

"KEEP THEM OUT OF THE FLOODWAYS"

by

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Thank you very much, Mr. Corbett. I sincerely appreciate your very kind comments and also appreciate the invitation to share some personal thoughts with the leading planning and conservation professionals in this great land. Truth in labelling is always good business, and I therefore mention that I'm a flaming Democrat and spoke last night at a large rally in eastern South Dakota for Mr. James Carter. I never apologize for my personal involvement in the Carter Campaign and consider the Georgia gentleman to be a man of vision and integrity. There is a wide differential between public service and public office. I'm confident Governor Carter is applying to serve. We haven't had much of that in my dear old US of A in recent years. Frankly, it is overdue.

Dr. Lord was so profound with his discussion about the engineering components in the typical cost benefit ratio as that calculation relates to urban floodplain safety. I gave his concept some thought last night as I flew in a 747 from Chicago to Detroit with 16—yes, only 16—passengers at a cost of about 8,000 gallons of jet fuel per passenger. And we wonder why our nations have an energy crisis! It would have made more sense for me to walk to Canada. However, I deeply appreciate your invitation.

Introduction:

I get terribly excited and extremely emotional about this subject. At times, my grammar and vernacular might be a little blue. I ask for your permission to let off some steam. I'm not an engineer, not a technician, and I'm not a skilled urban hydrologist. The form of government in my home town is the strong mayor and strong council format. The ten-member council creates the policy. The full-time Mayor swears to enforce the law and lead when possible. I considered it my duty to use the prestige of the position to lead the city and mold public opinion for the general benefit of the taxpayers. I didn't get elected to waste the people's time.

And I don't know very much about the science of water. I'm just a citizen, was elected by the multitudes to serve four years as mayor of my hometown, was educated in public administration at a land grant university in South Dakota, and served in Vietnam under the angle-inspired wisdom of Robert McNamara (laughter). It was exciting and a great thrill to be mayor. I didn't have all the answers when I went into office, and I don't have all the answers now that I'm out of office. I don't have all the answers about floodplain management and urban hydrology and flood waters, but I do have a story to tell that is very important to you because the same story has become very important to Rapid City, South Dakota where I served in the lofty and temporary position as mayor. Even at age 34, I showed surprising wisdom. I did not seek a third term.

I have a story to tell. It's about a horrible national disaster, about terror and nightmares, about dead bodies, about U-Haul trailers that were filled to overflowing with dead bodies. Time after time. I've got a story to tell about the horrible example of how NOT to manage an urban floodplain. I've got a story to tell about how a police professional was buried and how three firemen died while rescuing perfect strangers. How brave men in the South Dakota National Guard did everything possible to save flood victims, and saved hundreds, and some of those brave men perished while trying to save the lives of perfect strangers.

Today, I have a story to tell about a very positive sequence of events, a story to tell about how a floodplain can be managed to make it safe for this generation and future generations. I have a story to tell about outdoor recreation and about a beautiful community that is now safe from future flooding, and a story to

tell about this contrast in safe and productive land use patterns in urban areas. I've got a story to tell today about fishing and outdoor recreation and a beautiful community along the banks of an urban creek where history has recorded flood after flood and where the flood waters will certainly rise again. A story about a floodplain park that's five blocks wide and six miles long.

Thesis:

Today, I will define the tragic cycle of land use in the urban floodplain and how that cycle occurred over a period of 100 years. I will define each phase and each cycle of land use that evolved from 1876 to 1972. Today we will re-live the agony of June 9th, 1972 when the Rapid City flood happened.

Section One: Here's how and where it happened.

The first cycle of land use: Ladies and gentlemen, Rapid City is a small city in a thinly populated state. South Dakota has a population of about 650,000, and Rapid City has a population of about 45,000. From 1876 until 1945, Rapid City was a small town. At the end of World War II, the city had 10,000 people. It is located at the mouth of a radical canyon in close proximity to a beautiful stream. A stream where the cattle could drink, and the pioneers dedicated land along the stream for horse pastures and hay meadows. A beautiful place with many springs and public fishing. Just a beautiful place to live and raise a family. During that first 60 years, very little commercial or residential use occurred on the Rapid Creek floodplain.

The second cycle of land use: We now move to phase two in the development and use of the floodplain on Rapid Creek which abuts the beautiful Black Hills of South Dakota. Between 1945 and 1972 the community went through a very rapid period of growth. We had a great economic boom. The city population changed from 10,000 to 45,000 in 27 years. We have a very large military air base. The Mount Rushmore National Memorial is close by, and the region is host to millions of tourists every summer. Agriculture, ranching and the cattle industry are very strong. Consequently, we had a very high quality of life, an economic boom, and the town was growing rapidly.

During this period of time, from 1945 to 1972, there was a radical adjustment of land use on those properties immediately abutting and touching the banks of Rapid Creek from the west side to the east side of our lovely city. During this period of time, the city government permitted changes in the land use along both sides of this suicidal floodplain. Rapid City became a city, and our governmental leaders, including this very young mayor, permitted public policies that violated the floodplain in a horrible and suicidal way.

I'd like to list for you some of the things we were doing on the floodplain from 1945 until 1972. The most dangerous decision was to allow and encourage the construction of mobile home courts in the lowest, most suicidal levels of the floodplain on the banks of Rapid Creek. We also approved zoning for heavy commercial businesses, including the largest shopping center in western South Dakota on this floodplain. The city fathers and mothers also approved zoning for residential subdivisions where developers converted cattle pastures and horse pastures into subdivisions. I can remember some of the advertisements in the Rapid City Journal. They said, "Creek front property! Ducks in your backyard." The city government officially blessed these zoning adjustments. There couldn't be any danger there because floods always happened some. . . place. . . else. In the floodplain during that 27-year period of time, the city approved the

construction of apartment houses, industrial plants, shopping centres, a nursing home, one hospital, the city water plant, several public parks, and a 9-hole golf course. Older structures, built before World War II, became low income rental units where the rental units were close to the creek. But the dangers were high! A flour mill and elevated rail lines and berms near the creek, the high school athletic fields, and baseball fields. Only a portion of the lowest lands were devoted to outdoor recreation.

What happened during this cycle? We violated the floodplain. Our Planning Commission, our Mayors including young Don Barnett, and our City Council were blind to the potential danger. We converted the land from basic agricultural and rural land use patterns to high density urban uses of property. That happened, my friends, in a period of 27 years. It happened when the population grew from 10,000 to 45,000.

The last phase in this cycle of land use in the Rapid City floodplain happened on the evening of June 9th, 1972, and the morning of June 10th. I remember the day. It is indelible on the fabric --- some would say the vacant open spaces --- of my mind. I played golf in the afternoon and had to stand in the shelter every once in a while during a spring shower. I shot a miserable 48 and was proud of myself. It had been a great day in Rapid City history. That very morning city leaders had joined with me to hold the first meeting of a non-profit corporation that we structured to build a \$12 million civic centre, sports arena, and fine arts auditorium. We were filled with optimism. I was in my second year as Mayor of Rapid City and thought we had things moving in the direction of my 1971 platform. I was enjoying the job and happily married and have two little girls. They are beauties! After golf, my family went swimming at YMCA. As I headed toward the door, the clerk looked at me and was pale. "Mr. Mayor! The Police Department's looking for you. A policeman saw your car and just ran past my desk. They think there's going to be a flood." I sent my family home. For the next ten hours we lived through a gruesome, agonizing period of death and terror. Understand one fact. I was not involved in personal heroics before, during, or after the flood. The flood on June 9th, 1972 in South Dakota is the worst single natural disaster in the history of the United States in the last 35 years. The total dead from that flood was 234 and to this day, four years later, a few bodies are still missing. We did not have a strong civil defence tradition to train the people and teach the folks about a flood warning system. We didn't train the locally elected officials with a public methodology to alert the people during periods of potential danger. Floods happen some place else! I must have had that thought a million times since June 9, 1972.

Rapid City is located on the edge of the Black Hills of South Dakota. Please follow this closely. A large federal reservoir is located about 15 air miles upstream, above the city. It is used to store irrigation water and domestic water for use in the city and the air base. Flood control is a secondary mission for the Pactola Reservoir. This facility was built to a high standard and did not fail on the night of June 9, 1972. From the face of the dam to the city limits of Rapid City, the creek flows through beautiful canyons for a distance of roughly 18 miles.

On the evening of June 9th, here's exactly what happened. Storm cells gathered over the eastern edge of the Black Hills of South Dakota, very close to where Mount Rushmore is located. There was an absence of winds at certain altitudes. During a period of roughly eight hours up to 17 inches of rain fell from certain cells. Some areas had at least a foot of rain; some had 17 inches. In simple terms, the rains fell between the face of Pactola Reservoir and city limits line. Again, the flood waters drained into the canyons below the face of the dam. The dam had provided a false sense of security. Our thinking following this line, "A flood could never happen on Rapid City because Pactola Reservoir will capture the flood waters." Our

problem is simple to define. In laymen terminology, the clouds dripped dry. The waters dropped downstream from the dam in the geographic area between the dam and the city. The waters were ice cold and moving very, very rapidly.

The water roared down the canyons, roared through the city, and we lived with the damndest terror you could ever imagine. 1,500 homes were damaged. Roughly two hundred businesses were damaged or destroyed. Hundreds of families were left homeless. At one time, the county civil defence office had 1,500 names of possible flood victims on the computerized missing list. 234 citizens perished. Those still missing will soon be classified by the courts as casualties. Our Civil Defence functions were very weak. Because, after all! Floods of this magnitude never happened there before. At least not since the Dakota frontier was settled in 1876.

I'm willing to stand here and take my poke in the nose. Historians had recorded several periods of high water within this urban floodplain between 1876 and 1972:

- A. 1907: Four lives lost in a flash flood.
- B. 1920: Eight lives lost in a flood.
- C. 1952: Hundreds of homes damaged in a localized flood.
- D. 1962: Two flooding events involving 400 damaged homes, 130 damaged or destroyed mobile homes, and the temporary evacuation of 1,500 people from the urban floodplain.

By 10:00 the next morning, the level of water in Rapid Creek had returned to normal. The flood was over. However, the flood was not over! By early morning on June 10, I was told by city department leaders that three firemen, one lady in the police reserve, two public works employees, and several brave national guardsmen had perished while attempting to save citizens in the various urban and rural floodplains in and near Rapid City. City and local leaders felt the pain and suffering as the survivors registered the names of over 1,500 missing family members with volunteers in the county civil defence office.

Section Two: The Immediate Challenge:

Local decision makers faced two incredible challenges during the early hours of the recovery: These items were on our mind and have been my prevailing thoughts and memories and remain on my heart and in my mind to this very day. One: how do we financially help the survivors? Two: How do we prevent a similar disaster from happening again upon the same urban floodplain in our city? It was time to instantly focus on public safety issues for future generations. What actions could government take to make the community safe? What could we do to heal the wounds, improve the quality of life, and help the survivors physically and financially recover? How could we grow forward into a new cycle of land use on several square miles of public and private land that would lead to a safer city on the banks of Rapid Creek in future years?

Within 120 days after the flood, the federal treasury provided a \$48 million urban renewal grant. Why would the generous taxpayers of America provide this assistance? Why did the four-county disaster zone receive such a large package of federal assistance? The Answer: Because Rapid City and the small communities and cities in the Black Hills had the grief. We had the loss of property, massive loss of life,

and massive destruction. President Nixon and the Congress provided a \$48 million urban renewal grant that would prove to be a national model for flood recovery.

Local leaders reached the following decision, in layman terminology: *the floodplain is an extremely stupid place to sleep and a stupid place to work.* We also reached the decision in a positive vein that the floodplain is a fantastic opportunity to improve the quality of life with the outdoor recreational experience, with public parks, and a recreational avenue with high proximity to every residential neighbourhood in the city of Rapid City. The urban floodplain could be a positive resource. City leaders defined a program to purchase 1,100 damaged homes and relocate 1,100 families from the dangerous and suicidal banks of Rapid Creek. That means the City and its recovery agency would purchase the damaged family homes at post-flood values.

If the home was destroyed, the city purchased the damaged foundation, created a vacant lot, and converted the land to a safe land use for future generations to enjoy.

If the home was not totally destroyed, the city purchased the damaged home and lot, sold the damaged structure, and allowed the winning bidders to buy the structure and move it to a safe and properly zoned location.

It is so critical for you to understand the following. If the dwelling was only partially destroyed, the city purchased and then re-sold the asset, permitted and encouraged buyers to purchase the damaged dwellings, jack it up, move it away, set it down on a new foundation, and convert the original lot into a portion of a public park. The home movers had a bonanza.

The city council demonstrated great courage and reached for the second bullet. We purchased and relocated over 125 commercial and industrial businesses from the banks of Rapid Creek. In short, we used the same programs for commercial structures and lands as we used for residential lands. If we permitted the commercial structures to remain in the lowest reaches of the floodplain or flood fringe, each building would become a barricade for future raging flood waters. Flood waters will flow again through the city. Our intent in the current cycle of land use is to permit future flood waters to pass over the park and recreational facilities and not damage residential or commercial structures. The theme of the recovery is to abandon the floodplain for all residential and commercial uses. Period We did this with a portion of the \$48 million.

By November of 1972, the city issued federal funds to the first families who had been renting property in structures within the floodplain in June. Again, we issued our first relocation payments within six months following the flood. Now, four years later, 95 percent of the project is complete.

Section Three: The current land use patterns in place today on this urban floodplain:

Let's talk now about the last cycle of land use in the urban floodplain and how this property and the former residential and commercial lands will be used in the future. If you were to visit Rapid City, South Dakota today, you'd see a great deal of construction. You'd see contractors building new subdivisions and new commercial buildings all over the community to supply the economic and physical needs of the flood victims. The families and businesses will be permanently located in safe areas where their property will

not be subject to future flooding from the 10-year flood, the 50-year flood, or the 100-year flood. The city council, in their wisdom, directed our civil servants and consultants to design a safe and beneficial concept of land use for the lands where we had forced 1,100 families and 125 business owners to relocate. These are the types of use we are putting to that land at this time.

Federal funds were used to rebuild Canyon Lake on the upstream or west side of the City. It is built to Corps of Engineer and Bureau of Reclamation standards. We didn't just stack up some mud at the bottom of the canyon and call it a flood control dam. The dam is not there for flood control. It was rebuilt for the beautification of the area. We then expanded the beautiful Canyon Lake Park and will soon finish an 18-hole championship golf course located right in the middle of the floodplain. We are also building several miles of hiking and biking trails from one end of the city to the other where people can ride bicycles and hike up and down the floodplain and enjoy physical exercise in the beauty of lineal urban park. We expanded our City Recreation Department with the construction of additional Little League baseball fields, new soccer fields, everything imaginable, without the construction of buildings in the floodplain that could divert future flood waters. We have horseshoe pitching courts, soccer fields, and many new public parks. We have Storybook Island where the youngsters enjoy one of the most beautiful and exciting recreational venues in the nation. Thousands visit this feature each year. However, nobody sleeps next door. For budget reasons, it was necessary to channelize only 300 yards of creek behind the shopping center. It is not a concrete channel. It is rapidly becoming a beautiful, narrow, and natural wetland. But only 300 yards! Please Remember! Channelization was used because the federal government would not pay for the purchase and relocation of a 25-store shopping center.

We have reflecting pools, free public fishing on both banks of Rapid Creek all the way through the city. We have natural parks that have not been repaired and the area is completely open and only rarely mowed. In the heart of the city. We have expanded parking for our county fairgrounds, new athletic training fields for our high schools, and we have a host of outdoor recreational activities.

What does that mean? That simply means we are not sleeping in the floodplain. Our entire theory of recovery from that massive disaster was simply this: The city council unanimously proclaimed that we would not be dumb enough to rebuild in these geographic zones. The next time we have a flood, the water will have the capacity to roar over the floodplain unobstructed and not bounce or be diverted into subdivisions and commercial areas. Future flood waters will "whoosh" through the city. Open span bridges are now in place with incredible capacities.

Is this the perfect answer? I don't know. It is the answer that was possible. I know full well you can't go back to your conservation districts and local units of government and find \$48 million to do the same thing overnight in a period of 48 months the way Rapid City did it. We couldn't have done it ourselves without the help of the federal government. The local matching requirement for the HUD grant of \$48 million was \$16 million. However, HUD waived this requirement. The City was in compliance with all documents without the waiver. Now, the program is at the 95 percent completion mark and being administrated by a fine man, Mayor Author LaCroix, a decorated World War II combat veteran who received a battlefield commission during the Battle of the Bulge. A proud American Indian citizen of our city. He's one of the finest and most talented gentlemen in our city. A treasure of a man!

My point is clear! My children now enjoy a safe floodplain for their parks and their outdoor recreational experience within the city. It is a very popular program. The Little Leagues have more space, and the

outdoor recreational opportunities are tremendously popular features in our city. This is the cycle of how we have utilized the floodplain within the city of Rapid City. We've talked about the frontier when nothing was there but agriculture and a rural area. We've talked about the period of gradual growth when we did not overpopulate the floodplain, and we've talked about that massive period of growth after World War II when we had helter-skelter and random and almost uncontrolled growth of residential, commercial and industrial use of the land in this terribly dangerous and low area at the base of the Black Hills.

The Indian tribes in Dakota believe the Black Hills are so beautiful that only the Gods with their mighty medicine lived in these beautiful mountains. Native Americans rarely entered the Black Hills and did not live in these valleys before the white man arrived. If you talk to the older Indian statesmen on the reservations throughout South Dakota, they'll tell you the tribes didn't live in the Black Hills or near the streams on the perimeter of Paha Sapa for two simple reasons: A. Those goddamned floods. And B. Those goddamned bears!

These are the cycles that I have defined. During this sequence, we buried so many people and lost a great deal of our tax base. However, in our recovery, the tax base is now stronger and growing with safe and responsible land use patterns in all neighbourhoods of the thriving city. We are getting it right, this time. Finally!

Section Four: My challenge for you:

Now, ladies and gentlemen, it is my duty to challenge you to take the following message home. Picture yourself in my office in City Hall on the evening of the 8th day following the flood. You say it can't happen to you. We said the same thing.. We said it couldn't happen to us and would never happen again. That flood happened on the night of June 9th and the morning of June 10th, 1972. One week later, on Saturday evening, I was in my office. The fire chief, the Public Works Director -- a fine Professional Engineer -- and the police chief and I were chatting about the visit by Mrs. Nixon to our city on the following afternoon. Mrs. Nixon was en route to our city to attend our memorial service on Sunday afternoon in the high school gymnasium. She is grand lady. We were licking our wounds, had a good case of self-pity, were tired, and we'd gone to all of those funerals for the city employees during the previous week. Safe and potable water had been restored by our civil servants two days before. I looked outside. There were some clouds. It started to rain a little and then a lot! Somebody said the shower would settle the dust. We still had over 500 names on the missing list. It was raining with terrible intensity. Then, the phone rang.

The phone call was from the owner's son of the strongest radio station in the city. He said, "Mayor, by God, it could happen again!" I said, "Bill, I'm damned tired. Don't pull that crap on me. (I didn't say crap.) I'm tired." He said, "No! It could happen again. I just had a call from the Weather Bureau. They said it could . . . happen . . . again!"

I called the weather bureau and spoke with senior meteorologist. He said, "Mayor, the clouds are identical to what they were last Friday night. If some winds don't develop, it could happen again. The clouds on my radar have the same density as last week."

By then, it was a pure Vietnam-style monsoon. I put the phone down, looked at the department heads, and said, "My God! He said it could happen again." We took a deep breath, put out the warning, sent the Police Department, the Fire Department, and the public works employees into these damaged subdivisions, turned on the sirens, got people out of the low areas as fast as possible, and I issued a verbal warning over the radio stations. Nevertheless, eight days after our first flood, two more people perished in a flash flood that was considerably less intense and shorter in duration than eight nights before. Winds blew the clouds all over western South Dakota, and the area has regional gully-washer while two people perished.

You say it can't happen to you? It happened to Rapid City twice! Twice within eight days.

Section V:

Folks, let's discuss a few questions and see if I can provide a few answers. A partial solution is better than no solution at all.

Question Number One:

If we clear away or evacuate our urban floodplain, will that action weaken our tax base? Folks, the answer is an absolute no. This argument is the oldest, cheapest, and most fallacious bugaboo of them all. The nay-sayers will say the following, "If we clear the floodplain and buy all those properties in the low areas by the creek or river, that policy will destroy the tax base of our city, our county, our school district." This argument is absolute and 100 percent political hogwash.

The tax base of the city of Rapid City the year before the flood was \$119 million. The tax base only a few years after the flood is close to \$150 million. By purchasing and relocating these home and businesses with the good help of the federal government, our tax base became stronger. Not weaker!. We purchased about 10 percent of the tax base in Rapid City. The new structures and normal economic growth provided our city with more stability, more prosperity, and more economic strength. The same is true in every jurisdiction and in every unit of local government where a relocation plan has been utilized in the United States. This garbage that sound planning will destroy your tax base if you have firm control of the floodplain is absolute political manure. It is not true. I suggest the planning professionals in this audience take this message home. If there is a legitimate economic need for a subdivision, and if there is a demand for the responsible developer to build safe homes, the worst excuse in the world is to allow the developer to use cheap and dangerous land in the lowest areas of your hometown floodplains. It is crime to sell or pass his bad investment off to the unsuspecting buyer and his family who'll be in harm's way during the night of the next flood when the original landowner is miles away and safe and sound. It is essential for this audience to take this message home!

The short-sighted developer/investor will say, "You'll destroy the tax base by not allowing me to build the subdivision near the stream." That investor is trying to pass his bad investment off onto the unsuspecting buyer who will be there during the flood when the original landowner is gone. That is a fact of life. Sometimes the most wise and profound answer is NO! You will not destroy your tax base by enforcing firm controls. If there is a need for housing, and if you have an expanding demand for top quality housing products in your area of Canada, a responsible developer will not create an unethical situation and sell a

suicidal property to the unsuspecting family man who will place his wife, his children, and his life savings in the dangerous floodplain. You' must have firm controls in your planning statutes and stop violating your suicidal floodplain areas. I've given you 234 reasons why these violations are so foolish and so extremely expensive.

Question Number Two:

It can be said by many people, "Mr. Barnett! You are just plain wrong! We haven't lost one dozen, let alone 234 lives, in our city from flooding. We'll never be able to raise the money for a project like that in my city. It is just too damned expensive."

Well, folks, If you think it's expensive to get started now on a floodway management program with massive or even partial relocations, please try to put a price tag on a similar relocation program ten years from now. See how expensive it will be in 1986, or 1996, or the year 2006. It's not going to get any cheaper to address these problems if we wait another generation. As these matters relate to public safety, your police department, your fire department, and your floodplain management program are equally important. Floodplain safety should have just as high a priority as the police and fire department. This public policy issue involves life safety, property, property values, and the health and welfare of the citizens in the areas you represent.

I full well understand that you can't afford to clear every floodplain all at once. However, you . . . can . . . start. Set up a 15, a 20, or a 25 year program to evacuate the most dangerous sections of the violated floodplains in your jurisdictions.. Can you go home and do it in 40 years? If so, your policies and programs will save lives. Can you set up a program where you will actively attack the floodplain violations and solve the issue in 25 years? Can you solve 70% of the problem with a 30-year plan? If so, you will save lives and reduce human suffering. Sure! You can't do it overnight. But you can show responsibility and strength on the local level and bite into it the policy and say, "Give me 25 years. We will have the political and economic courage to attack four percent of the problem each year for 25 years. We'll start with the mobile home parks and low income rents and those folks off the floodplain first." And at the end of that period of time, your floodplain will be safe. You'll have the same quality and quantity of expanded recreational activities that we have now in Rapid City. And you will stop subjecting your citizens to the dangers of living in flood prone areas.

Question Number Three:

The naysayers will say, "Mr. Barnett! We just can't do that because it costs too much money to develop the land into park and golf courses and hiking trails and biking trails, and it will cost far too much money to maintain the park system."

Absolutely correct. Park maintenance is a heavy burden in our city budget. No doubt about it. I rarely hear complaints from taxpayers about spending too much money on park and recreation programs. I see thousands of citizens, of all ages, use these facilities every day. The city council has improved the quality of life in my hometown. To their everlasting credit! And, frankly, ladies and gentlemen, it is pure wisdom.

I've never before or since worked with such a sound, honest, courageous, and progressive group of men and women. These men and women are the heroes of the Rapid City recovery.

It also requires a lot of money to recover from a flood. You would not believe the total American dollars expended by the Federal Government in the South Dakota disaster four years ago. The Federal Government expended over \$170 million following the South Dakota disaster in 1972.

The policies I'm talking about today are conservative. They are radical. And in Rapid City, they are a generation overdue. These are not give-away programs. The things I'm talking about will actually save money in the future. You know very well if you have a bad flood back home, your national government, your provincial government, and your local government are going to help those poor suffering flood victims. You are a compassionate and rich country and care about each other. After a disaster, all levels of government and the various national and regional charities help.

There's one family in Dubuque, Iowa that received Red Cross aid during each of the last four springs. Four years in a row! Government and charities line up and help. Maybe that family should not live forever by the river! Maybe firemen and policeman should not be forced, year after year, to rescue the same family from the same suicidal riverbank on the shoreline of the Mississippi River. It's not sound public policy to ask or require our civil servants to make that sacrifice! Government in general and taxpayers should not be called on year after year after year to provide bail-out money. I suggest government must have the wisdom and courage to stop this nonsense. Buy that family's property and force them to live in a safe location. That policy will save life and money. Wouldn't it be more economical to develop a floodplain relocation program and evacuate those regions over a 25 year period of time?

A good place to start in the majority of cities where I have shared this message is to buy the mobile home parks that are located on the banks of rivers and streams and buy them tomorrow. Think of the millions of dollars and hundreds of lives that would be saved. Set your priorities and buy 'em out and move 'em out. There's no diplomatic way to sugar coat that statement. Buy 'em out and move 'em out. PDQ. Remember! If you think it's too expensive to maintain the parkland, think about how expensive it's going to be to recover from the next disaster. Cost benefit ratios, no matter how they are calculated, never include the agony and expense of replacing a life. It is not possible to quantify the agony.

Question Number Four:

I'm going to pick a fight with somebody, and I'm not sorry. The naysayers will say, "Well, we can't buy out all of those people in the floodplain. Let's build a dam." That's the answer that has been given for the last hundred or two hundred years in the United States. Dams in themselves are not always universally wrong. However, structures are not the exclusive or isolated answer to every floodway management solution in your country and mine. The dam will normally instill a false sense of security in the local population. Please remember that phrase: "A False Sense of Security." Please take a look at the dams in the last four major floods in the United States of America.

- A. The West Virginia flood of March of 1972 killed 109 people because a dam was filled with sludge and goo in a mining valley in West Virginia and collapsed. 109 people were killed. It was built to a very weak standard or no standard at all.

- B. The South Dakota flood, June 1972, killed 234 people. However, the Pactola reservoir is only a few miles above the city. On the night of the flood, the level of the water in that massive reservoir went up less than three feet. Remember! The water fell below the face of the dam and came raging through the urban area.
- C. The Idaho flood, May, 1976, killed 15 people because the dam had not even been inspected, monitored, and routinely repaired. It collapsed during a high storm. The waters raged through farming communities. I've read the reports. The potential damage from the Idaho flood alone may be, if you count the loss of agricultural products, in excess of \$1 billion American dollars. The dam failed.
- D. The Big Thompson Canyon flood on the eastern slope of the Rocky Mountains in Colorado. It occurred only six weeks ago and killed 125 people. A small water storage facility is located several miles upstream from Loveland, Colorado. Where did the water fall? It fell below the face of the dam and roared downstream through a very narrow canyon and ravaged homes, businesses, cottages, service stations, and concentrations of highway traffic. 125 people perished. A highway patrolman tired to lead several folks to safety but failed. He perished too.

With more population density in our cities, there is the issue of more primary and secondary runoff from storms and normal drainage. It is time for our planners to look downstream. Ask the question? What impact will expanded urbanization have on the folks who already live downstream from the new project and already live on a floodplain? Is it time to put on the brakes and ask these questions before the next disaster? What does this mean? The potential for expanded surface drainage is greater than ever before because of a higher density of population. That means your tributaries on major rivers and your floodplains will become wider and need more capacity. A flood control dam that is empty before the flood will capture and store some of the flood water. A flood control dam that is filled with water the day before the flood? Well, I'd rather not think about it.

Some might say, "We just can't afford a radical floodplain evacuation program today." And that is perfectly understandable. The leaders in Rapid City had the same choice. We could have mopped up the damage, buried the victims, and gone on about our business. Let me issue one gentle warning to each of you.. If you don't have the courage to start a floodplain management program in the near future, and if you are afraid to be called radical or even outrageous, strengthen your warning system and your Civil Defence functions as soon as possible. Order your best people with the best minds to establish the best warning systems and tell them their government does not have the courage or the capacity to do anything more in the short term except build a warning system that'll warn the folks when high water is coming. In South Dakota, before the disaster, we didn't even have a warning system. Please. Establish your warning system plan within a few days following this conference and implement it rapidly. Before the stallion breaks out of the corral.

And here are a few other items that require your attention. Tell your policemen, firemen, citizen constabularies, and public works employees early and tell them often. They are the crews who will risk life and limb during your next flood. Your local civil servants will be called upon to save the folks. And the price they pay is absolutely terrible. Also, make sure the leaders of National Mennonite Disaster

Foundation know the location of your city. These wonderful people will be there within a day or after your flood and bring carpenters and tradesmen and help your survivors clean up the mess and restore home and hearth for your fortunate survivors. Warn the Red Cross and the Salvation Army and tell them to be ready. The American Red Cross set up shop in Rapid City and passed out \$206,000 to hundreds of disaster victims. No Strings Attached. The commander of the local Salvation Army in Rapid City perished while saving folks that terrible night. And his wife managed a portion of the recovery and personally supervised the preparation and delivery of 27,000 meals to thankful survivors during the first few days following the disaster while the Salvation Army sent dozens of skilled volunteers and staff to our region to lead the recovery. There's no way to express our appreciation for their generosity and human compassion. Tell your local ministerial association to get ready. Flood recovery is tough duty for just about everybody.

I'm simply saying the following: Without the courage to attack these problems and relocate those families from the dangerous parts of the floodplain, you've got serious problems in your future. Will you please learn from the bad examples of others?

When I take this message across America, I am often reminded of the famous dream by former Governor Adlai Stevenson of Illinois when he defined the American dream and the "the revolution of rising expectations." People want something better. They want to upgrade their standard of living. They want more parks, more leisure time services, and better and safer homes. They want something better for their children.

Summary:

If there's anything in my message for you today, as your highest priority, I urge to never fall for the old line about the economic necessity to build suicidal subdivisions and mobile home parks in low and dangerous drainage basins. Before the zoning is approved, please call the weather bureau. They keep records of floods and high water periods. They'll tell you if that valley, that drainage corridor, that creek, or that river has a record of flooding. If so, address that issue before you approve the next violation of the floodplain. Future generations will appreciate and respect your courage. Please go home with that understanding. The irresponsible developer may apply to zone his flood prone land for residential use. He will rationalize and apply to build a high density mobile home court, apartment houses, or a few single family homes. He is a capitalist and that is not bad. However, is he trying to pawn off his bad site to an unsuspecting buyer? Please return to your jurisdictions and create firm controls to stop poorly planned developments in potentially suicidal drainage ways.

Your opponents will claim that you are anti-progress, anti-development, and anti-business. Hogwash! That's my most sincere message to you today. With firm controls and reasonable standards today, you save money and lives tomorrow. If you have the courage to say "No" to the shoddy developer, the guy trying to pass one off on you and the residential home buyer, you're saving money for the taxpayers next year and the year after and the year after that. You're saving public treasury money by not allowing suicidal development.

Also, remember the data about dams. Dams create, at times, a false sense of security. People think the dam is the only answer, the beginning and the end, the solution for the entire problem. Look beyond structures to provide true safety in your urban, town, or village floodplain..

Elected officials, skilled planning professionals, and conservationists must educate our citizens about this grave—and grave is an understatement—issues of public policy. We weren't elected, appointed, or employed to waste the people's time. You must take this message time and time again into the city halls and the county courthouses and conservation district meetings and talk about it and talk about it and talk about it, as emphatically as you possibly can.

Conclusion:

It's not all bad, folks. I can remember the morning after the 1972 flood in Rapid City. Our hearts were filled with sadness. For the reasons defined today. We wondered if we had any chance to recover. And then we watched the fortitude of the people and their energy to fight back and survive. We watched folks adapt, learn, listen, follow the leadership of the city council, accept relocation, and offer better suggestions to the city council. Gradually, the victims themselves accepted the premise that the floodplain is just a terrible place to sleep but a pretty wonderful place to visit and recreate. These relocations were made one family at a time. Not with an instant and massive movement of 1,100 families. Many families absolutely wanted to move immediately to rid themselves of the nightmares of that night. Others were dubious and filled with grave uncertainty following the loss of family members and much family treasure. Less than 10% of the property owners demanded judicial condemnation procedures. 90% agreed to sell without judicial review.

I read an article a few weeks after the flood by Mr. Norman Cousins in the Saturday Review of Literature. I've tried to live my life by the message of those words. It's on the concept of optimism and the attitude we use to address our challenges and responsibilities in our city, our home, our family, and our church. I'd like to leave you with Mr. Cousins wisdom in 1973. He said, "*Optimism provides the basic energy of civilization. Pessimism is a waste of time.*"

With an optimistic attitude and the courage to use common sense and exercise your intellectual powers, you can return to your home communities and learn from this seminar. You don't have to adopt everything Don Barnett from South Dakota said. However, you should dig out more data from trained planning professionals who are much wiser and far better trained than I will ever be. Please address the problems of floodplain management and controls in the land use patterns and development of the floodplain in your home towns with a concept of absolute optimism. We believe as firmly as I stand before my Canadian friends today. "Optimism does provide the basic energy of civilization." And we believe just as firmly. "Pessimism is a terrible waste of time." Thank you very much.

- 30 -