the estimated \$117.3 million of damage to 175 businesses and destruction of 5,200 employees who work in the major area of our near downtown area of the city. This flood gate could be constructed by Public Law 99 funds but has been denied as eligible by



the Washington Corps Headquarters. Construction of this gate closure must be accomplished as soon as possible and we are requesting Public Law 99 funding.

Last, Section 205 projects which are less than \$5 million in costs, again, after several years, our city has had such a project authorized and funds appropriated for bids to have been taken in September. Had this levee project been in place during the July flood, it would have overtopped. In recognizing the flood in the computer model for a new design criteria, the Rock Island District held up the September project and will now redesign the project for a 1-3 foot higher levee section. All parties agree that design modifications will be minor but because the new project will have to go to Corps divisions and Washington headquarters for review, they indicate the new bids cannot be scheduled prior to July 1994. This red tape procedure is just not acceptable. Design modifications should be delegated to the Rock Island District and bids scheduled in February at the latest so that the project can basically be in place prior to the 1994 flood season.

In general, FEMA damage assessment inspectors have been responsive and easy to work with. However, with some \$15 to \$17 million damage to our infrastructure, we currently have identified 151 separate restoration projects. The problems or concerns that we have with the FEMA Public Assistance Program are the following.

The city is currently dealing with the fourth separate group of inspectors, some of whom have come here to Des Moines from Alaska and Virginia. They have rotated every 3 or 4 weeks, which has made it difficult to get damage assessments completed. New inspectors have to revisit all the outstanding items. Preliminary experience indicates that cost estimates are typically below actual repair costs that we will experience in our Midwest marketplace. In the prepared statement there are several different examples of what I'm talking about. I won't go through them for time sake.

Because of the process of the DSRs, the damage survey reports, going through the State of Iowa to Washington, DC and back, we're disappointed in the turnaround time. We have just had returned to us in the past 2 weeks a group of some 100 DSRs that were prepared in July. Without knowledge of FEMA repair estimates repair of costs being reasonable, we are reluctant to take bids and schedule these repairs because of our inability to carry large construction contract obligations with available local funds.

In summary, because of standard operating procedures of both the Corps of Engineers and FEMA, we have only started flood damage restoration which will consist of limited involvement of the Corps and after some 4 months, only identifying damage, looking toward a long documentation-driven process by FEMA, with the looming probability that due to the unprecedented level of groundwater table, even normal levels of rainfall and snow melt will cause damaging floods again in the spring of 1994. That was also reiterated by both of the Senators from the State of Iowa.

Without waiting for FEMA and the Corps of Engineers to sort out all of the myriads of red tape, we have initiated repairs and/or construction at four levee sites throughout our city. While the Corps indicates that these repairs and enhancements are prudent,

they have only recently indicated that two of the four repairs will be approved by the Corps.

Senator BAUCUS. I'll have to ask you to summarize as best you can, Mayor.

Mayor DORRIAN. I think in summary, we really have a difficult time dealing with the lapse of time that it takes to go from Des Moines to the Corps of Engineers on Rock Island to Washington and back. One thing I would like to point out, and you asked the question earlier of the Senators, what could be done. I wish the Senator from California was still here because if there's one thing that has been pointed out to me is that there is a lack of a plan when you do have a disaster, whether it be flood, fire, hurricane, earthquake, whatever. When they come to town, there is no book that's handed to you which says, this is our procedure. You work with all the different people that come to the community and there is never a plan. There is no formula that you can use. You hear one thing from one, another from another person.

So if anything would come from this, I would think if FEMA would have a document they would bring to a community that says this is what FEMA can do for the community.

Senator BAUCUS. You're talking about a book that deals not only with FEMA but all the agencies?

Mayor DORRIAN. Yes, Senator.

Senator BAUCUS. Thank you.

Next is Mr. Bramhall.

#### STATEMENT OF HON. RONALD BRAMHALL, MAYOR, CITY OF KEOKUK, IOWA

Mayor BRAMHALL. I am pleased and honored to have been invited to outline for you some of the problems created by the flood of 1993 and solutions that we are working on, solutions that, of course, take massive amounts of money to solve. We are not here to ask you to do these things, we are here to ask you to help us attain some much needed results. We have filed or will file with you pages of details for your further information, and we hope that when we leave, that we can return to our community with a feeling that you here have some understanding of our problems and a willingness to help us help ourselves.

I cannot cover all of the problems we have in 5 minutes, so it is important that you know when I am talking about one industry and their needs, I am including all the rest—Ferro-Sil and the Hubinger Company, in particular, our own wastewater treatment plant, industries not in the flood plain that were closed down because neither trucks nor trains could cross our bridges because the approaches to those bridges were flooded and since Keokuk is a regional trade area with a population of 85,000 in a 50-mile radius, our retail and wholesale trade suffered accordingly. If I talk about one industry more than another, it is merely to emphasize the magnitude of our problem and our potential.

Senator Harkin's staff member asked me to say something about how we viewed the help that we received from FEMA and from the Corps of Engineers. FEMA was fast, the Corps was frank.

Senator BAUCUS. What does that mean?

Mayor BRAMHALL. I'll tell you. The Corps of Engineers met with city personnel and affected industrial leaders immediately after the flooding had subsided and when asked about building floodwall protection, simply told us that to build flood protection would first require a study that would take at least 6 years and then we would have to get in line for congressional appropriations. That's frank.

Here we are with one industry that employs some 520 people with high dollar wages. An industry that for all intents and purposes, was out of business, with a \$25 million project in process and a \$350 million expansion plan on the drawing board, who uses 45 million bushels of corn annually produced by Iowa, Illinois and Missouri farmers with no flood insurance available anywhere and no levee or floodwall protection available in the foreseeable future.

We went to work on July 23, 1993. My first letter went to Senators Harkin and Grassley, and to Congressman Lightfoot asking for help. We followed up by meeting with the department heads of every board and commission in the State of Iowa. We contacted EDA officials. Incidentally, they asked me to tell you that they need more money. We have our Southeast Iowa Regional Planning Commission writing grant applications and we have asked our Senators and Representatives to help.

On the local level, the affected industry called engineers together to start design work on a floodwall, talked to railroads about relocating and raising some track and the City of Keokuk began reviewing all possibilities of financial assistance, including some from the Hubinger Company, who would share in the expenses as appropriate for the completion of flood protection.

Our long-term needs, simply stated, are to raise the approach grade on highways entering Keokuk from Missouri and Illinois; raising the grade of rail entering and leaving Iowa and our biggest concern providing flood protection for industries adjacent to the Mississippi. We must protect an industry that has invested \$325 million, that uses 45 million bushels of corn annually provided by area farmers, and is willing to invest another \$350 million in new product development.

What the company cannot accept or tolerate—I'm reading from their material which is on page two in your packet of information—"As indicated, the investment program is well underway; unfortunately, the floods of 1993 have raised a serious cloud of concern over the choice of Keokuk as the investment site. As the product portfolio shifts to more specialized, value-added products, plant reliability becomes a crucial operating factor. If the long-range objectives are obtained, the industry will be positioning itself as a sole supplier for these products for its customers. In this context, it becomes absolutely imperative that the plant is able to consistently operate in order to meet customer requirements, the first time, all the time. If this industry is the sole supplier, an interruption in its operation would lead to an interruption to customer operation, a completely unacceptable situation."

I hope I have painted a picture for you not of desperation but one that with your cooperation, can have a very bright future.

Thank you.

Senator BAUCUS. Thank you very much, Mayor.

Mr. Kruse?



STATEMENT OF CHARLES E. KRUSE, PRESIDENT, MISSOURI  
FARM BUREAU FEDERATION

Mr. KRUSE. Thank you, Mr. Chairman.

I'm a farmer from southeast Missouri and President of the Missouri Farm Bureau Federation, an organization representing over 78,000 families in the State of Missouri.

I want to thank you for the opportunity to outline for you today the tremendous impact the flood of 1993 had on farmers, agribusiness and rural communities in our State. We appreciate this committee's work in continuing to gather information and to explore public policy options relating to this summer's disastrous midwest flood. We found that public concern and interest dropped dramatically when the network's evening news anchors moved on to other things. I want to tell you it is encouraging to see that you all are still keeping the flood in your work and we appreciate it very much.

We all know that the flood disaster hasn't magically cured itself just because the waters have receded. In fact, the true extent of the flood's devastation is just now being accurately compiled and analyzed.

I'm very pleased to appear before you today along with Dr. Abner Womack, the Co-Director of the Food and Agricultural Policy Research Institute. FAPRI is a joint economic analysis program between the University of Missouri and Iowa State University. I want to say that Dr. Womack and his staff are to be congratulated and complimented for the outstanding job they have done in very quickly pulling together the economic impacts of the flood.

Our agricultural losses in Missouri to crops, machinery, buildings and livestock are very extensive. Crop losses alone have exceeded \$250 million on approximately 1.3 million acres. There has also been significant damage to agricultural infrastructure such as levees, ditches, roads and bridges.

The Soil Conservation Service in Missouri has estimated that 60 percent of the Missouri River flood plain, which is cropped, is sand covered at this time. Of this amount, over 50 percent, which would equal over 227,000 acres, has sand deposits greater than 9 inches. A total of 546 million cubic yards of sand are estimated to have been deposited on land which had previously been cropped, some of the most fertile farmland in our State.

Our most urgent concern at this point is our levees. The U.S. Army Corps of Engineers has stated that there are approximately 465 levees on the Missouri River within the Kansas City District that were damaged by the flood. Under current Corps rules only 110 of the 465 levees are eligible for Federal repair assistance, leaving 355 levees without any Federal assistance.

Because of the severity and duration of the 1993 flood, many of these levees will require extensive repairs. There are far-reaching and serious economic implications for not repairing these 355 levees. A recent FAPRI analysis revealed the following. Approximately 478,000 acres of cropland in 25 counties along the Missouri River would be at risk if the levees are not repaired. The value of the annual crop production on this land is \$96.2 million. For every \$100 reduction in the assessed value of this cropland, there would



be a \$2.4 million reduction in property tax collections in the 25 counties. A crop loss of \$96.2 million translates into a decrease of \$208 million in economic activity in Missouri and potential loss of more than 3200 jobs Statewide.

The economic vitality of rural communities in our State is linked very directly to the farmland in these trade areas. The potential loss of hundreds of Missouri River levees is not only a threat to the livelihood of hundreds of farm families, but it is also a serious threat to the broader rural communities in which farmers live and work.

What we need is a sensible, workable system, a common sense approach to the levee systems along our rivers, not a patchwork of substandard levees built to whatever flood protection and construction standards private landowners can afford. This can only realistically be accomplished with Federal cost share assistance. We strongly support Senator Bond's efforts to provide an opportunity for the non-Federal levee districts to qualify for Federal assistance. It is critical for Missouri's rural communities that our flood protection be rebuilt. If broken levees are not repaired, the flood damage of this past summer will occur with greater regularity. Ultimately, we will find the decision not to help flood victims rebuild their levees to have been a very short-sighted public policy with costly implications for landowners, rural communities, consumers, and taxpayers.

Thank you very much, Mr. Chairman.

Senator BAUCUS. Thank you very much, Mr. Kruse.

Dr. Womack?

#### STATEMENT OF ABNER WOMACK, CO-DIRECTOR, FOOD AND AGRICULTURAL POLICY RESEARCH INSTITUTE, UNIVERSITY OF MISSOURI

Mr. WOMACK. Thank you, Mr. Chairman, for the opportunity to appear before the committee.

The flood of 1993 has taken a tremendous toll on the Midwest as testimony indicates today. I am a member of the Food and Agricultural Policy Research Institute, comprised of the University of Missouri at Columbia and Iowa State University. We were established in 1984 to conduct objective and timely economic analysis and outlook. Throughout the flooding FAPRI has worked with the Federal and State agencies to provide damage assessment, State and national commodity price forecast estimates of losses to Missouri's general economy, and farm level economic impacts with Federal disaster assistance. My comments today include some preliminary analyses that we have made and it is still unfolding. Therefore, we haven't had a chance to assess all of the damage.

To start with the general economy, briefly, Governor Mel Carnahan had indicated that the State's losses outside of agricultural is about \$1.25 billion. Of this amount, \$122 million is in losses associated with public facilities. The biggest cost has been in the area of highways with 300 sections damaged at a cost of about \$60 million to replace; sewers and water systems, about \$24 million; and water control facilities, about \$20 million.

As of August 3, State and Federal agencies have indicated that 3,200 businesses in Missouri have been economically damaged or suffered physical damage. At one time, about 46,000 employees lost wages for one or more weeks. Also, as of August 3, about 25,000 people had been laid off as a result of flood or flood-related damage. As of August 6, the latest estimates indicate in the State of Missouri that 15,000 homes have been affected by the flood, 3,000 completely destroyed and 12,000 damaged or inaccessible.

On the agricultural side, to reiterate some the numbers to which Mr. Kruse just testified, the total area of about 1.3 million acres represents about 10 percent of Missouri's crop production land. We have about 17 million acres of crop production land, so we lost or had flooded out during the flood about 1.3 million acres at an estimate of about \$250 million lost and when we roll those numbers through the general economy and input industry, transportation and so forth that goes with this agriculture, it reflects about a \$500 million loss to the State and about 7,000 jobs.

So we have had significant damage to the infrastructure of the State, and as Mr. Kruse mentioned, 465 levees on the Missouri River within the Kansas City District, according to the Corps of Engineers; currently, 110 of those levees are eligible for Federal repair and that leaves 355 not eligible. With regard to what these 355 levees means if they are not replaced, the best pencil work that we can come up with is about 487,000 acres of land and about 25 counties will be adversely impacted along the river. As Mr. Kruse indicated, this reflects about \$96 million of farming activity that translates into about \$210 million in economic activities and around 3,200 jobs.

It is likely that this land will reduce in value and as the asset value goes down, so does the property tax associated, and we are beginning to measure some of those implications.

In conclusion, I'd like to again thank you for the opportunity to appear before the committee. For some Missourians, it will take years to recover from the flood; others may never recover. In the short term, levees is a primary concern for many rural communities in Missouri. In the longer term, the combination of foregone income and flood-related expenses could seriously weaken the financial stability of the State.

It will take time before the final toll of this year's flood is known. However, it is clear that 1993 will be both the year to remember and to forget.

Thank you for the opportunity to participate in this hearing. Our unit also stands ready to further help with longer run evaluation and assessment of the flood damage.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you very much.

Mr. Grosboll, the central point of your testimony as I understood it would be for mitigation and relocation. I'm wondering how many others would agree with that assessment? I was struck with your testimony particularly because you focused so much on that point.

Mr. GROSBOLL. Part of the reason for that is that when you're involved in a flood fight like this, I don't know if everyone else's pattern is the same as ours, but it really does go in phases. The first phase was everybody out there sandbagging, trying to stop bad

things from happening. Then you move into a phase of making sure everyone's finding a place to stay and they are being fed. Then you move into this recovery effort and it just strikes us that while it is important that we recover from the flood, it ought to be equally important that we not have this happen again.

Senator BAUCUS. At least not to the same degree.

How many would agree with that statement? Would anyone like to comment upon that point? Mayor?

Mayor DORRIAN. The City of Des Moines has started a hazardous mitigation program with buyout. As of yesterday, we actually had 16 homes approved for the buyout program. The difficult part of it is that these folks are the ones that can least afford the damage that they've sustained in the areas that they live and it becomes increasingly difficult for a city to come up with the funds to go through that, but we are trying and we support Senator Harkin.

I know in my home State of Montana, there is a history of communities for many years turning their backs. It's only in the last 15 or 20 years that communities are trying to reverse that. They are trying to complace the river, turn them into parks for the community and so forth. I was wondering if any of that is similar to your experiences?

Mr. GROSBOLL. That includes part of our planning for the area that we're going to relocate from as kind of a third phase of our project. Once we get the people back in their homes, we're going to convert the area that was our town before into park areas.

Senator BAUCUS. You made a point, Mayor, of talking about the need for some kind of plan. I wondered if the rest of you would comment on that?

Mayor DORRIAN. I think we sense the same frustration in that regard. The message that we're always getting is to have an effective disaster plan in place, to make sure that you're ready for any situation which would occur and we found that we had a plan in place, but the Federal Government did not have a plan in place to enact.

Senator BAUCUS. Why can't communities by and large develop their own plan?

Mayor DORRIAN. We did have a plan but again, we cannot get through a disaster of this scope without assistance from the State and Federal Government.

Senator BAUCUS. I asked a panel earlier what are the lessons learned. If I could ask each of you, what is the major lesson learned here that we can utilize as we move toward reauthorization for next year? Mr. Kruse?

Mr. KRUSE. Mr. Chairman, Senator Moseley-Braun made this point too. I think we look at the levee system, for example, from Cairo, Illinois south—

Senator BAUCUS. The system north, you're talking about?

Mr. KRUSE. Yes, sir, the system north and also the Missouri River which comes across our entire State. I think one lesson learned clearly is that we had better go back in now and do a good sensible job of repairing and restoring these levees because, as I pointed out, if we do a patchwork, haphazard rebuilding at this point, I think we're going to look back the next time we experience a situation like this and regret that we didn't do it right.



Senator BAUCUS. What do you say to those communities that came up with the upfront 20 percent match, that is, the category of levees that are not federally constructed but there is a local sponsor and they are properly maintained? What do you say to those folks who have gone to the expense to properly maintain their levees and say to others, you didn't properly maintain yours? What's your response?

Mr. KRUSE. I think that's a very good point but I think the levee system is sort of like a chain, it's only as strong as its weakest link. If we come along the river and at some point have a very poor levee system, even the good structures along the river are going to be damaged by water coming into the land from a poorly constructed levee. So I think it's in the best interest of everybody along the river who has farmland, who has businesses, who uses the river for commerce purposes to go back in now and do the job like they did after the flood in the 1920's on the Mississippi River south of Cairo.

Senator BAUCUS. Someone once said to me that the system south is a bit different because the Corps constructed all these levees and so forth, probably because at that time in our country's history, 1927, the belief was that was the transportation system and north, Cairo or wherever, it was more recreation and the river wasn't as much focused on transportation. Is that accurate or not?

Mr. KRUSE. I don't know, sir, but I think we've proven that to be an invalid statement.

Senator BAUCUS. Lately, that's true. Lately, that's changed but I was talking about at the time.

Mr. KRUSE. Yes, sir. That could well be.

Senator BAUCUS. Any major lesson here, Mayor?

Mayor DORRIAN. Mr. Chairman, no matter how much you prepare, you can't predict what mother nature is going to do. We happen to have two rivers and two separate watersheds, along with the two rivers there are two creeks also. All four crested the same day, the first time since records were kept and it was as though as prepared as we were, we were not prepared for it.

Senator BAUCUS. So the lesson is what?

Mayor DORRIAN. Build the levees as high as you think you're going to need them and then top them off with about 4 or 5 more feet, I assume. We certainly are trying to do our best to maintain levees but you don't realize that a levee has a weak link until you have bank folds with two different rivers.

Senator BAUCUS. What about the proposals for nontraditional remedies here, not just rebuild the levees but try to develop wetlands, try to find other means.

Mayor DORRIAN. Very much so, sir. I think that in the building of levees, when we construct levees in Des Moines, Iowa in that area that it will funnel more water down to the St. Louis area is what is going to happen. So I think we need to return some of that to wetland for natural flooding the way it was intended several thousand years ago and would be a very good solution.

Senator BAUCUS. Mr. Knobloch, the major lesson?

Mr. KNOBLOCH. I think again there are a lot of specifics from the flood situation, but I would hope that FEMA and the Federal agencies overall look at more preventative measures in general. Don't wait until a disaster like the flood occurs to start thinking about

moving people out of the flood plain. Take those actions early on and try to prevent those situations from happening.

Senator BAUCUS. Do you think the communities would accept the so-called plan we are talking about or would they say, they like parts of it and dislike other parts, or might the communities, because of the nature of the emergency and catastrophes, do whatever it wants? Your best guess.

Mr. KNOBLOCH. If they don't, let me give them a call and I'll tell them what it's like to go through a disaster like this.

Senator BAUCUS. I'm sorry?

Mr. KNOBLOCH. I said, if they don't accept the plan, I'll give them a call and tell them what it's like to go through a disaster like this.

Senator BAUCUS. Any points any of you want to make to our next panel, the Corps and FEMA, any points or questions you'd like them to respond to?

Mr. KNOBLOCH. Mr. Chairman, I'd like to maybe just roll in your question with that and that is I think that there is a lesson for local and State officials and I think there is another lesson for the Federal Government. The lesson for the local and State officials is that when we look at communities that have participated in buyouts previously, we avoided an awful lot of pain and suffering in Illinois, and when we look at other areas that did not participate, they suffered.

We talked about Cairo earlier, there is another community down in that area called Thebes, and Thebes participated in a buyout where approximately 50 structures were bought out several years ago. There are still maybe anywhere from half a dozen to 10 that did not buy out, totally inundated, versus the damage that would have been done if those other 40 or 50 were still there. So again, there is a lesson for us.

I think the lesson that I would suggest that is there for the Federal Government is that the more you can consolidate who is responsible for particular chores, the better.

Senator BAUCUS. Example?

Mr. KNOBLOCH. I don't think there is a Mayor here that won't tell you that one of the problems they have is trying to sort out the myriad programs that people are coming and talking to them about. I would suggest you'd be a lot better off to say, FEMA, your job or one of your chores is to buy out communities. We, the Congress, want you to do it, here are the funds to do it, and we're going to hold you accountable for that. Right now, FEMA is, in effect, being held accountable for that even though they've got like \$39 million in buyouts and a couple hundred million other dollars or so to spread throughout the bureaucracy. It would be a lot better off if everyone knew FEMA was in charge of that, they have the money and they are going to be held accountable for getting that job done.

I'd also throw into that the issue of farmland. We talked about whether or not we should have wetlands along the rivers, but that isn't going to happen unless somebody is given the job to do it, to do a study of the most appropriate lands and then have a pot of money.

Senator BAUCUS. But I hear your statement saying there probably is a role for greater wetlands as opposed to farmlands along these rivers?

Mr. KNOBLOCH. There is a greater role for wetlands, absolutely, but it isn't going to happen unless there is an agency charged with doing it. I'd ask this question, what Federal agency today, other than Fish and Wildlife with some small sums of money, is out talking to levee districts and farmers? We've got levee districts that are saying to us, we'd like to participate in a buyout. Again, FEMA hasn't been given that charge to do that.

I would say somebody ought to be given the charge with respect to urbanized areas, residential areas and somebody ought to be given the charge with respect to wetlands. Give them a charge, give them a pot of money and hold them accountable.

Senator BAUCUS. I heard somewhere that Iowa has 30 to 40 percent wetlands lost in the last 100 years; Illinois has lost about 80 or 90 percent of wetlands in the last 100 years; Missouri is about 30 or 40 percent or it may be higher than that.

Mr. KRUSE. That's because we've had other programs that have created incentives to do away with those wetlands.

Senator BAUCUS. Just your sense, given the amount of rain that fell, to what degree is the problem exacerbated by wetlands loss, and by levee construction with shunted water down these channels which raised the water in the channels? Your gut guess?

Mr. KNOBLOCH. I'm not an engineer, I'm not a scientist. This same question was posed to the Corps of Engineers about 10 days ago and there was a fishing expedition on this with no answer. Any reasonable person has got to believe that when you constrain the river and you take away those areas that the river would normally flow into with a sponge effect, then you are going to cause an unnatural rise of the river. That is common sense. For anyone to suggest we don't know the answer to that I think is kidding us.

Mr. WOMACK. Mr. Chairman, in many cases, the water was about 4 feet over our levees and that really makes it more of a national kind of disaster situation.

Second, just a comment with regard to downstream—so to speak—issues, our unit is involved in economic analysis and assessment. I hear at least two scenarios that involve several groups, including ag economists, Corps of Engineers, transportation experts, community and public facility experts, regarding at least a scenario that evaluates the administration's position with regard to repairing the levees as opposed to the position of repairing all levees. That is the kind of analysis long term that I think our unit would be very interested in being a part of, at least scenarios on one side or the other.

Senator BAUCUS. I suppose the more that FEMA or some other agency helps encourage wetlands restoration, the more positive effect that would have on the drinking water systems. I know that wetlands have a lot of salutary effects and one of them is known as the sponge effect but also the filtration effect tends to help filter the water.

Mr. KRUSE. Mr. Chairman, I think regardless of how much wetlands we would have had in this flood, there is no way that a sponge effect was going to help.



Senator BAUCUS. It was a lot of rain.

Mr. KRUSE. Yes, sir, and I think it's unfair too to say that because of the flood of 1993, our levee system didn't work.

Senator BAUCUS. I agree with that.

Mr. KRUSE. One other quick point, if I might, I think as we look at the establishment of wetlands, I would hope that we all keep in mind the rights of property owners and if it's in the public good, then the public should bear the cost and not the landowner.

Senator BAUCUS. I felt if I mentioned wetlands, some of those questions would arise.

Any major points you want to leave for the Corps or for FEMA coming up next that you would like them to respond to?

Mayor DORRIAN. I still think, and the point has been brought up a couple of times, I had to call it red tape but that's basically what it is and if the local Corps of Engineers, for example, could deal with the levee systems and not have to go back and forth, it would certainly speed up and expedite what we need in the State of Des Moines.

Senator BAUCUS. You've all been very helpful. Thank you very much for your testimony. We do appreciate this.

Our last panel is Mr. Richard Krimm, Acting Associate Director, FEMA, and Dr. Edward Dickey, Acting Assistant Secretary of the Army for Civil Works.

Mr. Krimm, why don't you proceed?

#### STATEMENT OF RICHARD KRIMM, ACTING ASSOCIATE DIRECTOR, FEDERAL EMERGENCY MANAGEMENT AGENCY

Mr. KRIMM. Thank you, Senator Baucus.

I have with me today, Dennis Kwiatkowski who is the Assistant Associate Director for our Disaster Assistance Programs.

Director Witt was very disappointed not to be able to be here today but he was out of town. There have been a lot of complimentary things said about him and I want to mention that in the 14-year history of FEMA, he is the first professional emergency manager we've ever had as our director. We all think he is doing a great job.

Senator BAUCUS. I want to say too that I had some direct experience with FEMA a couple of years ago when there was a major flood in Montana and I was very impressed with FEMA's response at that time.

Mr. KRIMM. Thank you very much.

I'm going to submit my statement for the record but I'd like to just talk a little bit about mitigation and I'll try to do it in 5 minutes.

Mitigation includes those actions or programs that will reduce or eliminate loss of life, injury and property damage from future natural disasters. For those responsible for making investments in mitigation, governors, mayors, county commissioners, the political support often isn't there or the short-term economic cost can't be justified.

We are in a unique situation right now. The political support is there and the economic costs are justified. The opportunity is at hand to reduce significantly the number of people at risk from

flooding in the United States. To do this, the administration and Congress must lead the way. As impacts of the flooding become evident, the administration, at the direction of President Clinton, immediately began a coordinated effort to plan for the long-term recovery of the Midwest. The interagency effort is addressing the complex economic and social issues resulting from the unprecedented flooding in the Midwest, issues such as restoring economic vitality, agricultural production and recovery, appropriate use of the flood plain and other environmental and health concerns.

Under the direction of the White House, the approach has been to take a broad look at Federal programs across agency lines and design innovative strategies to meet the needs of the citizens of the Midwest. This approach will allow us to apply limited resources in the most effective and efficient manner. In doing so, we can be responsive to the problems facing the Midwest as they rebuild their communities, but also to look forward to long-term, economic, social and environmental goals.

The goal of this Administration, the goal of President Clinton, is to help the people of the Midwest rebuild their lives and to reduce the number of people and communities at risk from future flooding. This will not be an easy task but the administration is committed to it and we seek your support.

I would like to share with you some of the concerns that we are facing. First, we have to reexamine Federal funding programs to State and local governments after a disaster, and more critically, how these funds can be used for hazard mitigation programs after a disaster for programs such as community buyouts or elevation of flood damaged structures.

Each department and agency, including FEMA, Agriculture, Interior, and the Corps of Engineers, just to name a few, have different programs to provide support to State and local governments. Each of these programs have different rules on who, how and what those programs can be used for. This situation creates confusion and often results in frustration on the part of local officials and disaster victims. This serves to limit their usefulness in a combined and coordinated mitigation recovery effort such as we have in the Midwest.

While we did apply innovative approaches in the Midwest, such as using the Individual and Family Grant Program to assist in elevation of structures, this was a short-term solution. We need to establish a long-term, flexible system to support mitigation activities. We need to provide support for nonstructural flood control and flood plain management programs so we can provide communities viable alternatives to rebuilding the levees.

The Federal Government also needs to work with State and local governments and the Congress to design a comprehensive program for community buyout and relocation in high risk areas. In this same context, we need to take a broad look at our Federal policies on levee repair and reconstruction. The issue of how to deal with damaged and failed levees became critical because of the widespread overtopping and the failure of urban and agricultural levees. Primary responsibility for levee work falls on the Army Corps of Engineers and the Soil Conservation Service. However, FEMA does have a limited role.

The three Federal agencies have overlapping authority to repair levees. Due to this problem, FEMA, the Corps and the Soil Conservation Service coordinated a Federal policy to clarify each agency's responsibilities as part of a coordinated Federal response. When levees are not eligible for repair under the authority of the Corps and the Soil Conservation Service, FEMA has the authority to provide assistance in those cases where immediate threats of life or critical infrastructure are evident.

For example, in Des Moines, IA, we provided assistance to repair the levee that protects the city's water treatment plant. It is important to recognize, however, that if a request is denied by the Corps or by the Soil Conservation Service because the levee did not meet specific criteria for operation and maintenance, FEMA will not fund the permanent repair either, except in cases where the levee protects critical infrastructure. The purpose of this policy is to ensure that the purposes of the other programs are not undermined. If the local owner of a levee could ignore the requirements for operation and maintenance during good times, and then come to FEMA when a disaster occurs, there would be little incentive to keep the levees in repair. The result would be the poorly maintained levees would fail during smaller declared floods and much destruction would occur to property.

In addition, we have implemented a coordinated policy as part of the administration's interagency effort which states that nonstructural alternatives to repairing levees should be offered to levee owners. The policy is also relevant to agencies such as the Environmental Protection Agency and the Fish and Wildlife Service to play a role in the environmental review of levee restoration. This is working well in the disaster.

From FEMA's perspective, we need to better define the policies of the post-flood environment. We need to consider alternatives for balancing community flood protection such as levee restoration with mitigation strategies such as buyouts and other environmental considerations.

These issues are under active review by the administration. This review will occur with extensive input from the States and close cooperation with Congress in setting future direction.

Another important issue that we face in the Midwest which has nationwide implications involves the availability of Federal funding for structural elevation in flood hazard areas. When a community joins the National Flood Insurance Program, it agrees to enforce a flood plain management ordinance in exchange for the availability of Federal flood insurance throughout the community. This ordinance requires that any structure that is substantially damaged after a flood must be elevated or flood-proofed to at least a 100-year flood level. This provision is critical to our efforts to reduce the numbers of buildings subject to flood damage. Unfortunately, the cost of elevation is not covered under flood insurance policies.

Senator BAUCUS. I'd ask you to summarize as best you can.

Mr. KRIMM. I'm just going to say that one of the most effective mitigation tools we have is public acquisition of flood-damaged property for open space. We firmly support the basic concepts embodied in Senate 14-86. We support increasing the Federal share to



75 percent. We also support raising the cap for available funds to 15 percent of FEMA assistance. For the Midwest, this will allow us to make available \$105 million to the 9 States instead of \$24 million.

We do have some suggestions on Senate 14-86 which we believe will enhance its positive impact on mitigation and the Nation. The Administration recommends deletion of Subsections (a) and (c) of Section 3 which are applicable only to the current flooding in the Midwest. We also propose a third condition for acquisition and relocation be added. This condition would deny future Federal disaster assistance or facilities in areas acquired under the program.

Senator BAUCUS. I really am going to have to ask you to conclude.

Mr. KRIMM. In closing, I would say we support mitigation.

Senator BAUCUS. Thank you very much.

Dr. Dickey?

**STATEMENT OF DR. G. EDWARD DICKEY, ACTING ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS, U.S. DEPARTMENT OF THE ARMY, ACCOMPANIED BY LIEUTENANT GENERAL ARTHUR WILLIAMS, CHIEF OF ENGINEERS**

Dr. DICKEY. Mr. Chairman, it's a pleasure to be here and I'm pleased to be accompanied by Lt. General Arthur Williams, Chief of Engineers, who has personally played an important role in the Corps recovery operations.

I'm not going to summarize my statement, I'm just going to make a couple of observations because I know you want to get on with the questions.

First of all, I would emphasize that this was a very large flood, an unusual flood not only in its magnitude but in its duration. What we do in the future should not be totally dominated by this event. We need to take into account the roles and values of flood plains for more ordinary events under more ordinary circumstances. Any review of our floodplain policies and flood control policies needs to keep in mind not only the role of the flood plains but also how public values have changed since the great flood control systems of the past were constructed.

Let me point out also that in this region in the Missouri and in the upper Mississippi, the Corps has constructed significant flood control infrastructure, both Federal levees and of course, reservoirs. Those reservoirs and levees contributed importantly to the reduction of flood damages during this flood. Despite the construction of Federal works, we also should recognize the vast majority of levees in the upper Mississippi and the Missouri are nonfederally constructed facilities.

As we look toward the restoration of those facilities, there's been considerable controversy about the Corps' eligibility criteria. I just want to say a word about that. In 1986, the Corps recognized that we were expending substantial amounts of money on restoration of levees which were not properly maintained, or were not built to any particular design standard. So in 1986, we established a formal program where to be eligible for Corps of Engineers assistance under Public Laws 84-99, a levee had to be built to a certain mini-

mum design standard, had to be regularly inspected by the Corps to assure that it was regularly maintained and properly maintained, and finally, that there was public sponsorship to ensure that if there was Federal assistance, that maintenance would continue into the future.

The Corps did a very thorough job of informing levee owners of this program and the need to become enrolled in it if you were to be eligible in the future for Federal assistance. Indeed, a number of levee districts have participated and ensured that their levees are maintained appropriately. Accordingly, we have worked very hard to complete the kinds of reviews and so forth that we do so that we can get our restoration work underway for those nonfederally constructed levees and of course, we are also proceeding with restoration of the federally constructed levees which are also maintained by local interests.

In the longer term, it is clear that it is important and valuable for us as a Nation to review our flood plain policies. We've heard a lot of talk today about the need for higher levels of protection. We've also heard about the importance of natural flood plain values, environmental values associated with flood plains. We've also heard some conversations about whether levees contributed to flooding or whatever. These issues need to be thoroughly reviewed by the Federal Government, by the affected States and thereby we as a Nation need to build a new consensus as to what should be our policies for our flood plain management and flood control in the Missouri and upper Mississippi River Basin.

To that end, Mr. Chairman, certainly the Department of the Army and the administration wants to work with this committee in charting that future direction.

Senator BAUCUS. Dr. Dickey, could you tell us whether there is now an updated needs assessment of the damage with respect to Corps dams? It is my understanding that the administration earlier in September assessed the damage at about \$150 million. Now that the waters have receded, the Corps is proceeding with a more accurate assessment of the damage? I'm told that it's now about \$70 million more.

Dr. DICKEY. With regard to the cost, the Public Law 84-99 costs, the cost to restore damaged levees with both the federally constructed and locally maintained ones and the nonfederally constructed and maintained ones, we obtained in the supplemental some \$120 million, plus an additional \$60 million in contingencies. We now believe that we will need on the order of another \$70 million, again our best estimate, to restore those levees, nonfederally maintained levees that are eligible for Federal assistance.

Senator BAUCUS. Is there some correlation here between federally constructed or federally operated on the one hand versus those that are not, a lot of damage incurred? What I'm trying to get at is whether the Federal standards do in fact result in less damage?

Dr. DICKEY. I think there are a couple of observations to be made there. Federally constructed levees are designed to a higher design standard than nonfederally constructed levees, and, indeed, hold up better, if you will. On the other hand, when they are damaged, they cost more to repair as well.

The issue is with regard to nonfederally constructed levees and the question of whether the damages are greater with those that are maintained appropriately and not. Frankly, it's very hard to discern after a flood how much of it is due to inadequate maintenance and how much of it is due to just the particular severity of the flood. It is very hard to sort that out analytically. The Chief of Engineers might care to comment on it.

General WILLIAMS. I'd like to make an addition to what has been said. During the course of this hearing, we've been talking about levees in general. Dr. Dickey has tried to point out the different types of levees, federally constructed, federally maintained and so forth. Many of the private levees that we saw on the news media and that were talked about today were privately constructed and are not currently eligible under the rules that we use right now for Public Laws 84-99. I would say that those private levees that I'm referring to did in fact serve the purpose for which they were designed. Many of those, the vast majority of them probably, were agricultural levees of various sorts of designs, various heights and throughout the years, for smaller floods, they've held up well apparently. The flood that we had before us was of such magnitude that once the water exceeded the design of those private levees, it went over the top.

Senator BAUCUS. So, are you saying they did a good job for lesser floods, but not a good job for a major flood? Does that not imply that the present categorization should be continued; that is for the privately constructed levees that do not meet Corps standards should be levees that still should not qualify for Federal assistance?

General WILLIAMS. I guess what I'm trying to say is that there are a lot of different types of levees that are built to different standards and many of them were damaged. We shouldn't try to categorize them all in one swoop and say that they weren't designed properly. Probably the vast majority of levees, regardless of who built them, probably held up for the design for which they were intended.

Senator BAUCUS. I appreciate that but let me ask a question along these lines of what do we do about those privately constructed, nondesign standard levees that essentially served the purpose for which they were designed but are no longer there or were breached or are in serious disrepair that are expensive to put back into repair? Dr. Dickey essentially said, as I understood him, that we should not go back and provide Federal funds for all those or any of them because there are communities that did provide up front money and did spend the money to build according to design standards and so forth. We want to maintain those incentives.

General WILLIAMS. Yes, I fully agree with that policy.

Senator BAUCUS. Some people say we should go back and restore these levees or repair them but maybe they should not be held to the requirement that separate restoration has to return to the same level only, that it can't go beyond, you can't use new technology, you can't use new procedures. I guess that applies a bit to FEMA in its operations as well as the Corps but what about the basic question that times have changed, we've got new technology and we can do a better job, so when we restore we should go beyond.



Dr. DICKEY. I would like to address that, Mr. Chairman. I believe it is appropriate, under the Public Law 84-99 program to do as we do and that is to restore a levee only to its original condition. It may be indeed wise and appropriate to modify that levee in some way but I believe that kind of conclusion should be based on some kind of a deliberate study which looks at a lot of alternatives and provides a full evaluation of the choices. That kind of evaluation is not consistent with an emergency program. I think here we are very much committed to restoring as quickly as we can. We've heard today the concern that we are not doing things as fast as many would like. I think the Corps has really done a remarkable job but nevertheless, it does take time to do these things, even the limited evaluation we do and the limited design that we do to get it back in place. To say that I want to look at a lot of alternatives again means delay and it also raises a lot more environmental and economic questions that I think bring it beyond the scope of 84-99.

Senator BAUCUS. Mr. Krimm, what about FEMA's responsibility, the restoration of bridges, highways, railroads and so forth. Do you agree with Dr. Dickey that this is an emergency and you should go back and help to get these bridges back in place as they were without looking at any designs?

Mr. KRIMM. By law, we pretty much have to restore things to what they were, but there are times when we can make improvements on it. On the levee situation, as I mentioned in my testimony, we really would not repair a levee unless it had been maintained to the Corps of Engineers' standards. The only time we would ever make an exception to that rule and restore the levee as close as we could to Corps of Engineers' standards is if there is a very important infrastructure that it's protecting or a very important road which might be the only road.

Senator BAUCUS. Mr. Grisboll's question.

Mr. KRIMM. I agree, that to me is the critical thing and we are currently working with 53 communities in the 9 States who were affected by the disaster. We are trying to combine funds, not only FEMA funds but also using HUD's community block development grant funds, in an attempt to get structures bought out of the flood plain. In addition, the SBA will provide low interest loans to people to move out of a flood hazard area.

Senator BAUCUS. Do you have enough authority, do you think, to consolidate some of it?

Mr. KRIMM. First of all, I would say we favor very much what is in Congressman Volkmer's bill and the one that Senator Harkin introduced in the Senate. We think this would be very, very helpful. Second, I think for the long term, yes, we would need greater flexibility and greater authority for funds and so forth to attempt a buyout program.

Senator BAUCUS. Does that apply to farmland too?

Mr. KRIMM. The Department of Agriculture really can do that. I believe that is under their jurisdiction. They do have programs where they can purchase some farmlands and they have a wetlands program where they can purchase land for wetlands.

Senator BAUCUS. What about this alphabet soup problem, a tragedy occurs and everything is happening all at once, you have to

deal with all these programs, agencies and so forth? They want a book, they say.

Mr. KRIMM. There have been books put out and I'll have to make sure people get them. One of the purposes of FEMA is to try to coordinate the efforts of all the Federal agencies.

Senator BAUCUS. Do they have a legitimate complaint, that's my question?

Mr. KRIMM. I think they do to some extent.

Senator BAUCUS. What's the solution to their complaint?

Mr. KRIMM. The solution is perhaps getting, and I don't want to sound self-serving, but giving more authority to FEMA and giving more dollars to FEMA in coordinating the efforts. What we do, the response works very well. We make mission assignments to various agencies. For example, when Des Moines, Iowa had the problem and lost their water supply, we mission-assigned the Corps of Engineers to bring in water equipment, whirlpools and so forth and within 24 hours of losing their water supply, we were there thanks to the Corps' help handing out water. So we do give these mission assignments to various Federal agencies to carry out in the response.

What we need to do is have a similar thing in the recovery effort. We should be able to say to HUD, for example, you've gotten \$200 million in community development block grant funds, these funds should go toward the buyout program. Under HUD's rules, that money goes to the State and local governments and it can be used for a variety of things. HUD is trying to cooperate with us but they are limited in what they can do.

Senator BAUCUS. Do you have authority with respect to clean up of the aftermath?

Mr. KRIMM. In the response than we do in the recovery. This would be helpful if we could have more authority in the recovery.

Senator BAUCUS. What about prepositioning authority? I understand that's a question?

Mr. KRIMM. Yes, and that's being recommended in legislation that we're proposing to amend the Stafford Act. I had an opinion from our general counsel that said we could do it but we should really seek legislative action to make sure we have the authority and clarify our actions as far as sending things in before the disaster is actually declared. It certainly has helped. Emily fortunately did not do a lot of damage but we did send things into North Carolina and the State was very willing to do that.

What we have right now too which is different from the past is our current Director is a former State Emergency Manager and he is very close to other State Emergency Managers, so he picks up the telephone and is able to get a lot accomplished that way in our working relationship with the States.

Senator BAUCUS. Dr. Dickey, you alluded to a study to try and figure out how to address this north of Cairo problem. Tell me more about that?

Dr. DICKEY. I think some of the witnesses certainly expressed the desire to review the flood control works in the upper Mississippi. There have been some bills introduced and the House is marking up one today. We've expressed our views on those bills.

The key message that we want to emphasize is the need to look broadly, to not just look at increasing structure protection, but rather to look at the full range of options and take into account not only the economic values but also the environmental values.

The Corps of Engineers has provided \$2 million for reconnaissance level studies in the Energy and Water Development Appropriations Act for this year so we will begin two reconnaissance level studies. One thing this committee could do would be to give us further guidance with regard to the nature of those studies, kind of a charter, if you will. We have authority to do them now, I'm just saying a very modern authority could be very useful.

Senator BAUCUS. Mr. Krimm, you heard the Des Moines Mayor say they're working with four sets of FEMA people, of inspectors. Is that a turnover problem?

Mr. KRIMM. One of the problems that you have is people come in and they work 24 hours and they kind of get worn out, so they have to be replaced.

Senator BAUCUS. I understand the problem, but the fourth set?

Mr. KRIMM. I'm not sure, I'd have to check that we're on our fourth set, but I was a little bit surprised at some of the comments because we make an estimate, a disaster survey report is an estimate, and if more money is spent than above the estimate within reason, we reimburse the State for those additional funds. In other words, if the estimate is to repair a structure at \$500,000 and it ends up being \$600,000, we'll look at that but usually we will reimburse the State and they reimburse.

Senator BAUCUS. What about the problem Senator Harkin alluded to, about a month or two delay in dollars?

Mr. KRIMM. At the State. We have offered the State assistance and so forth. We can pay their administrative expenses, reimburse them for their administrative expenses.

Senator BAUCUS. Is the delay in reimbursement?

Mr. KRIMM. No, what I'm saying is they are saying the problem is they don't have enough people to process and get these funds out. We contacted the State and said we'll be glad to help you get additional people and we can reimburse you for some of this work to bring in additional people. When I get back, I'm going to call the State Director and find out if we can't do something about expediting.

Senator BAUCUS. Do you have authority to go in, unrelated to flood, and repair?

Dr. DICKEY. No, we do not have an authority absent what the Corps would call a design deficiency, the authority to modify projects or changes that occurred either because of new physical changes or new economic conditions. We do have an authority to make modifications for environmental purposes, Section 1135 authority, but we don't have an authority to modify our projects no matter how meritorious, if you will, or justified to accommodate a new condition.

Senator BAUCUS. Don't have authority to improve?

Dr. DICKEY. We don't have authority to improve, and also there is a funding question.

Senator BAUCUS. You have authority to repair?



Dr. DICKEY. We have authority to repair but not to improve or modify, extend in this case, or put a gate in or something.

Senator BAUCUS. Any other points you want to make?

Mr. KRIMM. I'd only like to emphasize the importance of mitigation. I think all of the panels have mentioned it but it is really important.

Senator BAUCUS. General or Dr. Dickey?

General WILLIAMS. There were a lot of commendations made here today by various folks and we appreciate that. I'll get that back to the folks that have been working on the response and helping with the flood and so forth. I've taken a lot of copious notes from all the people who appeared before you today and I'll follow up with some follow-up actions along that line.

We are committed to doing all the things we have the authority to do and we are trying to expedite those things that we need to do. There are many efforts ongoing trying to address the concerns brought before your committee today.

Senator BAUCUS. I think you are all doing a pretty good job, in fact, better than a pretty good job; you're doing a great job. I think we should make every effort we can so long as we don't get in the way of ourselves to get the job done. You've done a great job and we appreciate it. Thanks for what you're doing.

The hearing is adjourned.

[Whereupon, at 12:56 p.m., the committee was adjourned, to reconvene at the call of the Chair.]

#### STATEMENTS SUBMITTED FOR THE RECORD

##### PREPARED STATEMENT OF SENATOR HARKIN, U.S. SENATOR FROM THE STATE OF IOWA

Mr. Chairman, I appreciate your holding this hearing on the Midwest Floods focusing on the Corps of Engineers and FEMA which are within the committee's jurisdiction.

I believe that the Committee needs to look at two distinct concerns. First, to oversee what is being done to provide adequate assistance to those involved in this disaster including individuals, businesses and governmental units. Of particular concern is the quick repair of levees. Because of the still saturated soil, additional significant flooding is far more likely next year. Second, to learn from this disaster as the Committee develops further legislation. We need to look at a continuum of activities from the preflood planning, the flood fight activities, meeting the immediate post flood needs, the long term repair process and finally the structural changes that can be done to limit the losses from future similar disasters in the area.

Although the level of flooding was huge, during the flood fight, the Army Corps of Engineers officials from the National office down to the district office, coordinating with the National Guard, local officials and thousands of volunteers did an incredible job of minimizing the damage from the flood.

The work done by the Corps and the Iowa National Guard, in Des Moines to bring water and sanitary facilities to 250,000 people was remarkable. Never in this country's history has a city so large lost its water supply. Within hours water stations where people could pick up potable water were organized and portable restrooms set up. And water treatment plants were brought in so our hospitals could continue to function.

The loss of the Des Moines Water Works, the considerable loss to the economy of the city, and the many flood fights around the State to save water plants, waste water treatment plants demonstrates to the need to fully protect crucial infrastructure. We need to find ways to make our infrastructure less brittle in times of disaster.

The Corps was an integral part of this battle. In Spirit Lake they designed an emergency release to allow the overflow from the lake to drop more quickly. I believe this is one of the largest emergency construction efforts ever undertaken by

the Corps. If this work had not been done, considerable damage would have followed.

In Ottumwa and Iowa City, dikes were built around water treatment plants to prevent them from following Des Moines' example.

I feel the Army Corps did remarkable emergency work. However, I feel we do need to assess the overall management of the reservoirs controlled by the Army Corps to determine if there is a better way to control water flowage. It is a delicate balance to know when to release water from a reservoir and when to hold it back, and hindsight is always 20-20. I am concerned about the need to lower lake levels over this coming winter in order to be prepared for next spring. With saturated ground throughout the area, more flooding is predicted.

Another long term difficulty is the continual silting of the reservoirs which needs to be reduced. The Corps has been cooperating with the Soil Conservation Service on some research projects in this area.

A key problem in Iowa gas needed levees that were not in place.

Major flooding occurred in West Des Moines because the project which was authorized in 1986 was just approaching construction stage when the flood hit. Congress has appropriated all of the funds the Corps indicated they could use for the project design. And, frankly on some occasions increased the sums to try to accelerate construction. I understand the need to do things correctly including the design, environmental analysis - and local public input. But, the lengthy process, including the of checking and rechecking between the district, division and national levels of the Corps needs to be streamlined.

The flood showed two flaws in the Des Moines flood control project authorized in 1944. One resulted in very considerable damage: 175 businesses and 5000 jobs were affected with a physical and economic injury loss estimated at \$117 million. The problem is the lack of a closure gate over a railroad track. The other, a levee, was saved from collapsing only by emergency efforts by the City and the Corps.

Although these problems are highlighted, the Corps cannot proceed because, unless it is an emergency, there is no legal authority for them to eliminate an "insufficiency" in an already built flood control project. I would urge that the Committee deal with this particular situation, providing the needed authority for the Corps to act. And then, consider legislation which would allow the Corps to provide the general authority to needed to cover similar deficiencies, perhaps along the lines of Section 205 authority which allows the Corps to undertake projects of less than \$5 million.

The Mayor of Keokuk has a similar problem. A large number of jobs are at stake, dependent upon improving the ability of several major manufacturers being able to resist future flooding. There is discussion of the Corps undertaking a section 205 project. But, under current policies, construction might not be completed for eight years or more. We need to be able to design and move to construction on projects involving large numbers of jobs far more quickly.

#### FEMA CONCERNS

FEMA's staff from the Administrator on down has continually put in very long hours trying to move aid to individuals and communities. And, in general, they have done very well.

I have concerns about the Individual and Family Grant program. Handing off of applicants from Federal jurisdiction to State causes a delay in processing. I would like to see an accord between FEMA and each State agreed upon prior to any disaster as to who will handle the program's paperwork. For example, in Iowa, FEMA schedules the inspection for an individual home, that paperwork is then sent to Kansas City for processing, a letter is generated stating what the award will be, but is sent to the State of Iowa for review, rather than the applicant. The State decides if the award is appropriate and checks to make sure all paperwork is with the claim. It seems to me that consolidating this procedure under one agency would simplify the process and speed funds to those in need.

Another key need is to relocate people whose homes have been extensively damaged and who can expect to be flooded again. We need to find ways to allow people with limited financial resources to move from homes that suffered considerable damage. This year, the President proposed and the Congress agreed to providing \$200 million in Community Development Block Grant funds and \$50 million in HOME funds. A considerable portion of those funds will be moved to relocate families and in a few cases, whole communities. Clearly, it does not pay to rebuild only to be washed away one year or a decade later.

FEMA provides some support to communities through the Hazard Mitigation Program. Each State can receive up to 10 percent of the cost of permanent government

facilities replaced by FEMA for Hazard Mitigation if those funds are matched on an equal basis by the State or local government. Congressman Volkmer sponsored legislation in the House that would increase the funding to 15 percent of the facilities replaced and reduced the match to 25 percent. I sponsored that legislation in the Senate. And, it has been cosponsored by all of the Senators at the table.

Frankly, if anything, I believe that the additional amount of assistance should be far more. I am strongly supportive of the amendment proposed by Majority Leader Gephardt to increase the Federal match to include 15 percent of both public and individual assistance grants.

I also believe that the Community Loan Program should be extended. Many local governments have seen substantial losses of revenue because buildings no longer exist and citizens will be deferring their property taxes. Historically, this has not been a large program. Except for \$90 million provided to the Virgin Islands in 1990, the total amount of funds loaned has only been \$60 million since 1976. But, it can be crucial for some hard hit cities, counties and other local governments to get on their feet.

Because of the long duration of this disaster, it has been particularly difficult for FEMA to schedule inspections for both public facilities and individual homes. Even though it would be more costly to the Federal Government, Perhaps a plan could be implemented that would allow for a sufficient number of inspectors in cases of major disasters by training Federal employees in other specified agencies. They could then be detailed to this function for the necessary period of time. One of the complaints often heard by my offices was "the inspector was only here for 10 minutes." I understand that an inspector needs to be efficient when doing their job, but training to sensitize them to the stress these families are going through would be helpful. When public facilities are being inspected a representative from the local entity walks through the examination with the inspector and is then able to add comments before the paperwork is turned in. A similar process could be done for private homes.

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PREPARED STATEMENT OF ALLEN D. GROSBOLL, EXECUTIVE ASSISTANT TO THE  
GOVERNOR, ILLINOIS FLOOD RECOVERY TASK FORCE

Mr. Chairman and ladies and gentlemen, thank you for the opportunity to appear here today and address issues related to the Great Flood of 1993. On behalf of Governor Jim Edgar and the citizens of Illinois, I wish to give special attention to—the central issue—hazard mitigation. In the early weeks and months of the flooding, our efforts were directed at preventing property damage and protecting lives. Then our focus shifted to helping feed, clothe, and house victims. Now, we need to look to preventive measures so that the problems of 1993 never happen again.

The Great Flood of '93 represents the worst disaster in Illinois during the Twentieth Century. Sixteen thousand citizens were forced out of their homes, 872,000 acres of farm land were flooded, entire communities were inundated, hundreds of small businesses were damaged or destroyed, and, overall, millions of dollars in personal property were lost.

The full resources of the State of Illinois were used to fight the flood in the height of the disaster. Nearly 9,000 National Guardsmen were activated and hundreds of prisoners were used in sandbagging and clean up efforts. Tens of millions of sand bags were used and millions of gallons of clean, safe water were distributed to our citizens.

In Illinois, Governor Edgar established our Flood Recovery Task Force, consisting of representatives of all State agencies involved in the recovery. We have invited representatives of our Regional Planning Commissions to participate. Additionally, we have asked employees of the various Federal agencies to join us. I have been designated by the Governor as the State's flood response coordinator and serve as chairman of the task force. We meet weekly and share information about each agency's problems and progress. This structure has been very effective and avoids duplication.

And just as our fill resources have been dedicated to fighting the flood, today we are committing those same resources to recover from the flood. This has been a difficult, painful experience, but it also provides opportunities—opportunities to employ the knowledge we gained from the flooding in an effort to reduce the impact it can have in the future. We will lose this opportunity, again, and endure significant hardship in the future, if we respond to the flood by merely repairing and replacing damaged facilities without giving consideration to mitigation.



There are three words worth emphasizing today. First, is "mitigation" and prevention of future tragedies. Second, is "flexibility" so that we can maximize our resources to get the job done. Finally, I believe we need to underscore the word "focus."

Concerning our mitigation efforts, Mr. Chairman, I have spent hundreds of hours in the last few months with Federal and State officials, municipal and county leaders, and private citizens. There is a clear consensus that we should be encouraging flood plain communities to move from the threatened areas. And similarly there is a sense we should be considering the buyout of critical levee districts and farm lands that are particularly flood-prone.

Although we believe in mitigation and there is considerable support for buy-outs and community relocations, our Federal policies do not in act serve to encourage these outcomes. In fact, I believe we actually have disincentives in Federal law. Federal requirements, hoops, and time-lag all join together to make mitigation an unappealing and often unavailable option for flood victims.

Various Federal finds are available at 100 percent, 90 percent, 80 percent and 75 percent matching ratios. But currently, the Stafford Act provides only a 50 percent match for mitigation activities. We understand Congress is considering raising that to 75 percent and we enthusiastically support any such change. Rather than solely discussing relaxing some of the limitations on mitigation finds, we should also be asking what is the function and the effect of these restrictions in the first place. Should we not be discussing how to increase incentives for communities to move instead of merely raising existing limitations?

Illinois flood communities are receiving 90 percent Federal reimbursement in Public Assistance finds to repair or replace infrastructure facilities affected by the flood. If a community wants to move out of the flood plain to high ground, one would assume the Public Assistance finds could be applied to new facilities. After all, this would be consistent with our consensus that such moves are good. For three months, officials from FEMA have explained that the law provides a 10 percent penalty of the available Public Assistance dollars. Recently, we have been told that FEMA could waive the 10 percent penalty provision. We need clarification of this issue. There should be no penalty or other disincentive for communities trying to do the right thing.

I also wish to emphasize the need for flexibility. Try to stand in the shoes of Mayor Knobloch of Valmeyer or Mayor Nairn of Grafton. They have lost much of their respective communities, their financial base is ruined and they are dealing with devastated constituencies looking for simple, quick solutions. In the face of these problems, they are dealing with a dozen or more Federal agencies, each with different programs, rules and restrictions.

The communities are facing totally new challenges and the Federal agencies are sincerely trying to match their programs to these local needs. We need to stress to the Federal agencies the overriding desire to get the job done. We may need program flexibility, rule waivers and favorable interpretations of procedures if we are to succeed.

Finally, I want to speak about our focus. If we want communities moved, let's be clear—authorize an agency to work with communities, give that agency a specific mission, provide a finding line-item and then hold that agency accountable. Similarly, we need to do the same thing for farm land and levee districts in the flood plain.

When the six billion dollar flood package was passed by the Congress and signed by the President, it included finds for many agencies to carry out chores related to flood recovery. But I don't believe any single Federal agency was specifically directed to move communities nor was a significant portion of the budget segmented specifically for this chore. Also, no specific agency was charged with responsibility to buy out levee districts and no line item was established to fund buyouts of farm land.

We do have Federal agencies with dollars and they are offering to help communities move. We appreciate these agencies' efforts a great deal, and this commentary is not a criticism of them. Rather, it is my point that these agencies—have program requirements and hoops for communities to go through that have nothing to do with the flood.

For example, EDA has \$200 million available to help communities. But a community wanting to move must prove that the EDA finds will be used to save jobs. Why create that hoop? Let's just be direct about this and say finds are available to help communities move because we want them to move—not because we will save jobs. This example is typical of the kind of rules and hoops associated with community efforts to obtain flood mitigation finds.

It is not my intention to criticize the conduct of any individual or agency. Generally, my experiences with FEMA and others have been positive. There are, however, systematic and statutory changes that could place more emphasis on mitigation and help us in the months ahead. We must be clear that the Congress wants communities moved and mitigation measures funded. We must be flexible, so as not to stymie progress or send mixed messages. And we must focus our resources on getting the job done.

Let me close by expressing Governor Edgar's appreciation for the Congress' support for the Midwestern States ravaged by. The Congress moved quickly and you substantially increased the finds in the flood package. Thank you for your help and thank you for taking time today to consider ways to improve our flood fighting efforts.

PREPARED STATEMENT OF DENNIS M. KNOBLOCH, MAYOR, VALMEYER, ILLINOIS

Good Morning, Mr. Chairman and Members of the Committee. I am honored to be allowed to present to you the views of a small Midwestern town that has been drastically affected by this summer's record flooding.

Valmeyer is located in southwestern Illinois, about 3 miles east of the Mississippi River. It is nestled close to the bluffs and is surrounded by 55,000 acres of rich river bottom farm ground. Principal flooding problems occurred in our area in 1943, 1944 and 1947. Damages in 1947 were extensive due to severe winds during the highest river stages. Levees were constructed by the Army Corps of Engineers between that time and 1950 and have successfully protected our area until August of this year.

The local citizens fought valiantly with the assistance of countless volunteers. Monitoring of sand boils and 24-hour levee patrols began in early July and efforts were stepped up as the river level steadily increased. On August 1, we watched in shock and disbelief as many of you did as the levee gave way near Columbia and swept away complete farmsteads in its path. Within 18 hours the water overtopped a flank levee protecting our town and by 4:00 a.m. on Monday, August 2, water made its way through Valmeyer. The water rapidly inundated our town's 350 structures, eventually to leave only 8 dry. Water levels reached 16 feet, which when combined with current and mud, reduced 80 percent of our town's structures to worthless shells.

The Army Corps of Engineers was on hand throughout our floodfight. Due to the scale of this event, they weren't always able to supply the manpower necessary to fully assess our immediate needs. Efforts which could possibly have saved Valmeyer were not pursued and those same techniques were later used to save the town of Prairie du Rocher. We are appreciative of the efforts of the Army Corps in erecting a temporary dike around our levee breach. For more than two months, water flowed freely through our town until this work was completed the second week in October. This temporary repair and the anticipated permanent repairs are essential to restore our county's deflated agricultural economy.

The Federal Emergency Management Agency has been extremely helpful during this crisis. 900 Valmeyer residents were forced from their homes in early August, and it is due to the efforts of FEMA, through rental subsidies and mobile homes, that most of these people now have a temporary roof over their heads. Not helpful, however, was the fact that local officials as well as residents found it difficult to get consistent answers.

As the water slowly started to recede, it was evident that a major portion of our town had sustained substantial damage. The only option for most people would be relocation, either at the individual's option or as an organized, united effort. Discussions with FEMA yielded unsatisfactory responses. A project this size had never been attempted before. According to historical data, a relocation effort such as this was predicted to take 5-10 years. By that time our residents would be dispersed like dandelion seeds in the wind. This was not acceptable to us, so we took matters into our own hands. We could not accept the death of our community! With little or no technical assistance from the Federal Agencies, we began our own relocation efforts. Committees comprised of town residents were formed and with our Regional Planning Commission serving in an Advisory and Resource capacity, weekly meetings began in early October. A preliminary, but highly detailed town plan and accompanying course of action will be presented to our entire community on November 10. We have been able to secure an option on a 500 acre tract of land one mile east of our current town and 350 feet higher in elevation atop a bluff. Our plan calls for the sale of residential lots by December 15, with construction starts as early as next summer. The community will include our K-12 school district, churches, businesses

and industries, park and residential areas. As I speak, construction has begun for one of our industries, a printing company from our town that employs 90 people.

The planning efforts for the relocation of our town to a non-flood zone have been therapeutic for Valmeyer residents. Their focus has changed from the summer's devastation to working to help shape their futures. We are sympathetic to the hundreds of smaller communities who are waiting for guidance from the Government to begin such efforts, because until they do, they will continue to flounder in their misfortune.

We are by no means looking to take a "free ride" at the Government's expense. Governor Edgar's office and the affiliated State agencies have been particularly helpful to us in our efforts. If Valmeyer, however, is to begin its "new life" as an economically sound, environmentally clean and enterprise healthy community, we will need some assistance from the Federal Government. Particularly important is a timely response to the financial requirements of the FEMA buyout program.

Please help us help ourselves!

On behalf of the Valmeyer area, thank you for giving me the opportunity to tell our story.

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PREPARED STATEMENT OF JOHN P. DORRIAN, MAYOR, DES MOINES, IOWA

MR. CHAIRMAN. My name is Pat Dorrian, and I am the Mayor of Des Moines, Iowa.

Thank you for the opportunity to address your committee to discuss the response and mitigation efforts of the Federal Emergency Management Agency and the Army Corps of Engineers.

As you are aware, the city of Des Moines sustained unprecedented flood damage on July 9, 1993. The Army Corps of Engineers and Federal Emergency Management Agency have responded within the purview of their standard operating procedures. Their personnel have been extremely courteous and informative; they have explained their regulations, authority, and procedures; and it is now November 9, and we have the following concerns:

First, the U.S. Army Corps of Engineers:

As you know, the Corps can undertake projects under three (3) different sections of authorization:

A. Large project with Congressional authorization and appropriation of funds. After some 20 years of planning and waiting for funding, we have been successful in fast-tracking a \$20-million flood-protection project—for which the first contract was let just last month.

However, we have continuing concern for Corps of Engineers policy and practice on our request for smaller projects.

Public Law 99 project funds are authorized for flood damage to existing flood-protection facilities or flood-protection facility deficiencies.

After post-flood damage assessment and several meetings with Corps personnel, we have been told that only two (2) small repair projects would be authorized and that any assessment or review of the levee system for additional deficiencies would have to go through the normal two- to six-year process.

The city has repeatedly attempted to get Corps authorization for a critical flood gate—which has now been determined by all parties to be the most important single deficiency in the entire levee system. Had such a gate been in place during the 1993 Flood, this estimated \$600,000 part of the flood protective system would have prevented a significant part of the estimated \$117.3-million of damage to the 175 businesses and disruption of the 5,200 employees who work in a major area of our near downtown area of the city.

This flood gate could be constructed by Public Law 99 funds but has been denied as eligible by the Washington Corps Headquarters. Construction of this gate closure must be accomplished as soon as possible, and we are requesting Public Law 99 funding.

And last, Section 205 Projects—which are less than \$5-million in cost.

Again, after several years, our city had such a project authorized and funds appropriated for bids to have been taken in September. Had this levee project been in place during the July flood, it would have overtopped. In recognizing the July flood in the computer model for a new design criteria, the Rock Island District held up the September project and will now redesign the project for a 1-foot to 3-foot higher levee section. All parties agree that design modifications will be minor but—because the new project will have to go to Corps Division and Washington Headquarter reviews—they indicate that new bids cannot be scheduled prior to July of 1994. This



red-tape procedure is just not acceptable. Design modifications should be delegated to the Rock Island District and bids scheduled in February at the latest so that the project can be basically in place prior to the 1994 flood season.

#### FEMA

In general, FEMA damage assessment inspectors have been responsive and easy to work with. However, with some 15-17 million dollars of damage to our infrastructure, we currently have identified 151 separate restoration projects.

Problems or concerns that we have with the FEMA public assistance program are as follows:

The city is currently dealing with the fourth separate group of inspectors—some of whom have come here from Alaska and Virginia. They have rotated every 3 to 4 weeks—which has made it difficult in getting damage assessments completed. New inspectors have to revisit all outstanding items.

Preliminary experience indicates that cost estimates are typically below actual repair costs that we will experience in our Midwest marketplace. This appears to be because:

FEMA uses a national computerized unit cost that is not region-sensitive.

When repairs are made, there typically are items of work encountered that were not anticipated in the preparation of the DSR. (Traffic control is common.)

In many cases it is not possible to make a good estimate until damage is uncovered and identified (as in sewer pipe ruptures).

In some cases DSRs are suspended until damage is repaired and costs known.

In other cases costs are assigned—which may be only a fraction of the final actual cost to restore.

These are all problems for DSRs less than \$42,000—where the FEMA estimate holds unless the city goes through the process of contesting the amount and getting approval for an amendment.

Because of the process of DSRs going through the State of Iowa to Washington, DC and back, we are disappointed in the turnaround time. We have just had returned to us—in the past two weeks—a group of some 100 DSRs that were prepared in July. Without knowledge of FEMA repair estimates of cost being reasonable, we are reluctant to take bids and schedule these repairs because of our inability to carry large construction contract obligations with available local funds.

In summary, because of standard operating procedures of both the Corps of Engineers and FEMA, we have only started flood-damage restoration—which will consist of limited 3 involvement of the Corps and, after some 4 months, only identifying damage and looking toward a long documentation-driven process by FEMA.

With the looming probability that, due to the unprecedented level of the ground water table, even "normal" levels of rainfall and snow melt will cause damaging flooding in the Spring of 1994, we are taking extraordinary steps to shore up and fortify Des Moines' levee system. Without waiting for FEMA and the Corps of Engineers to sort out the myriads of "red tape," we have initiated repairs and/or construction at four levee sites throughout our City.

While the Corps indicates that these repairs and enhancements are prudent, they have only recently indicated that two of the eight repairs will be approved. With the Corps "turndown," we are then directed to look to FEMA to assume the costs associated with the remaining repairs. Past practice calls for FEMA to shoulder the costs of such improvements once the Corps of Engineers has determined which costs fall under its jurisdiction.

However, we know that the Clinton Administration is rethinking past practices regarding levee construction and is looking at other ways to address flood management. We have heard James Witt, FEMA Administrator, indicate in a September speech to the Iowa League of Municipalities that "constructing levees will not be the answer." We know that Federal officials are currently debating the merits of a new levee policy. Those "debates" are slowing the Federal response to this emergency. We need Federal action that looks to how best to respond to the next emergency . . . not one that attempts to reset policy in the middle of an ongoing disaster. FEMA needs to assume responsibility for needed levee repairs not under Corps jurisdiction and authorize those repairs now.

Privately, FEMA field staff indicate they have been instructed not to authorize levee repairs beyond those assumed by the Corps of Engineers. We find this to be extremely foolish and shortsighted. We are taking action to mitigate potential loss should more flooding come next spring. We need assurances that the Federal Government will stop debating and shoulder its rightful responsibilities now. We are trusting that Federal officials will back up their words uttered many times in mid-July and provide quick action in November.

Within Iowa, we are taking the lead and working with Federal officials to forge a new, more effective Federal response to natural disasters. To date, we have been encouraged by much of what we've seen. However, in the matters which I've addressed today, we are trusting that those Federal officials who traveled to our beleaguered City in mid-July will back up their words with quick action now.

I would like to take this opportunity to thank President Clinton, Senator Tom Harkin, Senator Charles Grassley, Congressman Neal Smith, FEMA Director James Witt, and other Federal officials who visited Des Moines during and since the July flood. Their personal attention has helped us a great deal during a very trying time.

As a final note, I would like to briefly comment on the overall "delivery" of FEMA assistance. During the July 1993 flood, the City of Des Moines was in a state of crisis. Although we have extensive staff resources, including highly competent technical and managerial personnel, we found it difficult to obtain accurate information and guidance regarding FEMA programs and policies. Current information on FEMA's public and individual assistance programs would have helped those of us on the "firing line" deal with the crisis in a more effective manner. In addition, we found that what information was available to us was not in writing, and occasionally was different depending on which FEMA person was contacted. My point is not to criticize FEMA personnel—rather it is that a careful analysis needs to be undertaken as to how information on FEMA programs and policies is made available to local governments, particularly when the disaster is upon us. It is not enough to appropriate disaster relief funds. Every effort must be made to "deliver" this assistance as quickly as possible.

I would be pleased to make City of Des Moines staff available to this Committee and FEMA to help review and revise the "delivery system" for FEMA programs.

Thank you.

I would be happy to answer any questions you might have.

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#### PREPARED STATEMENT OF RONALD O. BRAMHALL, MAYOR, KEOKUK, IOWA

##### FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION

FEMA was very cooperative and an asset during our plight. The representative viewed the twenty two damage sites of city infrastructure, showed personnel exactly how to complete the required forms, discussed item eligibility, and conveyed a real concern for our situation.

##### CORPS OF ENGINEERS

The Corps of Engineers met with city personnel and affected industrial leaders immediately after the flooding had subsided. The personnel from the Corps of Engineers were knowledgeable in regards to the required time restraints, required studies, and funding authorities.

##### LONG TERM PROBLEMS

The long term problems can be divided into two main categories; transportation and flood protection. The city of Keokuk is served by two major highways: U.S. Highway 61 going North and South, and U.S. Highway 136 going East and West. U.S. Highway 61 South and U.S. Highway 136 West are combined for approximately ten miles in Missouri adjacent to the Iowa border.

U.S. Highway 136 entering Iowa and Keokuk from Missouri is a major problem area. The roadway at the Missouri border is closed when the Mississippi River stage is 18.5 feet. This is considerably less than a 100 year flood elevation. The Mississippi River stage at its peak this summer was 27.17 feet, therefore the approach to Iowa was submerged approximately 9 feet.

U.S. Highway 136 entering Iowa and Keokuk from Missouri is also a major problem area. The roadway, for its first time in history, was closed due to the flooding this summer. Closure of this highway immediately resulted in the closure of the Mississippi River bridge.

Railroads were forced to close when the Mississippi River elevation was 20.5 feet, thus there was no rail traffic to Keokuk and the only means of vehicular traffic to Keokuk was from the north. Raw materials became scarce and several industries not directly affected by flood waters were forced to close.

Industries directly affected by flood waters were forced to close when the Mississippi River elevation was 20.5 feet. Total damage estimated to the Hubinger Company, Keokuk Ferro-Sil, Iowa Gateway Terminal, Keokuk Steel Castings, Keokuk

Junction Railroad and the Burlington Northern Railroad Company ranges between \$60,000,000 and \$80,000,000.

The Keokuk Wastewater Treatment plant suffered the most serious damage in the entire State of Iowa and the total estimated damage for city infrastructure was \$1,225,000.

#### LONG TERM NEEDS

Simply stated, the long term needs are to raise the approach grades of U.S. Highway 136 entering Iowa from Missouri and Illinois, raising the grades of rails entering and exiting Iowa, and providing flood protection for industries adjacent to the Mississippi River.

The proximity of Keokuk to the Des Moines and Mississippi Rivers tends to create double problems. The series of dams and reservoirs on these rivers were constructed for river navigation and flood protection. It appears at times that recreational priorities are conflicting with its intended uses.

#### DURING THE FLOOD

During the flood a considerable amount of sandbagging was accomplished by local industries for their entities and by city personnel for the water treatment plant. The Keokuk Municipal Water Works purification plant came very close to being shut down. This would have completely demised the domestic water supply and greatly reduced the firefighting capabilities of the city.

The industries that were forced to close due to flooding had to temporarily lay off their employees. This was not only true for the industries that were directly affected by the flood waters, but also by the industries who depleted their raw material. This affected the support industries also; trucking, material suppliers, utilities, etc.

#### AFTER THE FLOOD

After the flood waters had subsided industry and city personnel began the clean-up process. The city of Keokuk will complete its cleanup and reconstruction during the summer and fall months of 1994. Industries are continuing their cleanup efforts and those will be completed during 1994.

The Illinois highway approach to Iowa was reopened in early September and the Missouri highway approach to Iowa was opened in late September. There are several bedroom communities located in Missouri and Illinois whose employment is located in Keokuk. These people were forced to take long detours to get to their place of employment.

It is interesting to note that during the flooding a trolley was set in place on top of the Keokuk dam and served as commuter service for the affected public. Rider-ship on the trolley was 3,000 to 4,000 daily.

The affected industries are now fully operational and all employees have been called back to work.

#### SOLUTIONS TO PROBLEM

The highway and rail approaches to the city of Keokuk from Illinois and Missouri can be greatly enhanced by the raising of elevations. This could be a cooperative effort by the Illinois and Missouri Departments of Transportation and the Federal Highway Administration. Any time there is a major Federal highway closed due to flooding events of less than the 100-year flood, serious flaws are very evident.

The biggest concern to the city of Keokuk is flood protection for industries located along the Mississippi River. It has been discussed of first providing flood protection for the city's wastewater treatment plant and the Hubinger Company and secondly providing flood protection for the remaining industries by extension of the first flood protection. The estimated cost of the first Improvement is \$10,000,000.

The Corps of Engineers was first approached on this during its initial meeting in September. Those involved with the Corps of Engineers stated that due to their guidelines the earliest that any construction activities could take place would be a minimum of 6 years. This was rather astounding given the severity and consequences that were being presented.

A prime example is the Hubinger Company. This company was purchased by The Roquette Company of France for approximately \$300,000,000 in 1991. The new company has already completed \$100,000,000 in expansion and will put into writing that it will complete another \$350,000,000 in expansion and modernization programs over a ten-year period. This is a \$750,000,000 investment.

The company uses 45 million bushels of corn annually. Given the corn production rates of 1993 this would sustain 450,000 acres of farm land within a 100 mile radius



of Keokuk. The average farm size for this area is 750 acres and the average farm family is 3 people. This then directly affects 1,800 individuals, not including all of the support entities.

The Roquette Company in its expansion and value-added modernization program will be a single-source supplier for their commodities in the Western Hemisphere. Therefore, the situation not only has local and regional impacts but will also have global effects.

The city of Keokuk recently bonded \$4,000,000 for an industrial access roadway to this area. The bonds will be paid from a special Tax Increment Financing District of which Hubinger is a major player. While the bonding will not directly affect the taxpayers of Keokuk, it does affect the bonding capacity of the city. Due to the recent flooding the Moody's bond rating for the city of Keokuk fell from A+ to A. This fact will not enhance future bonding by the city. The city's remaining bonding capacity is \$7,000,000. I can not recommend to the city that even a small portion of the capacity be used for flood protection, considering the amount of unfunded State and Federal mandates. It is therefore quite imperative that other sources of funding be available to provide flood protection for the affected industries.

As you can summarize from this letter the flooding has caused a wide ranging ripple effect on numerous entities within the locale and region, and could eventually have global effects. We are asking for your support and enthusiasm in providing a means or method of providing funding for the flood protection that is necessary to maintain and enhance the local, regional, and global economy.

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## PREPARED STATEMENT OF CHARLES KRUSE, PRESIDENT, MISSOURI FARM BUREAU

### INTRODUCTION

Mr. Chairman and Members of the Committee, my name is Charles Kruse. I am a farmer from southeast Missouri and President of the Missouri Farm Bureau Federation—a general farm organization representing over 78,000 families in Missouri.

Thank you for the opportunity to outline for you today the tremendous impact the Flood of '93 had on farmers, agribusiness and rural communities in Missouri.

We appreciate this committee's work in continuing to gather information and explore public policy options relating to this summer's disastrous midwest flood. We found that public concern and interest dropped dramatically when the networks evening news anchors turned their attention elsewhere and it is encouraging to realize that this committee recognizes that the flood disaster hasn't magically cured itself just because waters have receded. In fact, the true extent of the flood's devastation is just now being accurately compiled and analyzed. I am pleased to appear before you today along with Abner Womack, the Co-Director of the Food and Agricultural Policy Research Institute (FAPRI). FAPRI is a joint economic analysis program between the University of Missouri and Iowa State University. Abner and his staff are to be congratulated for the outstanding job they have done in helping to pull together the economic impacts of the flood.

### AGRICULTURAL LOSSES

Agricultural losses to crops, machinery, buildings and livestock are extensive. Crop losses alone have exceeded \$250 million on approximately 1.3 million acres. There have also been significant damages to agricultural infrastructures such as levees, ditches, roads and bridges.

Agriculture is a vital component of Missouri's general economy. Losses in the agricultural economy ripple through many different sectors of the State's economy. University of Missouri agricultural economist Dr. Curtis Braschler has estimated that existing crop losses will actually result in a reduction in the State's total industry output of more than \$500 million. A reduction of this magnitude translates into a possible loss of more than 7,000 jobs Statewide.

The Soil Conservation Service in Missouri has estimated that 60 percent of the Missouri River floodplain, which is cropped, is sand covered (455,171 acres). Of this amount, 50 percent (227,585 acres) have sand deposits greater than 9 inches. A total of 546 million cubic yards of sand are estimated to have been deposited on land which had previously been cropped.

It is unlikely that land with heavy sand deposits will ever return to agricultural production. Landowners are put in a difficult position when the cost of reclamation exceeds the land's productive value. Some these landowners may be willing to participate in conservation programs being developed by the United States Department of Agriculture.

## LEVEE REPAIR

The U.S. Army Corps of Engineers has stated that there were approximately 465 levees on the Missouri River within the Kansas City District that were damaged by the flood. Under current Corps rules, only 110 are eligible for Federal repair assistance, leaving 355 levees without any Federal assistance.

Because of the severity and duration of the '93 flood, many of these levees will require extensive repairs.

There are far reaching and serious economic implications for not repairing these 355 levees. A recent FAPRI analysis revealed the following:

(1) Approximately 478,000 acres of cropland in 25 counties along the Missouri River would be at risk if the levees are not repaired. The value of the annual crop production on this land is \$96.2 million.

(2) For every \$100 reduction in the assessed value of this cropland there would be a \$2.4 million reduction in property tax collections in the 25 counties.

(3) A crop loss of \$96.2 million translates into a decrease of \$206 million in economic activity in Missouri and potential loss of more than 3,200 jobs State-wide.

The economic vitality of rural communities in Missouri is linked very directly to the farmland in their trade area. The potential loss of hundreds of Missouri River levees is not only a threat to the livelihood of hundreds of farm families, but it is also a serious threat to the broader rural communities in which farmers live and work.

What we need is a sensible, workable system of levees along our rivers, not a patchwork of substandard levees built to whatever flood protection and construction standards private landowners can afford. This can only realistically be accomplished with Federal cost share assistance.

We strongly support Senator Bond's efforts to provide an opportunity for the non-Federal levee districts to qualify for Federal assistance.

It is critical for Missouri's rural communities that our flood protection be rebuilt. If broken levees are not repaired, the flood damage of this past summer will occur with greater regularity. Ultimately we will find the decision not to help flood victims rebuild levees as a very short-sighted public policy with costly implications for landowners, rural communities, consumers and taxpayers.

PREPARED STATEMENT OF DR. ABNER WOMACK, CO-DIRECTOR, FOOD AND  
AGRICULTURAL POLICY RESEARCH INSTITUTE

INTRODUCTION

Thank you for the opportunity to appear before the Committee. The flood of 1993 has taken a tremendous toll on the Midwest and the Committee's continued interest is much appreciated. Although much of the flood water has receded, the Federal Government will play a critical role throughout the recovery period. This testimony summarizes the State's flood damages and the economics associated with levee repair.

Like our neighbors to the north and east, the devastation in Missouri has been widespread and the losses will be felt for years to come. Damage estimates are becoming more precise, yet the human toll of this natural disaster cannot be quantified.

The Food and Agricultural Policy Research Institute (FAPRI), comprised of the University of Missouri-Columbia and Iowa State University, was established in 1982 to conduct objective and timely economic outlook and analysis. Throughout the flooding, FAPRI has worked with Federal and State agencies to provide damage assessments, State and national commodity price forecasts, estimates of losses to Missouri's general economy, and farm-level economic impacts of Federal disaster assistance.

GENERAL FLOOD DAMAGES

Several Federal and State agencies, including the Federal and State Emergency Management Agencies continue to compile information on damages to homes, businesses, infrastructure, and public facilities. Final damage figures are not yet available, however several estimates have been released.

Missouri Governor Mel Carnahan has indicated that the State's losses outside of agriculture total \$1.25 billion. According to the State Emergency Management Agency, and State and local governments, preliminary damage estimates to public

facilities in 75 of Missouri's 114 counties total more than \$122 million (August 6, 1993). Missouri highways sustained approximately \$60 million in damage and 300 sections were closed for some period of time. Damages to sewer and water systems totaled almost \$24 million, water control facilities \$20 million, and losses to public buildings exceed \$3 million.

Almost 3,200 businesses in Missouri have suffered physical and/or economic damage in the 59 counties and 1 city designated before August 3, 1993. Over 46,000 employees lost wages for one or more days, due to flooding or flood-related problems. Approximately 25,000 employees were laid off.

As of August 6, over 15,000 homes in Missouri had been affected by the flood. Approximately 3,000 homes were destroyed and 12,000 damaged or inaccessible.

#### AGRICULTURAL LOSSES

Agricultural losses to crops, machinery, buildings and livestock are extensive. Crop losses alone have exceeded \$250 million on approximately 1.3 million acres. There have also been significant damages to agricultural infrastructure such as levees, ditches, roads and bridges.

Agriculture is a vital component of Missouri's general economy. Losses in the agricultural economy ripple through many different sectors of the State's economy. University of Missouri agricultural economist Dr. Curtis Braschler has estimated that existing crop losses will actually result in a reduction in the State's total industry output of more than \$500 million. A reduction of this magnitude translates into a possible loss of more than 7,000 jobs Statewide.

The Soil Conservation Service in Missouri has estimated that 60 percent of the Missouri River floodplain which is cropped is sand covered (455,171 acres). Of this amount, 50 percent (227,585 acres) have sand deposits greater than 9 inches. A total of 546 million cubic yards of sand are estimated to have been deposited on land which had previously been cropped.

It is unlikely that land with heavy sand deposits will ever return to agricultural production. Landowners are put in a difficult position when the cost of reclamation exceeds the land's productive value. Some of these landowners may be willing to participate in conservation programs being developed by the United States Department of Agriculture.

#### LEVEE REPAIR

Last month, University of Missouri Extension and FAPRI coordinated a series of nine informational meetings along the Missouri River. The programs were designed to provide flood victims with information on Federal land reclamation and levee repair programs. However, there was little discussion of any issue other than levee repair.

The U.S. Army Corps of Engineers has stated that there were approximately 465 levee breaks on the Missouri River within the Kansas City District. Of this amount, only 110 are currently eligible for Federal repair assistance. As you can imagine, this was a difficult message for the Corps representative to deliver to the 900 people who attended the meetings.

FAPRI was asked to quantify the economic implications of not repairing these 355 levees. Our analysis focused on the impacts at the producer, local, and State levels. The analysis found that:

(1) Approximately 478,000 acres of cropland in 25 counties along the Missouri River would be at risk if the levees are not repaired. The value of the annual crop production on this land is \$96.2 million.

(2) For every \$100 reduction in the assessed value of this cropland there would be a \$2.4 million reduction in property tax collections in the 25 counties.

(3) A crop loss of \$96.2 million translates into a decrease of \$208 million in economic activity in Missouri and potential loss of more than 3,200 jobs Statewide.

Thus, failure to repair damaged levees on the Missouri River is not exclusively an agricultural issue; it could impact the health and viability of many rural communities.

#### SUMMARY

For some Missourians it will take years to recover from the Flood of 1993. Others may never recover fully. In the short term, levee repair is the primary concern of many rural Missourians. Longer term, the combination of foregone income and flood



related expenses could seriously weaken the financial stability of those impacted by this year's flooding.

It will take time before the final toll of this year's flooding is known. However, it is clear that 1993 will be both a year to remember and a year to forget.

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PREPARED STATEMENT OF RICHARD W. KRIMM, FEDERAL EMERGENCY MANAGEMENT AGENCY

I am pleased to have the opportunity to appear before the Committee today to discuss the Federal Government's response under the Stafford Act to the recent Midwest flood disasters.

Emergency management is based on one fundamental principle—people helping people. When FEMA's Director James Lee Witt first took office, he issued a challenge to all FEMA employees to strengthen that principle by working toward a national partnership in emergency management. There were two key elements to that challenge. The first was that at those times of highest stress, visibility, and tremendous human suffering, it is both the expectation and the obligation of FEMA to respond quickly when our State and local partners need us, and to effectively meet their needs. The second was that our success in providing relief and assistance following a disaster is measured by each individual, family, community and State who turns to us in their time of need, and by our ability to meet those needs in cooperation with our partners. I am very proud of the way FEMA and the Federal Government responded to the floods and the degree to which we demonstrated not only what people helping people really means, but that partnership and teamwork deliver results.

I would also like to underscore the extensive commitment made by the President to alleviate the suffering of the victims of the Midwest flooding and the tremendous support that was given to FEMA and to all of the agencies of the Federal Government during our response operations. Director Witt and senior agency management worked very closely with the white House on a regular basis throughout the entire operation and received tremendous support.

There were many factors that contributed to making this one of the most successful disaster response operations. Today, I would like to emphasize three key points: (1) new approaches that FEMA used for responding to disasters of this size; (2) aspects of an improved Federal/State partnership that was pivotal in making this an effective response operation; and (3) the enhanced teamwork between Federal agencies under the Federal Response Plan. The existence of these three improvements resulted in expedited aid to the citizens of the Midwest. Following a discussion of the disaster operations, I would like to highlight key policy issues which are evolving.

I am proud of our accomplishments. The midwest floods of '93 was a disaster of significant magnitude, with well over 500 counties designated to receive Federal assistance. Declarations were made in July, with additional counties were added as recently as the end of October. Flooding began in many areas in the early spring, and continued well into early fall, forcing tens of thousands of people out of their homes. As part of the Federal effort, FEMA faced the daunting task of providing assistance to thousands of disaster victims and their communities.

The scope of this effort has been extraordinary. FEMA has successfully provided over \$165 million in assistance to individuals in the form of disaster housing assistance, disaster unemployment assistance, and Individual and Family Grants. Almost 100,000 homes have been inspected for damages. 5,628 jurisdictions have indicated sustaining damage and are seeking grants for the repair and restoration of public facilities and infrastructure. And to complicate matters further, we have heard from over 200 communities expressing interest in relocation in the wake of the flooding. This compares to only 28 relocation applications in all previous years combined!

In spite of these challenges, we have been successful because we have been proactive. FEMA and the Federal Government did not wait to be called upon—we initiated contact, placed personnel, and worked hand-in-hand with our State counterparts in monitoring the situation, identifying needs, and delivering the required assistance.

Director Witt had daily conference calls with the State Emergency Management Directors of each of the nine affected States, the Federal Coordinating Officers, FEMA Regional Directors, and key management of other Federal agencies. We used these conference calls as a means for States to identify issues early and to give us a chance to resolve them before they became major problems. As a result, we were able to forestall difficulties in resources or funding and, more importantly, make

sure that critical assistance was delivered where it was needed most. Decisions were not just made by remote officials but by officials at all levels working together.

Using our Regional Response Plans, we had FEMA personnel stationed in State Emergency Operations Centers. These individuals worked round-the-clock with State officials in identifying needs and determining types of assistance required.

We activated the headquarters' Emergency Support Team under the Federal Response Plan to monitor requirements in States already declared major disasters as well as those in which the crisis was still growing but where declarations had not yet been made. FEMA personnel worked hand-in-hand with the other Federal agency representatives in our Emergency Operations Center to share information, process requests for assistance, and resolve problems.

We used situation assessment resources, including aerial reconnaissance products that could be used by headquarters and field personnel and Geographic Information System technology to support information dissemination efforts. We linked up the Emergency Information System directly to State and local emergency operations centers so that it was readily available as needed.

The FEMA Recovery Channel was initiated with daily satellite feeds from July to September that could be picked up by any stations throughout the affected area, reaching more than one million cable subscribers as well as countless other families not connected to cable. The channel was picked up in the White House and in both houses of Congress through live feeds directly from FEMA. In addition to summaries of our daily activities, we provided interviews with key officials representing Federal or volunteer agencies that were of primary interest to the affected areas.

FEMA conducted daily meetings which were unique in that they included, on a regular basis, the Federal agency representatives who were working on a day-to-day basis at FEMA headquarters as part of the Federal Response Plan. Prior to this administration, Federal agency personnel watched such meetings via live television feeds but could not participate. By including our Federal counterparts in these meetings, we were able not only to exchange information but to resolve problems quickly. It also served to solidify a team approach to our response operations. In addition, senior staff from the Department of Agriculture's long-range recovery staff attended the daily meetings on a regular basis to facilitate the long term recovery transition.

We made outstanding progress in helping the States deal with donations. Donations of goods are a reflection of the generosity of the American people. But tons of donated goods that may not meet the needs of a stricken area can frequently cause logistical nightmares for State and local emergency managers and still leave individuals without critical supplies. We had been improving our procedures under the Federal Response Plan to deal with these issues and were able to test the improvements during the floods.

We dispatched donations experts to work directly with State officials, private relief and volunteer agencies in establishing hotlines and procedures for donations. In lieu of goods, people interested in donating to flood victims were requested to send money which could be used to buy necessary staples from local markets, thereby eliminating the huge requirements of storing, sorting, and stockpiling materials.

Another function under the Federal Response Plan that we tested for the first time was the establishment of a Mobilization Center in Topeka, KS. This was a major storage and staging area for vitally needed equipment such as pumps, water, portapotties, cleaning supplies, and other Federally provided or privately donated materials. We worked very closely with Kansas officials in setting up the Center. As a result, when State officials were told of a local need, they knew precisely what we already had available at the Mobilization Center and could have the appropriate resources moved to the affected location quickly.

Another noteworthy element of the flood response was FEMA's establishment of a new grant category under the Individual and Family Grant program to support expenses incurred by families whose homes were inaccessible for weeks or months due to flooding. This category, known as Emergency Living Expenses, permitted disaster victims who qualified for the Individual and Family Grant program to be eligible to receive additional assistance up to a State-determined level to cover these costs. The only limitation was that the total grant amount did not exceed the \$11,900 program limit per household.

The summit that President Clinton held in St. Louis with Cabinet officials, Governors, and other key State officials, was a landmark approach to bringing Federal and State resources together working toward a common goal. This unique approach emphasized the President's clear commitment to aiding the affected areas while, at the same time, demonstrating the effectiveness of an intergovernmental partnership in meeting requirements and determining future courses of action. The President's



summit also served as a catalyst for a significantly improved working relationship between Federal agencies in identifying and delivering long-term recovery assistance to the affected States.

I would also like to mention how well the Federal Response Plan worked during the floods. The Federal Response Plan is a "living" document which describes how the Federal Government will respond in large-scale or catastrophic disasters. The Plan is continually updated and expanded based upon lessons learned from exercises and disasters. It is not a detailed operations plan but, rather, a strategic plan in which Federal departments and agencies have identified critical areas of support that a State would likely require. The Plan provides mechanisms to identify anticipated or actual requirements and then provide the resources that are needed. FEMA's role is to facilitate this interagency coordination and, in particular, to assign and validate missions which Federal departments and agencies are given under the Stafford Act.

Numerous innovations were developed as the result of a 90-day interagency Federal Response Planning Task Force that was initiated after Hurricane Andrew. The purpose of the Task Force was not just to determine problem areas in the response, but to improve interagency procedures and coordination. We had just completed the Task Force in early June. Also in early June, we conducted the Response 93 exercise in Salt Lake City and were beginning our evaluations to determine where we needed to make changes in the Plan when the flooding struck. Many of the same people who participated in the Task Force and the exercise also worked in our Emergency Support Team operation at the headquarters. They were making changes on a day-to-day basis based on lessons learned. This was particularly useful, for example, in scoping the basic mission assignments to meet initial response requirements, including vector control, hazardous materials response, and flood fighting support.

I would like to cite another example of the new sense of teamwork under the Federal Response Plan. On some occasions, more than one Federal agency was able to deliver a particular type of assistance in response to a State request. In previous disasters, the State may have received the same type of assistance from more than one agency. Because of the teamwork that had been built, Federal agency representatives worked together in determining which Agency could deliver the assistance by the quickest, most cost-effective means. In other cases, one agency would have the necessary equipment, but found it could be provided more quickly by another. As a result, we eliminated duplication while still being responsive.

The innovations that I have just mentioned, including extensive work in donations, the establishment of the Mobilization Center in Kansas, the improved Federal agency teamwork at all levels, the advanced placement of personnel in State Emergency Operations Centers, and the action planning that moved operations from response into recovery are all a result of improvements that have been made in the Federal Response Plan.

Now that the response phase has concluded in the Midwest, President Clinton and Director Witt have committed themselves to the full recovery of the region, its economy, and its communities. At FEMA, this effort resulted in a number of accomplishments which have improved the delivery of assistance to flood victims. For example, in anticipation of a need for disaster housing in the wake of the floods, FEMA initiated advance deployment of mobile homes into the region to speed victims into new living quarters. We also offered minimization grants under the Individual and Family Grants Program in order to permit disaster victims to take mitigation measures on their homes of a cost up to the maximum grant ceiling.

States and local governments also received significant assistance from the FEMA to promote their recovery in the aftermath of the floods. FEMA established an expedited reimbursement policy to assist States and localities with emergency floodfighting expenses. We have heard from over 200 communities expressing interest in the possibility of offering acquisition and relocation assistance to bring people and structures out of harm's way in the floodplain. We are in the process of systematically following up with each community to advise them of the options available to them. We also worked closely with the Department of Agriculture and the Soil Conservation Service to coordinate the many overlapping programs to more expeditiously address levee repair.

#### POLICY ISSUES

So where does this all lead us? Each catastrophic disaster serves to surface questions of public policy. By far, the legacy of these disasters will be the issues raised regarding Federal assumptions for managing programs in the Nation's floodplain. Public policy attention is turning toward questions of structural and non-structural



flood control measures, the balance between relocation and rebuilding, and the need for strengthening incentives for broad based mitigation.

What do I mean by mitigation? Mitigation includes those actions or programs that will reduce or eliminate loss of life, injury, and property damage from future natural disasters. For those responsible for making investments in mitigation—governors, mayors, county commissioners—the political support often isn't there. Or the short term economic costs can't be justified. We are in a unique situation right now. The political support is there and the economic costs are justified. The opportunity is at hand to reduce significantly the number of people at risk from flooding in the United States. To do this the Administration and Congress must lead the way.

As the impacts of the flooding became evident, the Administration, at the direction of President Clinton, immediately began a coordinated effort to plan for the long term recovery of the Midwest. This interagency effort is addressing the complex economic and social issues resulting from the unprecedented flooding in the Midwest. Issues such as restoring economic vitality, agricultural production and recovery, appropriate use of the flood plain, and other environmental and health concerns.

Under direction of the white House, the approach has been to take a broad look at Federal programs, cross Agency lines and design innovative strategies to meet the needs of the citizens of the Midwest. This approach will allow us to apply limited resources in the most effective and efficient manner. In doing so, we can be responsive to the problems facing the Midwest as they rebuild their communities. But also to look toward the long term economic, social and environmental goals.

The goal of this Administration, the goal of President Clinton, is to help the people of the Midwest rebuild their lives and to reduce the numbers of people and communities at risk from future flooding. This will not be an easy task but the Administration is committed to it and we seek your support. I would like to share with you some of the concerns that we are facing.

First, we have to reexamine Federal funding programs to State and local governments after a disaster. More critically, how these funds can be used for hazard mitigation programs after a disaster, for programs such as community buyouts or elevation of flood-damaged structures. Each department and agency—including FEMA, Agriculture, Interior, COE, to name a few—have different programs to provide support to State and local governments. Each of these programs have different rules on who, how, and what those programs can be used for. This situation creates confusion and often results in frustration on the part of local officials and disaster victims. This serves to limit their usefulness in a combined and coordinated mitigation and recovery effort such as we have in the Midwest.

While we did apply innovative approaches in the Midwest, such as using the Individual and Family grant program to assist in elevation of structures, this was a short-term solution. We need to establish a long-term, flexible systems to support mitigation activities. We need to provide support for non-structural flood control and flood plain management programs so we can provide communities viable alternatives to rebuilding the levees. The Federal Government also needs to work with State and local governments and the Congress to design a comprehensive program for community buyout and relocation in high risk areas.

In this same context, we need to take a broad look at our Federal policies on levee repair and reconstruction. The issue of how to deal with damaged and failed levees became critical because of the widespread overtopping and the failure of urban and agricultural levees. Primary responsibility for levee work falls upon the Army Corps of Engineers and the Soil Conservation Service. However, FEMA does have a limited role.

The three Federal agencies have overlapping authorities to repair levees. Due to this problem, FEMA, the Corps, and SCS coordinated a Federal policy to clarify each agency's responsibilities as part of a coordinated Federal response. When levees are not eligible for repair under the authorities of the Corps and the SCS, FEMA has the authority to provide assistance in those cases where immediate threats to life or critical infrastructure are evident. For example, in Des Moines, Iowa, we provided assistance to repair the levee that protects the city's water treatment plant. It is important to recognize, however, that if a request is denied by the Corps or SCS because the levee did not meet specific criteria for operation and maintenance, FEMA will not fund the permanent repair either. The purpose of this policy is to ensure that the purposes of the other programs are not undermined. If the local owner of a levee could ignore the requirements for operation and maintenance during good times and then come to FEMA when a disaster occurs, there would be little incentive to keep the levees in repair. The result would be that

poorly maintained levees would fail during smaller undeclared floods and much destruction would occur to property.

In addition, we have implemented a coordinated policy as part of the Administration's interagency effort which states that non-structural alternatives to repairing levees should be offered to levee owners. The policy also allows relevant agencies such as EPA and the Fish and Wildlife to play a role in the environmental review of levee restoration. This is working well in this disaster.

From FEMA's perspective, we need to better define the policies for the post flood environment. We need to consider alternatives for balancing community flood protection, such as levee restoration with mitigation strategies such as buyouts and other environmental considerations. These issues are actively under review by the Administration. This review will occur with extensive input from the States and close cooperation with Congress in setting future direction.

Another important issue that we faced in the Midwest, which has nation-wide implications, involves the availability of Federal funding for structural elevation in flood hazard areas. When a community joins the National Flood Insurance Program, it agrees to enforce a flood plain management ordinance in exchange for the availability of Federal flood insurance throughout the community. This ordinance requires that any structure that is "substantially damaged" after a flood must be elevated or floodproofed to at least the 100-year flood level. This provision is critical to our efforts to reduce the numbers of buildings subject to flood damage. Unfortunately, the costs of elevation are not covered under flood insurance policies.

We would like to work with this Committee and the Congress to resolve this problem. Our proposed solution would be to add a provision to our flood insurance policies that would provide coverage for the increased costs associated with complying with the elevation requirements. S. 1405, which includes authorization of this coverage is currently under consideration in the Senate. In FEMA's view, we would like to see this provision in any National Flood Insurance Program legislation. We are also looking at changes to the Stafford Act to create enhanced capabilities to accomplish mitigation.

A significant step to help people of the Midwest mitigate their flood risk was taken by Representative Volkmer when he introduced H.R. 3012, and Senator Harkin the companion bill, S. 1486, the Comprehensive Cost Effective Relocation Act. This legislation improves the buyout program for the Midwest and future disasters.

One of the most effective mitigation tools we have is public acquisition of flood damaged property for permanent open space use, along with the relocation of affected individuals to sites outside of the flood hazard area. The interest communities in the Midwest are showing in acquisition and relocation projects—in community buyouts—is unprecedented. H.R. 3012 and S. 1486 will help move people out of harm's way and reduce the cost to the American taxpayer from future flood disasters.

The Administration strongly supports the basic concepts embodied in S. 1486. We support increasing the Federal share to 75 %. We also support raising the cap for available funds to 15% of FEMA assistance. For the Midwest, this will allow us to make available \$105 million for the nine States instead of \$24 million. When H.R. 3012 is modified and reported out of Committee as H.R. 3445, I am expecting this provision to be incorporated. Both of these changes will provide increased support to State and local governments to take mitigation actions; not only for floods but for other natural hazards as well. For relatively minor expense now, we will save in disaster assistance costs and flood insurance payouts for the future.

We do have some suggestions on S. 1486 which we believe will enhance its positive impact on mitigation in this Nation. The Administration recommends deletion of subsections (a) and (c) of Section 3, which are applicable only to the current flooding in the Midwest. We also would propose that a third condition for acquisition and relocation be added. This condition would deny future Federal disaster assistance for facilities in areas acquired under the program. Finally, in reporting out this bill, the House is adding a few studies. I would urge that these studies be structured to dovetail into efforts already underway. With the minor changes we have discussed today, this bill will help us take a step forward in mitigation across this Nation.

In closing, I want to share with you some thoughts on our future direction at FEMA.

The time has come to face the fact that this Nation can no longer afford the high costs of natural disasters. We can no longer afford the economic costs to the American taxpayer, nor can we afford the social costs to our communities and individuals. While we cannot control nature—we will always have floods, hurricanes, and earthquakes. We do know how to control the corresponding losses.



We must and can work to design and build our communities better and to the extent possible, out of harm's way. Mitigation must become a priority throughout all levels of government. We must be proactive on mitigation and not reactive. We cannot afford to wait for the next hurricane or the next earthquake before we provide support for mitigation. In our rebuilding of FEMA, Director Witt has established a Mitigation Directorate to work more effectively with State and local governments to implement mitigation programs.

This is a first step. But we must do more. It is the Director's intention to look toward a comprehensive national mitigation program that reduces human suffering, that reduces economic disruption, and that reduces disaster assistance costs. We must look to applying mitigation measures on a proactive basis, independent of Presidentially declared disasters. We must look at innovative ways to accomplish mitigation. Ideas like creating a Natural Hazards Mitigation Trust fund, establishing seismic safety enterprise zones, and partnerships with non-profits and the private sector.

I am here today to say that Director James Lee Witt and the staff of the Federal Emergency Management Agency want to work with you to make mitigation a reality in this country. It is time for each of us to assume responsibility for the future safety of our communities and our people.

Thank you for this opportunity and I will be happy to answer any questions.

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PREPARED STATEMENT OF DR. G. EDWARD DICKEY, ACTING ASSISTANT SECRETARY FOR  
CIVIL WORKS, DEPARTMENT OF THE ARMY

Mr. Chairman and members of the Committee, I am here today to testify on the role of the Army Corps of Engineers in the Federal response to the flooding disaster which occurred in the Midwest this summer. Accompanying me is Lieutenant General Arthur Williams, Chief of Engineers for the U.S. Army Corps of Engineers.

In my testimony, I will first provide a historical perspective on the flooding in the Mississippi Basin and then recount the events and conditions that led to the 1993 flood and a description of the flood. I will address the role of the Corps in providing navigation, recreation, and flood control; and I will describe the major actions we took under the Corps emergency management responsibilities. As you know, the Federal response required extensive coordination among the many agencies involved. I will address our relationships with local, State, and other Federal agencies during the flood; and finally, I will discuss some lessons learned from this experience.

HISTORICAL PERSPECTIVE

There have been significant floods in all or parts of the upper Mississippi River valley eleven times since 1880. In 1879, Congress authorized the Mississippi River Commission to undertake flood control work along the Mississippi, but the Commission focused on channel stabilization and navigation rather than developing flood control works and had no construction authority above the mouth of the Ohio River. Not until the Flood Control Act of 1917, in which Congress specifically authorized flood control along the Mississippi and the Sacramento Rivers, did the Commission actively pursue flood control. Congress authorized \$45 million for flood control work on the Mississippi River between the Head of Passes in Louisiana and Rock Island, Illinois, and directed the Chief of Engineers to approve all "plans, specifications, and recommendations" of the Mississippi River Commission.

The 1927 flood, one of the greatest in the history of the Mississippi River basin, inundated over 16 million acres below Cairo, Illinois. Property damage amounted to \$4.4 billion at today's values, hundreds of lives were lost, and over 600,000 people were displaced. In the aftermath, Congress passed the Flood Control Act of 1928 and authorized the Mississippi River and Tributaries Project. This was primarily on the lower Mississippi River from Cape Girardeau, Missouri to the Gulf of Mexico, and was the Nation's first comprehensive flood control system. Corps involvement in flood control projects was significantly expanded with passage of the Flood Control Act of 1936, which made the Corps responsible for flood control throughout the Nation. The Flood Control Act of 1938 initiated a policy of full Federal responsibility for management of flood-control reservoirs. Subsequent legislation expanded the purposes of many flood control projects to include such functions as water supply, hydropower, and recreation.



## EVENTS AND CONDITIONS THAT LED TO THE FLOOD AND A DESCRIPTION

The flood of 1993 was a very significant event. The precursor meteorological conditions were occurring long before the flooding actually began in June 1993. Above normal precipitation occurred through most of the upper Midwest, eastern Great Plains and Mississippi River valley from the beginning of the growing season (April 1), and dated back ten months at some locations. When the persistent storms came in June and July, the intense rain rapidly ran off the saturated soils and into the already swollen streams and rivers thereby causing them to rise above the channel banks and onto adjacent flood plains. Before the rains subsided in September, a total of nine States experienced either major or record flooding along their rivers and streams. Four-hundred and ten counties were declared disaster areas and millions of acres were inundated.

New record high water levels (stages) were established on the Mississippi and Missouri Rivers and many tributaries. Along the Mississippi River itself, record high stages were recorded from Davenport, Iowa, to Chester, Illinois, (above the confluence of the Mississippi and Ohio Rivers) and on the Missouri River from above St. Joseph, Missouri, to its mouth at St. Louis.

Extensive damage occurred to farmlands and urban areas, as levees were either overtopped or breached. For weeks, the entire upper and middle reaches of the Mississippi River and the major portion of the navigable reach of the Missouri River were either closed to commercial navigation or restricted to limited navigation. Corps flood control reservoirs were filled to record capacities, many reaching levels several feet above their spillway crests; but all reservoirs continued to provide protection throughout the flood.

The flood was very large in magnitude and rare in nature. The chance of occurrence of the peak flow that was experienced at St. Louis is estimated to be between one in one-hundred and one in one-hundred twenty-five (100-year to 125-year frequency); at locations in the upper Mississippi River its probability is estimated to have been one in five-hundred (500-year frequency). Not only was this flood characterized by its record peak levels but also by its sheer volume and duration. The volume of runoff produced by the incessant and protracted rainfall dwarfed that produced by the previous record flood in 1973. At St. Louis, the Mississippi River remained above flood stage for more than three months and, at Hannibal, MO, the duration was even longer.

## ROLE OF THE CORPS IN OPERATING ITS FACILITIES

The Corps has constructed and operates a vast flood control infrastructure on the tributary rivers in the upper Mississippi River Basin. This consists of 72 dam and reservoir projects, over 200 structures including levees, floodwalls, pumping plants, and diversion structures. Another 218 levees were constructed by the Corps and turned over to local entities to operate and maintain. Additional flood control structures have been built by other Federal agencies, and numerous non-Federal public and private interests. Within the basin, the Department of Interior's Bureau of Reclamation has eight dams and reservoirs which have flood control as part of their purpose. Flood control releases from these dams are managed by the Corps, since the Flood Control Act of 1944 assigned that responsibility to the Secretary of the Army for all dams built in whole or in part with Federal funds.

Each reservoir in the system has a water control plan which specifies how water will be stored and released under a variety of hydrologic conditions in its watershed. During the spring, in anticipation of seasonally higher rainfall and snowmelt, the reservoirs are maintained at levels to maximize the amount of flood control storage space. However, all reservoir water cannot be withdrawn, since other authorized project purposes, such as water supply, hydropower, and recreation, must be accommodated by maintaining water in a conservation pool. Under flood conditions, flood waters are impounded in the reservoirs and later released in a controlled manner to minimize the impact downstream. Once a flood crest is reached, the operating plans call for release of the stored floodwaters as quickly as possible without adding to the crest downstream. It is important to rapidly return each reservoir to the conservation pool level, so storage space will be available to capture the next flood. The Corps operations in the spring of 1993 were fully consistent with water control plans.

To assure that the dams and reservoirs in the Corps system will produce the flood damage reduction benefits for which they were intended, the Corps maintains reservoir control centers in each district and division office and staffs them with experts in hydrologic and hydraulic engineering who manage the control of water at these projects. These water control managers prepare plans for the regulation of the res-

ervoirs under all ranges of expected hydrologic conditions from drought to floods. In cooperation with the National Weather Service (NWS) and the U.S. Geological Survey (USGS), who supply the gages, the Corps has established extensive networks of rainfall and streamflow measuring stations, which one continuously monitors through the use of satellite data transmission facilities and computer-run data management and display systems. The Corps also monitors the weather and river forecast information produced by the NWS.

In early May, before the heavy rains began to fall on an almost daily basis in the upper Mississippi River basin, the reservoirs were at levels in accordance with their operation plans. By August 1, when the reservoirs were at their peak storage, almost 20 million acre-feet of floodwater was being withheld from the flood-swollen rivers. These waters are still being released from the system in a controlled manner as the rivers recede. With a few exceptions, all of the control reservoirs have been lowered to their conservation pool levels and now have their full flood storage capability available.

The Federal navigation system in the Upper Mississippi River Basin is vitally important to the economy of the Nation. Upstream from Cairo, Illinois, there are 34 locks at 29 sites along the 854 navigable miles of the Mississippi River. There are 753 miles of navigation on the Missouri River, but there are no locks. The Illinois River has 9 locks along its 327 mile system, and the Kaskaskia River has 1 lock along its 30 mile length. Navigation was essentially stopped on these systems due to flood conditions that extended from June through August. As an example of the impacts on navigation, approximately 8 million tons of cargo normally passes through Lock 27 near St. Louis during the month of July. This year, the total for July was zero. Similar impacts were reported at other locks within the system above Cairo, Illinois.

Recreation facilities are constructed around the conservation pools at most of the Corps reservoirs. Many of these facilities are constructed to be near the water at normal times to accommodate the using public. However, when the lakes hold back flood waters, many of these facilities are flooded. The Corps 4 temporarily closed over 100 recreation areas, either fully or partially, at projects impacted by the flooding. Shower buildings and comfort stations were severely damaged, roads were eroded, areas around boat ramps and swimming beaches were eroded and campsites were destroyed. The Corps estimates that its recreation facilities suffered damages amounting to about \$11 million.

The Corps projects operated as they were designed for flood control, but not without incurring some damages. Many of the lakes had record volumes of water being released either over the spillways or through the outlet gates. Water flowing over natural materials, such as soil, will cause erosion. Damages occurred at locks, dams, spillways, dikes and levees. Erosion of the outlet channel at Milford Lake, KS, due to high releases and erosion to bank stabilization and navigation dikes on the Missouri River are examples of the type of damages which occurred to Corps structures. This occurred at a number of projects resulting in damages totalling about \$75 million. Flood waters also moved large quantities of sediment around in the rivers. We estimate we will do about \$11 million worth of dredging to restore the navigation channels. The total damages to Corps operated and maintained projects due to the flood of 1993, including damage to recreation facilities, is approximately \$100 million.

There are other costs related to the flooding and associated with Corps programs. Based on preliminary estimates, the President requested and Congress provided up to \$180 million in the Fiscal Year 1993 Emergency Supplemental Appropriation to rehabilitate damaged flood control works under the Public Law 84-99 rehabilitation program. We must recognize that in many areas, the floodwaters are only now receding to the point where we can determine the damages. As we have begun the rehabilitation of those eligible projects, the extent of damage has generally been greater than was originally estimated. The Corps is currently reviewing its estimates to determine how best to allocate the remaining resources over the remaining needs. The Corps also spent about \$25 million for emergency flood fighting under that authority.

Clearly, the Federal Government, and specifically the Corps, has a significant investment in flood control works in the Midwest. Yet flood damages sustained during 1993 also were substantial, in part, because of the unique set of meteorological conditions and the fact that the flooding itself was greater than previous floods for many areas and greater than the design level of many of the structures. Nevertheless, the Corps flood control infrastructure, including flood control reservoirs, levees, walls and other structures, performed extremely well during the crisis, preventing



billions of dollars in damages. For example, of the 230 levees constructed by the Federal Government, only 38 were overtopped and 2 breached.

#### THE ROLE OF THE CORPS IN EMERGENCY MANAGEMENT ACTIONS

The Corps operates under two basic emergency authorities that allow us to prepare for and respond to disasters. These authorities are the Flood Control and Coastal Emergency Act, as amended, Public Law (P.L.) 84-99, and the Robert T. Stafford Disaster and Emergency Assistance Act, as amended, P.L. 93-288. Inherent in these Federal laws is the principle that emergency response and assistance is primarily the responsibility of the local and State governments. The Federal role is to assist these entities when their resources are no longer adequate to respond to the crisis.

The Corps prepares for emergencies by developing contingency plans for natural events, such as earthquakes, hurricanes, floods, or droughts. The Corps tests its plans with training exercises. The overall contingency plan for a holistic Federal response is the Federal Response Plan developed by the Federal Emergency Management Agency (FEMA) in conjunction with 26 Federal Departments and agencies and the American Red Cross. It is the primary guiding document for catastrophic disaster response. Multi-agency exercises are initiated by the Department of Defense, the Department of the Army, the Corps, FEMA, and other Federal agencies to test and improve the Federal Response Plan and the various agency contingency plans.

The flood fight (both response and recovery phase) has demanded a massive commitment of Corps personnel. We have in the Corps an outstanding program of voluntary reassignment that has met this need. When the call went out through the Corps for assistance, more than 1000 Corps team members came forward and agreed to serve in the affected area. At the flood's peak, the need for personnel involved almost 1000 employees. In addition to the National Corps Headquarters, three Corps divisions (North Central, Missouri River, and Lower Mississippi Valley) and six Corps districts (St. Paul, MN; Rock Island, IL; Omaha, NE; Kansas City and St. Louis, MO; and Memphis, TN) have been involved in responding to the flood. Additionally, the Bureau of Reclamation has provided personnel to support the Corps.

The Corps Headquarters and each Corps district and division has an Office of Emergency Management responsible for providing the preparations and plans necessary to respond to emergencies. When this flood hit the Midwest, the Emergency Operations Center (EOC) at each affected office, as well as at Corps Headquarters, was activated, and the emergency management staff was supplemented by engineers, real estate specialists, communications experts, personnel specialists and other professionals. Throughout the disaster, the EOC's operated 24 hours a day, seven days a week. These centers coordinated information and tasks on a continuous basis and were vital to achieving the quick responses required in this emergency.

As the magnitude of this event became clearer, LTG Williams, the Chief of Engineers directed the establishment of a coordinating office to oversee the levee rehabilitation activities of the Corps divisions directly involved in the flood. That office, known as the Deputy Director of Civil Works (Forward), was opened on August 4, 1993, and located in St. Louis, MO. It was headed by MG Albert Genetti, the Ohio River Division Engineer. His staff of 31, both military and civilian, were on temporary duty from their permanent work locations throughout the country. On September 17, having set recovery policies and procedures in place, the Deputy Director of Civil Works (Forward) office was phased out.

Under the authority of P.L. 84-99, the Corps assists State and local agencies with planning and flood fighting. The Corps maintains supplies, such as sandbags and pumps, for use in flood-fights. It also maintains lists of sources where supplies and equipment can be quickly procured. When necessary, military aircraft are used to transport the supplies to the affected area. The supplies and equipment are turned over to local and State officials for their use in carrying out their emergency plans. As early as June, the Corps began to distribute what would eventually be over 31,000,000 sand bags and 430 loaned pumps to aid local communities in the flood fight. In some instances, contractual arrangements were made with private construction firms to assist in reinforcing some levees. This emergency work along with some advanced measures and flood fighting operations throughout the affected area amounted to about \$25 million. At the same time, our professional engineers were assisting local entities with technical advice. By working closely with the levee districts and their local and State officials and other Federal agencies, the Corps was ready to respond to the Midwest flooding.

The Corps operated solely under authority embodied in P.L. 84-99 at the beginning of the flood, and coordinated its activities with FEMA and others. Once FEMA



activated the Federal Response Plan (FRP) on July 11, the Corps also began to respond to FEMA missions under the Stafford Act. As the lead agency for the Public Works and Engineering function (Emergency Support Function #3) under the FRP, the Corps performed such functions as providing damage surveys, generators, pumps, portable toilets, installing culverts, and supplying potable water. A significant water supply mission involved the hauling and storage of potable water to Des Moines, Iowa, when their water treatment plant was flooded. It also included the rehabilitation of the plant which restored treated water to approximately 250,000 people. We have completed or are currently working on 29 FEMA projects in 7 States. These projects have a total value of \$16.8 million.

#### COORDINATION EFFORTS

Before and during this flood emergency, the Corps coordinated with numerous Federal agencies involved in navigation, weather, and emergency management. Most notable were the U.S. Coast Guard (USCG), the U.S. Geological Survey (USGS), the Bureau of Reclamation (BOR), the National Weather Service (NWS), and the Federal Emergency Management Agency (FEMA).

The Corps continuously monitored the NWS weather and river forecast information and used the information in making reservoir water control management and flood-fight decisions. The Corps also communicated with the NWS River Forecast Offices during the development of their river forecasts to apprise them of planned storage or release of water from Corps reservoirs and coordinated with the BOR relative to the flood control operation of their reservoirs in the Missouri River basin.

The Corps called upon the USGS to make flow measurements during the flood at key river locations for use in developing flow vs. stage rating curves needed for making water control decisions during the height of the flood. Many preflood rating curves did not cover the range of river heights attained during this flood because the 1993 flood heights were unprecedented.

With the activation of the FRP, the Corps immediately provided staff to the Public Works and Engineering desk at FEMA headquarters and at Regional Operations Centers and/or the State Emergency Operations Centers. Corps representatives were also assigned to FEMA's Disaster Field Offices as they were established. Their role was to coordinate with other agencies to assure that assistance was reaching the affected disaster area.

In addition to its work for and in cooperation with FEMA, the Corps worked closely with a number of the support agencies, namely, the Environmental Protection Agency, U.S. Public Health Service, Department of Transportation (in addition to the coordination that had been ongoing with the Coast Guard), the Departments of Interior and Agriculture, and the General Services Administration. Throughout the disaster response phase, each of these agencies aided us as we worked on FEMA mission assignments. These assignments included providing communities with potable water; bottled and bulk supply water, and Reverse Osmosis Water Purification Units; port-a-potties; emergency repair of water treatment and waste water treatment plants; and distribution of sand bags, pumps, and generators. The Corps was also tasked by FEMA with conducting damage assessments. We utilized Corps personnel and asked for and received significant numbers of engineers and technical staff from the Bureau of Reclamation some of which continue to contribute to our ongoing efforts.

#### BRINGING BACK NAVIGATION

We are especially pleased with the results of the efforts to bring navigation back to the Upper Mississippi River Basin as quickly as possible without creating additional damages or threatening the stability of the weakened levees along the river. There was concern among local officials that the wake of passing tows would further damage their flood control structures.

On July 19, the Corps met with the River Industry Executive Task Force and the USCG to discuss the navigation situation, weather and river conditions, and to develop a protocol for reopening the waterways. The River Industry Executive Task Force consists of seven representatives from the towing industry, two representatives from the Corps, and one from the Coast Guard. It was formed in 1988 to coordinate navigation activities during the drought and was used again in 1989 and 1990 as the drought persisted. This group conceived a plan of operation which included a traffic control center for direction, monitoring and information exchange, public information, coordination with other interests and a series of tows to evaluate conditions and alleviate the concerns of adjacent land owners and levee districts. The test tow protocol required that three test tows descend the Illinois River and

the upper and middle Mississippi River to determine if wave action would cause additional damage or stress to the levees. Local levee district representatives were invited to ride the test tows down the river to see first hand the effects of commercial traffic.

The test tows began on August 19 and were completed by August 23. The result of the test tows was that a coordinated, cooperative decision was made early the following week to open the rivers to downbound traffic. Similar test tows were then run upstream which allowed the rivers to be opened to upbound traffic as well. The navigation industry is to be commended for its cooperative effort with the levee districts and local officials to ensure that no additional flooding or erosion was caused by their tows. The River Industry Executive Task Force exemplifies what Government and industry can accomplish in cooperative approaches to problem solving.

#### REFLECTIONS ON THE FLOOD RESPONSE

We have already begun the review of our actions, both under the Corps authority (P.L. 84-99) and that for FEMA under the Federal Response Plan. This is happening even as 1,000 people remain involved in the recovery and rehabilitation. Our present goal is to repair all levees eligible for Corps assistance by December 1994. In addition, we are working with other Federal agencies to provide opportunities for local levee owners to take advantage of 9 available programs which provide for non-structural alternatives to levee repairs.

We have already determined that the Deputy Director of Civil Works (Forward) concept was an absolute success. Not only was the office able to coordinate implementation of policy, but was a "one stop" information office that elected officials and members of the general public could contact for specific information. Through the Public Affairs Office, information affecting the entire area was made available to citizens and the media in the Midwest. These activities improved the Corps responsiveness and credibility with those most affected by the flooding and its impact.

Given all the work by Corps team members, the one thing that we keep learning and relearning is that you can never communicate enough. Communicating to all citizens, and staffs of other agencies, not just those in the affected area, once again was an absolute requirement.

On the engineering front, we also recognize the need for a better computer model to simulate the flows of the Mississippi and Missouri Rivers and their tributaries for use in determining impacts of facilities and water control plans. We are already embarking on the development of that model and plan to coordinate with the NWS in its development.

We have to take a hard look at how we can improve automation of data dissemination among the Corps districts, divisions, and Headquarters. This flood also evidenced the need to develop the means for the exchange of water data between Federal agencies on a real-time basis.

A number of things worked very well during the flood. The Corps flood control projects, consisting of reservoirs and levees, worked as designed and withstood the test of this flood. The water control plans for the reservoirs were very beneficial in guiding our response to these unprecedented conditions. The Emergency Operations Centers at Corps Headquarters, districts, and divisions functioned very well during the crisis providing timely responses to needs in the affected area. The River Industry Executive Task Force worked extremely well and illustrated the benefits of Government and industry cooperation. Our volunteer program was also a great success, providing a pool of over 1000 individuals from across the Corps who were willing to go to the stricken area and join in the flood fight.

In closing, I would like to take the opportunity to recognize the heroic efforts of local communities and citizens, the States, National Guard units, and all of the Federal agencies that participated in the flood fighting activities this summer. The 10 Army Corps of Engineers was an integral part of this effort and I am proud to be associated with the dedicated people, both military and civilian, of the Corps of Engineers.

Mr. Chairman, that concludes my statement. LTG Williams and I will be happy to answer any questions you and the Committee may have.





