Hurricane Report is a publication of the National Oceanic and Atmospheric Administration and the South Carolina Sea Grant Consortium. This report describes community efforts to reduce future hurricane damage, to mitigate storm threats, and to address roadblocks to change.

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Raising Up and Moving Out:
Elevation and Buyout of Floodprone Buildings: Do they work?

By John H. Tibbetts

Along the banks of the Pungo River in eastern North Carolina, majestic, century-old houses stand guard over the water, while hidden away among tall pines in the swampy interior are modest bungalows and mobile homes that bear scars of recent hurricanes. This is the town of Belhaven, pop. 2,400, average elevation three feet above sea level. "I don't have a speck of dirt that's not in the 100-year floodplain," said Tim M. Johnson, town manager. Driving through the town's back lanes, he pointed out a small frame house resting on a new, tall foundation, the concrete blocks still raw and unpainted. Before it was hiked up, the house lacked a foundation, and recent floods had rotted bottom trusses and planks. "Fifty years ago, you built right on the ground," said Johnson. "Some of these houses are sturdy as they can be, but they really got damaged during the hurricanes."

If a record existed for the number of times that an American community got flooded by tropical cyclones over a few years, Belhaven would likely hold it. Although Belhaven is 70 miles inland from the coast, four giant storms since 1996 have crashed past coastal barrier islands and driven storm surges across Pamlico Sound and up the Pungo River into town. On July 12-13, 1996, Hurricane Bertha pushed floodwaters through Belhaven. Only two months later, September 5-6, Hurricane Fran swamped 60 percent of the town's homes. On October 10 that year, Tropical Storm Josephine arrived, flooding about one-third of the homes hit by Fran. And on August 27-28, 1998, Hurricane Bonnie battered the town. "Bertha was devastating to people here," said Johnson. "Fran demoralized them. And then came Josephine and Bonnie."

Intense rains during recent tropical cyclones have also swamped North Carolina communities as far inland as Raleigh, more than 200 miles from the coast, causing millions in property damage. Seventy North Carolina counties were declared disaster areas during Fran alone. But these storms were not rare occurrences. Numerous U.S. hurricanes in the 20th century—in 1903, 1927, 1938, 1940, 1955, 1969, 1972, and 1994—have roared into inland regions, causing killer floods and catastrophic damage.

From 1989 to 1998, the Federal Emergency Management Agency (FEMA) spent $11.4 billion nationwide on disaster assistance for hurricane- and storm-related floods. This sum does not include funds from other government agencies that pay for search and rescue, temporary housing, public infrastructure repair, home and business loans, debris removal, and unemployment and dislocated worker assistance.

To reduce disaster costs, state and federal agencies are funneling tens of millions of dollars into North Carolina communities. With these funds, localities can acquire and demolish floodprone buildings, relocate residents, and elevate structures. Belhaven, for example, has received $9 million in state and federal money to raise up 379 of Belhaven's 950 homes, an average of about $4,000 for every man, woman, and child in town.

Lenoir County and its county seat, the city of Kinston, also about 70 miles inland, received a total of $20
million in state and federal buyout and relocation funds from various agencies, after the Neuse River overflowed in Hurricane Fran's wake. The Kinston/Lenoir County project is the second largest buyout of homes that FEMA has ever attempted. For North Carolina communities, the grants are a remarkable deal since they do not require local matching funds.

The North Carolina initiatives are part of a larger effort to mitigate flood damage. Since the Midwest deluge of 1993, FEMA has helped buy out 20,000 flood-prone properties in 34 states. In a famous case, the entire town of Valmeyer, Ill.—population 900—was moved to avoid repeated inundation from the Mississippi River. In Arnold, Missouri, a former trailer court is now a football field for the Jefferson County Youth Association; and in Jefferson City, much of the acquired property will be transferred to the local park system. FEMA has argued that buyouts are less expensive than allowing victims to receive repeated insurance settlements and disaster assistance. Every dollar spent on buyouts and elevations saves two to three dollars, FEMA noted.

Generations ago, if a home got wet again and again, the owner probably would have abandoned it and moved to higher ground. Or he would have built a new house on a taller foundation to let water flow under the first inhabited floor. In the old days, property owners paid the cost of raising their own structures or moving out of harm's way. And this worked. During recent hurricanes, most of Belhaven's 19th century homes were not inundated because they had been built on tall foundations, though the structures are located within a rock's throw of the river. But the tradition of elevating homes was lost in the first half of the 20th century.

In the 1950s when a series of hurricanes hit North Carolina, storm surges and high waves undermined beachfront houses and knocked others off their shallow foundations. So North Carolina passed a coastal building code, establishing tougher standards for new homes near the oceanfront. New houses there had to be elevated, with pilings eight feet deep into the ground. (Decades later, the standard was changed to 16 feet.) Soon landowners on the back side of barrier islands, where the standards were not required, showed the sincerest form of flattery by elevating their homes as well. "Over time people changed their idea of how a beach house was supposed to look," said Spencer Rogers, North Carolina Sea Grant Extension Program coastal hazards specialist. "This change was driven not so much by regulation as by public perception."

Meanwhile, Americans were learning that they couldn't hold back swollen waterways with rocks and concrete. Until the 1960s, virtually all flood control projects in America were structural measures—seawalls, levees, floodwalls, and river diversions—that did not always prevent waterways from overflowing. After major studies recommended a new direction for flood control, Congress enacted the federal flood insurance program in 1968. The program required new and substantially remodeled homes in floodplains to be built on pilings or tall foundations, their first inhabited floors at or above the 100-year flood elevation. Over the past 30 years, these rules and other measures have protected countless newer homes, but many older structures remain vulnerable.

So now the federal government is paying to move or elevate some of these older homes. Still, there are questions about the cost of these programs. Why can't residents pay to move or elevate their own buildings? Why should U.S. taxpayers foot the bill? What are the federal government's responsibilities for reducing hazard vulnerabilities, and what are the private citizens' duties to prevent disaster damages next time? Apparently, one answer to these questions is that the federal government's role in protecting people from harm is growing, while the citizen's responsibilities seem to be shrinking.
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POVERTY ALONG THE RIVER

The city of Kinston, on the banks of the Neuse River, is a somber place. Although Kinston is the retail and manufacturing center of Lenoir County, half of the red-brick storefronts downtown are empty, and the city's population—about 25,000—has been stagnant for 30 years.

Hurricane Fran did not make things easier. Arriving in September 1996, Fran brought rainfall that drenched the eastern half of the state, and the U.S. Army Corps of Engineers, concerned that a dam near Raleigh would break, released huge amounts of water into the Neuse River. As the water left the dam and swept downstream, it washed into communities along the Neuse. Meanwhile, the hurricane knocked out electricity in municipal sewage-treatment plants, causing spills of raw and partially treated sewage into the river. The storm also broke or flooded farm-waste lagoons, releasing animal sewage. The urine and feces were mixed with oil and chemicals from garages and salvage lots, and on September 16—10 days after Fran struck—the nasty stew arrived in Kinston and Lenoir County, where it overflowed the river banks and submerged homes and businesses in the floodplain.

"You smelled it, and it was bad, all brown-looking," said Furney Thigpen, a car mechanic who lived for 20 years in a brick-veneer, double-wide trailer in the Rivermont neighborhood of Lenoir County, a rural area of rutted dirt roads, modest homes, and big trees. "My feet burned in the water as I waded to my trailer. There were all kinds of chemicals from junkyards." After the flood he lived in a camper with holes in the roof, so his bed got wet whenever it rained.

Then Thigpen signed up for the government buyout program. A combination of state and federal funds allowed the county to purchase his home, which will be demolished, and helped Thigpen buy a double-wide trailer outside of the floodplain. He said he received a good deal from the buyout, and he's glad to be living away from the river.

Across the Neuse, Kinston's central business district sits high and dry on a hill. To reach floodprone southeast Kinston, which is primarily black and poor, you drive down into a neighborhood of paved streets and small homes, many solidly built and well-kept, others seedy and neglected with visible stains from high water. Then farther down in the river flats, you reach a neighborhood that looks like a rural slum: unpaved roads, yards overgrown with dense vegetation, moldy concrete houses, and trailers brown with rust. This area was hit hardest by the flood of '96. City planners hope that through the buyout program "an overwhelming number of homes in this area will be acquired and demolished," said Jacky Eubanks, assistant director of planning and development.

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Southeast Kinston is typical of the poverty in many floodprone neighborhoods. Few inland victims have financial resources to relocate or elevate homes on their own. In Kinston, the average home value in the city's acquisition program is $24,000, and 90 percent of residents are below the poverty line.

After their homes are swamped, many victims must scramble for new places to live until their homes can be cleaned up and repaired. If they can't find or afford a dry place to sleep, they move right back into damaged structures while mopping up the stinking, moldy mess. So government buyouts are driven by compassion for people who desperately need help.

Yet flood victims could do more to help themselves: they could purchase flood insurance, for one thing. In Kinston's floodplain, only 5 to 10 percent of residents were covered by flood insurance, which costs about $135 year for a $50,000 home. Although 4.1 million flood insurance policies are in effect in nearly 19,000 communities, the great majority of homeowners who need policies don't buy them. Only 12 to 15 percent of the buildings eligible for coverage are insured, and this percentage is even lower in some
Kinston officials have tried to acquire structures and move residents into healthier quarters as quickly as possible. All homeowners in Kinston's 100-year floodplain were eligible to sign up for the buyout. "We wanted to give as many people as possible an opportunity to get out," said Bob Clark, director of the Kinston planning and development office. FEMA accepted 205 properties in Kinston for acquisition, and 58 had been purchased by April 1999.

The buyout process has been agonizingly slow, planners said, partly because it's so complex. Several initiatives fund the project, including the Hazard Mitigation Grant Program within FEMA and administered by the N.C. Department of Emergency Management; the State Acquisition and Relocation Fund, administered by the N.C. Department of Commerce's Division of Community Assistance; the Community Development Block Grant-Urgent Needs program at the U.S. Department of Housing and Urban Development (HUD) and administered by the state Division of Community Assistance; and the Disaster Recovery Initiative at HUD, administered by that agency.

"There's a lot of confusion, dealing with various requirements within all these agencies," said Jay Bowers, a Kinston planner and code enforcement officer. For residents and planners alike, a government buyout can be a bewildering maze of paperwork. "We did a lot of outreach and education, explaining the program to residents and encouraging them to sign up," said Bowers. "But many residents complained that they didn't understand it."

To acquire a home, a local government must organize an assessment of the property, a preliminary title search, a property survey, a preliminary title opinion, property appraisals, review appraisals, a process to establish just compensation, and it must provide a formal written offer to purchase. "This process takes far too long," said Bowers. Many properties have tangled ownerships, as well. "You have properties with heirs in Boston, New York, New Jersey, each with one-fourth or one-fifth interest," and you have to track them all down, he said.

After a damaged structure is acquired, local officials must relocate residents to a suitable location. "You have to find several comparable buildings, with the same amenities—equal number of bedrooms, same style of house," says Joey Taylor, resource development director for Lenoir County. Families are given a relocation benefit, averaging $28,000 in the city and $25,000 in Lenoir County. In Kinston, the total package of buyout funds and relocation benefits has averaged $52,000; in the county, $70,000.

Kinston, in particular, is faced with the question of where to move people. The city has a severe housing shortage, and as planners explored building affordable housing, they met opposition from neighborhood groups. "We've tried to pursue an infill strategy in other areas of the city," said Jacky Eubanks. "But there's resistance to anything new. The reaction is not necessarily based on race. It's an economic issue. Some people think that everybody should live in a 2,000-square-foot house."

Despite the hard work of local planners, Kinston's buyout shows evident flaws. An ideal acquisition program would purchase and demolish large blocks of homes, completely clearing a floodprone area and preventing anyone from building there again. But in Kinston and Lenoir County, acquisitions have been piecemeal: a home acquired here, another there, leaving a "Swiss cheese" pattern of development in the area most affected by the 1996 flood.

Last October, in the river flats area of southeast Kinston, Jay Bowers drove along a dirt road, his car bouncing through ruts of small swimming pools. "This house belongs to the city," said Bowers, pointing at a decrepit concrete structure. "And we bought that place." He nodded toward a trailer caked with rust, half-hidden in a jungle of bushes and weeds. "But we don't have that house and that one and this one," he said, indicating homes that the city was still attempting to purchase.

In Kinston, FEMA ranked eligible properties based primarily on potential vulnerability to flood—that is, on each property's land elevation and the structure's first-floor elevation. But these data did not always correspond to actual structural damage during the 1996 hurricane, said Bowers. As a result, some homes minimally harmed by that flood were higher on FEMA's priority list and have been acquired. Some heavily damaged homes lower on the list have not yet been acquired, though they probably will be purchased during future phases of the program. Local planners expect that all 205 structures on FEMA's priority list will be bought, but the city will need additional federal funds to do so.

If homeowners don't want to leave the floodplain, they can't be forced out, because FEMA buyouts are voluntary. That's also a big reason why "it's often difficult to get residents involved" in acquisition programs, said Timothy Beatley, associate professor of regional and environmental planning at the University of Virginia. He noted that after 1993 floods in Iowa, for example, some locals participating in FEMA buyouts could not recruit enough homeowners willing to leave.

Government buyouts just smell fishy to some residents. In the Rivermont neighborhood of Lenoir County, Mike Eubanks lives in a frame house, haphazardly covered with vinyl siding, which he'd rented before Hurricane Fran struck. A trim, bald man with a fringe of red hair falling to his shoulders, Eubanks bought the house, which he sanitized and gutted, and which he was still remodeling. "In the beginning, no one in the neighborhood was going to sign up for the buyout," Eubanks said. "They'd lived here forever. They liked it." But then suddenly his neighbors signed up. "When I saw what people were
getting, I signed up too, but late." He became worried about being left behind in an abandoned neighborhood, and he viewed dark motivations behind the buyout program. Government officials, he said, "really wanted to push everybody out to acquire their property for some future purpose. I thought that was wrong."

Some residents believed that the U.S. Army Corps of Engineers and local officials plotted to release water from the dam to inundate portions of Lenoir County and Kinston, intending to force out residents whose properties could be developed at a profit. "There is feeling among a few that there has been a conspiracy," said Walter Jones, an elder in Grove Park Christian Church. Jones is a church representative for the Association of Congregations in Kinston and a member of the Unmet Needs Committee sponsored by the city and county to aid flood victims. As rumors spread, officials explained that the program was in the best interest of residents. "We've got to work through their mistrust of government," said Jay Bowers. "To most of these people, the government is white, and we're 'The Man.'"

"You hold public meetings ad nauseam," said Gavin Smith, hazard mitigation chief with the N.C. Division of Emergency Management. "The buyout is not about removing people. Yet that's a legitimate fear. You can see how they would think, 'Are they just trying to clear us from this town?' Some residents have been flooded over and over, yet they don't want to move."

In a simpler world, local governments would just clear out large tracts of homes. Localities would use the government's power of eminent domain to buy and demolish every structure likely to flood repeatedly. But using eminent domain would have struck raw nerves in the community and caused a political backlash, local planners said. Besides, Todd Davison, director of the mitigation division at FEMA's Atlanta regional office, noted that the agency is not in the business of forcing people out of floodplains. "By law, we absolutely cannot do eminent domain."

In Kinston, hundreds of residents can gain thousands of dollars worth of benefits, including better homes, safer neighborhoods, and reduced risk of flooding, yet these blessings are not always appreciated. "There is some jealousy: he got more than me," said Walter Jones.

In fact, after joining the program, some residents now apparently believe that a continuing flow of government money is owed them by right. Before Hurricane Fran, Lois Sanders lived in a pleasant brick home in the paved area of southeast Kinston, an oasis within several blocks of seedy, neglected structures. After the flood ruined her house and belongings, FEMA provided a $12,900 emergency grant to replace items such as furniture and clothing.

Sanders also received $49,000 in the flood-insurance settlement, and from the city she got $1 dollar for her house and $3,000 for the land. She received a $75,000 Small Business Administration loan at 4 percent interest. All this aid helped her purchase an attractive brick house in a quiet, prosperous suburban neighborhood. Sanders was bitterly dissatisfied. "I had a very bad experience," she said, sitting in her new living room. "Other people got a better deal out of (the buyout program)," she said in a choked voice, wiping away tears. She felt cheated because she did not receive relocation assistance as well. But the low-interest loan she accepted did not allow her to receive relocation assistance, which would have been a duplication of benefits. Nevertheless, she was determined to get what she said she deserved, and has written letters of complaint to her congressman and senator. "I have really been mistreated," she moaned.
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**ELEVATING TO NOWHERE?**

Built along a picturesque river that flows into Pamlico Sound, Belhaven is the sort of resilient little town where locals remain despite repeated hurricanes and a declining job base. Belhaven residents would never accept a buyout—they'd simply refuse to leave, said Tim M. Johnson, town manager. The town's leaders were not interested in a buyout either. Since Belhaven is so small and there's no high land in town to move to, the community would disappear if houses were demolished and residents were relocated. So Belhaven has received federal and state funds to elevate structures instead of acquiring and demolishing them. It's less difficult politically to raise up houses, because residents get to stay in their homes and neighborhoods. But elevating a home is very expensive and doesn't always eliminate the building's vulnerability to large storms.

So far, it has cost an average of $34,000 to build a new, engineered foundation for each house in the Belhaven project to one foot above 100-year flood level. It has cost about $10,000 to build up a foundation for each mobile home.

Some Belhaven houses have concrete slab foundations, which are difficult to cut away from the main structure. In some cases, the slabs cannot be extricated and are elevated with the structures. Homes that lack a foundation also present challenges. “You can’t get under them, so you have to tunnel,” said Johnson. “Often you find that termites have eaten away the beams laying on the ground.”

Because contractors bid for work on several homes at a time in Belhaven, the price tag to raise each structure is far less than an individual homeowner could get on the open market. “The costs of elevation go down as the numbers of buildings (in a project) go up,” noted Todd Davison of FEMA. In one extreme case, a Louisiana family elevated their 2,250-square foot house with slab intact eight feet above grade, at a charge of $151,580, as part of a federal demonstration project. This was so expensive partly because an out-of-state contractor had to be brought in, and because it involved a slab foundation. Flood insurance policies now have a mandatory rider that allows homeowners to receive up to $15,000 to elevate their homes after a flood, but few homes could be raised for that amount.

In eastern North Carolina, “the biggest problem is getting contractors who are qualified and can keep costs down,” said Bob Ward of Holland Consulting Planners, the company administering elevation projects in Belhaven in the city of Washington, North Carolina, where 60 structures are slated for elevation and in Beaufort County, where another 109 will be raised up. “We are saturating the number of local contractors quickly, so we are talking to contractors as far away as Oregon,” said Ward.

All structures in the North Carolina projects must meet the Section 8 Housing and Urban Development code, including fire safety, plumbing, and electrical guidelines. There is a funding cap of $7,500 for code upgrades for each building.

Once a home is raised, a flood insurance policy must be maintained on the property. Some residents, though, have objected to this rule, said Johnson. He told one elderly woman whose house was worth “nothing” before the flood that “you have to carry the flood insurance. If you agree to pay $12 a month for a policy, you can get a new house. And she said, ‘You think I’m made of money.’”

Lifting up a home is no panacea. During hurricanes and other storms, waterways would still overflow, so floods could reach the first inhabited floor on occasion, though damage to private property would be less frequent. Even so, floods would continue causing damage to roads and water and sewer lines, and taxpayers would have to pick up the tab for such repairs. Moreover, taller structures can be more
vulnerable to hurricane winds, catching the greater brunt of gusts. Thus by elevating homes, one hazard is reduced while another is increased. It also makes little sense to elevate mobile homes in a hurricane-prone area: mobile homes are notoriously fragile in high winds, and elevating them might not significantly improve their chances of surviving a hurricane.

A final point against raising homes is that residents frequently cheat on insurance agreements and start to live in their new “basements.” According to federal insurance rules, the areas of a structure underneath the 100-year flood level can be used only for parking and storage. But after Hurricane Hugo, which hit South Carolina in 1989, FEMA officials found that many homeowners were using these areas for playrooms, guest rooms, and other living areas—and the contents were damaged by rising waters. This problem continues today because many local officials do not strictly enforce floodplain ordinances, said Spencer Rogers. A significant numbers of coastal residents either do not know about the rules or ignore them.

"I'd much rather acquire the houses" in floodplains than elevate them, said Bobby Roberson, director of planning and development for the city of Washington. The city plans to buy out 14 properties and build a public park along Jacks Creek, a tidal waterway impounded into a series of linked lagoons, mostly cut off from Pamlico Sound by an abandoned railroad trestle and street overpasses. The creek, which floods frequently, meanders past rundown homes, a grim housing project, a tiny park, and a middle school before it narrows into a stagnant, littered ditch. “Once every five years, some of these places are getting flooded. Acquisition is more cost-effective.” Sixty Washington properties are slated for elevation. But if the cost of lifting up a home is close to its appraisal value, local officials will request to acquire the structure and help residents move someplace else. “Nobody's said no, so far,” Roberson said.

Yet for Belhaven, raising homes is the only alternative, Johnson insisted. “The reason the town was built in this location was because of the water,” said Johnson. Many residents enjoy fishing and crabbing and boating and they will not relocate. “People who live here aren't going anywhere.”

Still, this argument is troubling. Does it mean that taxpayers should be obligated to subsidize people living in dangerous places? Does it mean that taxpayers should sustain every community in a volatile environment? Or should residents accept more of the economic risk if they choose to live in such places?
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A FAILED PROPOSAL

Not long ago, FEMA's chief proposed that some aspects of the flood-insurance program should be reformed, but property owners responded with such fury that the idea was quickly dropped.

The FEMA director was attempting to focus attention on a widespread problem. That is, many repeatedly flooded homes can be rebuilt again and again in the same vulnerable places, while the property owners continue taking insurance checks and receiving public assistance. If a flood damages a private residence by more than 50 percent based on its pre-disaster market value, the owner is required to raise, demolish, or relocate it, according to federal rules. But if each flood damages less than half of a home's market value, the owner can keep taking insurance payouts.

Let's say you own a 40-year-old, $80,000 single-family home, federally insured for floods that have swamped the building five times. In the Midwest, the average payout after floods in the early 1990s was $25,000. So let's say that on your $80,000 house you have received $25,000 in damage claims for five separate floods—$125,000 total. Yet because your claims have never triggered the 50 percent rule, you're under no obligation to demolish or upgrade your home to current standards.

Thus current insurance rules act as a perverse incentive, allowing repeated settlements on buildings that should be moved or flood-proofed. Such "repetitive-loss structures" are a drain on the flood insurance program. Nationwide, 35,000 properties have been flooded at least twice in the past decade, costing the program over $200 million a year. The flood insurance program had to borrow $810 million from the U.S. Treasury between August 1995 and January 1998.

Local governments enforce the 50 percent rule through their building permit procedures, but many homeowners don't apply for permits before making repairs, and inspectors don't have time to check every structure. "The majority of repair work is done without permits," says Johnson. "When you have 60 percent of the homes in a town damaged by a hurricane and one inspector, you can't keep up. People are doing repairs at night and weekends without a permit. You don't know what's done." This is a common problem nationwide as local governments, underfinanced and understaffed, are hard-pressed to inspect all the rebuilding after a natural disaster. Many property owners also know how to manipulate the system, said Terri Potts, zoning administrator with the city of North Topsail Beach, North Carolina. "They can get almost any figure from contractors on estimates of repair." Some homeowners get estimates well below 50 percent of the structure's value, receive a permit to rebuild, and later secretly renegotiate the real cost of construction with the contractor.

If a house's damage is greater than 50 percent of the structure's actual value, many local officials ignore the evidence. "You don't want to tell somebody 70 years old, somebody who got their home from their dad, that they can't rebuild," said Johnson.

James Lee Witt, director of FEMA, proposed in a November 1998 speech that the agency should reform its system of insuring repeatedly damaged properties. He argued that flood insurance should not be available to homeowners with at least two repetitive losses totaling more than the value of their property, and who refuse to elevate their home or accept a buyout. "People need to accept the responsibility and consequence of their choice to live in high-risk areas," said Witt.

This seems a sensible proposal. Yet it is very far from becoming national policy, said Todd Davison of FEMA. "There was a tremendous recoil and backlash" from property owners after Witt floated the idea, he said.
Perhaps the public reaction is another example of Americans believing that they should garner all possible benefits from a government program while they refuse to accept reasonable obligations in return.
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BETTER PLANNING NEEDED

Not only must citizens take more responsibility to reduce their risk from disasters, local governments should also take initiatives to prevent future flood damage. Yet many localities fail to provide significant restrictions on new development in repeatedly wet areas.

The federal government, except in special cases, stays out of land-use planning, as do most states. It falls on local governments to take charge, but many localities still lack the political will to strictly regulate land uses along floodplains.

Communities can diminish their disaster risk by purchasing wetlands and other open space along waterways, thus protecting them from development; improving stormwater drainage systems; enacting special building standards for flood hazards; and steering public facilities and infrastructure outside of hazard areas. Perhaps the best tool is for communities to enact comprehensive plans and ordinances to limit new development in hazardous areas. “Developers want flat land on floodplains,” said Ken Taylor, state hazard mitigation officer with the N.C. Division of Emergency Management. “If communities had land-use planning, they could discourage inappropriate development.” The city of Raleigh, for example, does not allow construction in the 100-year floodway.

Land use regulation, however, is unpopular in many parts of the country, including eastern North Carolina, a deeply conservative region. “There is a long-standing tradition in eastern North Carolina of protection of property rights,” said Bob Clark. Throughout the region a few weeks before the November, 1998 elections, candidates filled airwaves with political ads repeating the mantra of protecting private property rights.

Some property-rights advocates insist that Americans should have virtually no restrictions on their land, including floodplain regulations. Some conservative activists have claimed that recent U.S. Supreme Court decisions have overturned strict regulations on land use.

That’s not true, experts said. In fact, dozens of land-use cases over the past 30 years in state and federal courts have given the green light to floodplain regulations, according to Rutherford Platt, University of Massachusetts professor of geography and planning law. “The bulk of case law is very supportive of floodplain zoning,” said Platt.

When communities do not rigorously regulate land use and plan for floods, their inaction leads to enormous economic and social costs. Recent “hurricanes would have done far less damage if communities had planned better,” said Richard Krimm, FEMA’s former executive associate director for mitigation, at a hazard workshop for South Carolina local governments in July 1996. The failure of community leaders to act “is putting people in harm's way.”

Still, many property owners vigorously resist tougher rules on land use. “Mandating and improving building codes and rezoning to prevent additional building in flood areas does not always sit well with the affected public,” said Richard Moore, secretary of the N.C. Department of Crime Control and Public Safety, at the 1997 National Hurricane Conference in Houston. “But at some point our nation and our state may have to say: Enough.” Federal payouts for disasters are growing too high, he said. Now federal and state agencies are spending millions to prevent future flood damage in some North Carolina communities that have failed to take significant local actions to reduce their own vulnerabilities.

Why should taxpayers give money to communities that have been unable or unwilling to help themselves? For example, Lenoir County does not even have a planning department; it was disbanded.
years ago. Since Fran, “county commissioners are not as (opposed) to planning as they were,” said Joey W. Taylor, resource development director for Lenoir County. The county is not considering enacting a land-use plan in the future, he said. But “the flood made everybody more aware of the clean water problem. People haven’t forgotten the feces floating in the river.”

Moreover, the city of Kinston also has not enacted zoning ordinances to keep development from creeping back into the floodplain. Although new homes or businesses could not be built on land bought with FEMA funds, there are other flood-prone properties where landowners could build structures.

History shows that not long after a flood, the consequences of building in low-lying areas are forgotten, and people want to build again in hazardous areas. After the Midwest floods some Missouri communities tried to allow private businesses to build on properties purchased with federal buyout money. One community sought to permit construction of a football complex on bought-out land, while another sought to allow development of a privately owned recreational vehicle park.

Kinston will continue to purchase properties in the floodplain, and the city could possibly study rezoning the area to discourage new development from creeping in, suggested Bob Clark, the planning director, but that decision must be made by elected officials.

Meanwhile, FEMA is unwilling to pressure localities to establish tougher rules on development in hazardous areas. FEMA “doesn’t deal with land use,” said Davison.

The states of Florida and Tennessee require local governments to enact hazard-mitigation plans if they are to receive any federal disaster grants. Although North Carolina does not have a similar mandate, the state is funding hazard-mitigation plans for Lenoir County and Kinston and 10 other localities. These initiatives could help communities start to “make hard decisions,” said Gavin Smith, “providing a window of opportunity to think more about land-use planning.”

North Carolina buyouts and elevations could help hundreds of families avoid future floods. These seem worthy projects despite their high costs.

But it is also clear that many property owners in eastern North Carolina have not yet accepted their civic duty to reduce their risks from natural disasters. They are not alone, though. Around the country, Americans demand generous government help when disasters occur, while they strenuously object to restrictions on their land use and property. State and federal agencies and U.S. taxpayers have increasingly shouldered the expense of natural disasters. Now, it is crucial that localities take charge and begin to manage appropriate development and that citizens reduce their vulnerability to floods. Otherwise, they will become too accustomed to federal handouts, subsidies that U.S. taxpayers might not support every time a disaster strikes.

John H. Tibbetts is a writer/editor for the South Carolina Sea Grant Consortium in Charleston, SC.
Continued

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- A failed proposal
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Sources


