

**CIE Review of report on "Preliminary Assessment of the
Impacts of Hurricane Katrina on Gulf of Mexico Coastal
Fishing Communities"**

by

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for

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Executive Summary

After review and evaluation of the “Preliminary Assessment of the Impacts of Hurricane Katrina on Gulf of Mexico Coastal Fishing Communities,” the following conclusions are recommended.

1. The rapid ethnographic assessment methodology used in this report is scientifically sound and falls within the range of accepted rapid social assessment approaches used in the United States.
2. The fishing community social and infrastructure impact data and analyses presented in the report are consistent with the methodology described in the report.
3. The report provides comparable pre- and post-impact, fisheries-focused social and infrastructure data at the state level for the states of Alabama, Mississippi, and Louisiana.
4. The report provides comparable pre- and post-impact, fisheries-focused social and infrastructure information at the community level for affected communities for the states of Alabama, Mississippi, and Louisiana.
5. The report's conclusions are supported by and are consistent with the data and their analysis as described in the report.

Recommendations to provide more transparency with regard to the selection of participants and the interviewing techniques that were used are provided within the review. Overall, the report is scientifically sound and the conclusions are supported by the data presented and the analysis described.

Description of Review Activities.

Background

A review of the statement of work provided to the contractor and the final technical report was conducted over several days. An assessment was made regarding each of the questions provided to the reviewer with answers included in the following review report. Because of time constraints a more detailed discussion of the report was not possible.

Summary Report

This summary report was conducted in order to evaluate whether the “Preliminary Assessment of the Impacts of Hurricane Katrina on Gulf of Mexico Coastal Fishing Communities” meets accepted scientific practices for rapid ethnographic assessment, and to provide recommendations for improving future rapid assessments of fishing communities damaged by natural disasters like those occurring in the 2005 hurricane season.

1. Is the rapid ethnographic assessment methodology used scientifically sound? Does it fall within the range of accepted rapid social assessment approaches used in the United States?

The primary and secondary data collection methodology used within this research is scientifically sound. Given the extreme circumstances under which this research was conducted, the use of informal interviews and a snowball, or network, sampling is the only method practicable. Because of the devastation and subsequent displacement of individuals, the lack of a formal sampling frame is justified. Although there is the potential for selection bias with rapid assessment that may skew the responses to certain sectors, key informant selection and triangulation are time-tested methods that can be used to assure that the information collected is the most accurate and reliable. Because the principal investigators had previously conducted rapid assessment in these communities and were familiar with circumstances prior to the hurricane, they seem to have been able to ensure a representative sample was achieved and with repeated visits were able to address any bias as indicated throughout the discussion, as the most relevant sectors are represented.

The methodology used in this assessment is analogous to rapid assessment with some refinement. Rapid assessment is often conducted under a time constraint that allows one visit to a particular site within a shortened time frame. This research was conducted under similar circumstances; however, researchers were allowed several visits over an extended time period. Even with the extended time frame and repeated visits, the context under which this research was conducted made rapid assessment necessary. Random sampling and structured survey questionnaires would not have been practical.

Although rapid appraisal methodology is appropriate under these circumstances and for gathering baseline information on fishing communities in previous studies, the need for more in-depth study of the social networks and economic channels for production and distribution are still considered necessary for future assessments. It is obvious in this report that researchers were able to gather information pertaining to these areas of concern, i.e., employment data,

however, data collection and analysis may have benefited from having more in-depth ethnographic research within this region from which to draw conclusions and compare current conditions. Obvious social networks or the lack thereof clearly exist within all of these communities and the similarities and dissimilarities are apparent due to a variety of ethnic groups, economic circumstances and geographical location. The description of both the formal and informal economies of recovery is classic adaptation to disaster; as one falters, the other evolves. The unusual circumstances here, with significant change occurring prior to the hurricane, suggest that in some cases neither may be sufficient to ensure a timely or full recovery for particular sectors in some states.

Recommendations for improvement with attention to future rapid assessment studies

One recommendation offered here relates to more transparency with the sampling technique. In the document the authors state that over 450 individuals were interviewed with respondents comprising representatives of the commercial and recreational fishing industry; both private and government agencies; and other local residents not associated with the fishing industry. While it may seem tedious to list the number of individuals in those categories interviewed for each state, it would provide a benchmark to be equaled or exceeded for future rapid assessments. Granted there will certainly be differences in the number of individuals within each of these categories and in some states, one group may be more represented than another, however, a discussion of these differences and any difficulties might assist in future assessments. In addition, it may also be useful to have a discussion of how informal and formal interviews were conducted and whether or not research personnel were provided written or unwritten guidelines for conducting interviews and what topics were to be covered during interviews. While the data provided in the report is consistent throughout the document, some were collected through secondary sources and others were collected through primary sources. Discussion of the how initial interviewing was different from follow-up interviews and any difficulties in obtaining certain types of data or any data inconsistencies would be useful.

2. Are the fishing community social and infrastructure impact data and analyses presented in the report consistent with the methodology described in the report?

The report is consistent throughout with its representation of data and analysis of fishing community impacts with regard to its infrastructure and social structure by providing an analysis that examines both changes in infrastructure and the viability of social networks within the communities of each state. The report is clear in its structure as stated in the document providing tables that examine seafood landings, employment and participation in the harvesting sector through all levels of association and over time, including pre and post hurricane. The discussion at the end of each state section, which provides a description of the response and adaptation, is especially useful as it provides some insight into how social networks are responding to this disaster or how state and federal assistance is either assisting or hindering the recovery effort.

The discussion of industry trends and the demographic overview in the first section provide an important context from which to consider the impacts to the north central Gulf coast as a whole, but also to individual states and communities. The GIS maps with socioeconomic data overlaid

with storm surge and flooding levels is very informative in taking into consideration the impact of the storm.

3. Does the report provide comparable pre- and post-impact, fisheries-focused social and infrastructure data at the state level for the states of Alabama, Mississippi, and Louisiana?

For the most part, comparable data are provided for each state, which examine employment, participation and tallies of infrastructure. In some states data provided are more detailed for some sectors, but overall the report is consistent throughout by providing comparable tables and maps enumerating various infrastructure important to the fishing industry and their locations. These data inconsistencies are not due to the method or structure of the research, but due to differing data collection activities by various state and federal agencies. A common problem in conducting research along the Gulf coast is the different manner in which data pertaining to fisheries are collected. In some cases, data may be collected in one state, while in another it is not. Given the unpredictable nature of data collection at the state level the document is remarkably consistent with its presentation of comparable data for each state.

4. Does the report provide comparable pre- and post-impact, fisheries-focused social and infrastructure information at the community level for affected communities for the states of Alabama, Mississippi, and Louisiana?

Data are provided throughout the document that present comparable pre- and post-impact fisheries-focused social and infrastructure information at the community level. In some cases the data are not uniform, however, the data are consistent enough to provide a corresponding estimate of change regarding the impact of the hurricane to either the social network of some type of infrastructure. With previous experience in these communities, the researchers had some advantage in understanding which data were available. With their focused approach to interviewing, they were able to collect important data on employment that does not exist at the community level and can be unreliable at best.

5. Are the report's conclusions supported by and consistent with the data and their analysis as described in the report?

The report's conclusions are supported and are consistent with the data and analysis presented. The key factors that existed prior to the hurricane mentioned under "Challenges to Recovery," including: declining shrimp prices, fuel costs, coastal erosion, gentrification, labor shortages, and insurance have all been the subject of the popular press and media for some time. Anyone who has interviewed a fisherman along the Gulf coast in the past four or five years would have made note of at least three or four of these impediments to a fishing livelihood. The increasing coastal population along with a global economy was having an impact prior to the two seasons of intense hurricanes in 2004 and 2005. These pressures were obvious and are reflected in the previous work conducted by the research firm. As pointed out in the conclusions of this report, much of the success in recovery will depend upon the arrival of relief in terms of federal and state funds to rebuild important infrastructure that has been devastated by the storms. It is also clear from

this research that many of the informal networks that so often are available to communities, groups and individuals have either been stretched thin or no longer exist. Where in the past these forms of grassroots relief could be relied on in spite of lagging state and federal aid, their inability to fill a gap in recovery could have dire consequences for fishing industry overall.

General Comments

It should be noted that there were some inconsistencies with labeling for some figures throughout the document. Numbering and the discussion within the text should be proof read for consistency. In addition, discussion of some tables relating to pre-Katrina dockside landings on Table 49 and 50 is not clear. Another discussion in the concluding chapters on economic effects on page 226 in the second paragraph seems to confound terms, such as fish and seafood making the dollar amounts inconsistent. An earlier discussion of marinas in Louisiana on page 69 includes some figures that do not seem to be consistent with earlier estimates.

References

Bickman, Leonard and Debra J. Rog. 1997. *Handbook of Applied Social Research Methods*, Thousand Oaks, CA: Sage,

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Impact Assessment, Inc. 2005a. Identifying Communities Associated with the Fishing Industry in Louisiana. Prepared for the U.S. Department of Commerce, NMFS, Southeast Regional Office, 9721 Executive Center Drive, St. Petersburg, Florida 33702. Contract number WC133F-02-SE-0297.

Impact Assessment, Inc. 2005b. Identifying Communities Associated with the Fishing Industry along the Florida Gulf Coast. U. S. Department Of Commerce NOAA Fisheries, Southeast Regional Office St. Petersburg, Florida. Contract number WC133F-02-SE-0298.

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Impact Assessment, Inc. 2005d. Identifying Communities Associated with the Fishing Industry in Alabama and Mississippi. U. S. Department Of Commerce NOAA Fisheries, Southeast Regional Office St. Petersburg, Florida. Contract number WC133F-03-SE-0603.

Low, Setha M., Dana H. Taplin, and Mike Lamb. (2005) "Battery Park City: An Ethnographic Field Study of the Community Impact of 9/11", *Urban Affairs Review*, Vol. 40 (5): 655-682.

Utarini, Adi Anna Winkvist, and Gretel H. Pelto. (2001) "Appraising studies in health using rapid assessment procedures (RAP): Eleven critical criteria", *Human Organization*, Vol. 60 (4): 390-400.

Appendix 1

STATEMENT OF WORK

Consulting Agreement between the University of Miami and Michael Jepson

CIE Review of report on "Preliminary Assessment of the Impacts of Hurricane Katrina on Gulf of Mexico Coastal Fishing Communities"

The NOAA/NMFS Office of Science and Technology/Division of Economic and Social Analysis in collaboration with NOAA/NMFS Southeast Regional Office commissioned an assessment of the impacts of Hurricane Katrina on the most heavily impacted Gulf of Mexico fishing communities in Louisiana, Mississippi, and Alabama. The Final Technical Report *Preliminary Assessment of the Impacts of Hurricane Katrina on Gulf of Mexico Coastal Fishing Communities* has been completed. The review by the CIE of this report is in partial fulfillment of the requirements set out in the Information Quality Act (IQA). The IQA requires independent review of influential federal documents.

The goals of the review are to evaluate whether the document meets accepted scientific practices for rapid ethnographic assessment, and to provide recommendations for improving future rapid assessments of fishing communities damaged by natural disasters like those occurring in the 2005 hurricane season. The document consists of an introductory chapter providing an overview of the problem, research methods used to conduct the assessment, and a broad overview of both regional fishing industry and demographic trends on the eve of Hurricane Katrina. This is followed by six chapters assessing in detail the impacts of Katrina in Louisiana, Mississippi, and Alabama fishing communities. The report concludes with a chapter that discusses challenges to recovery, and a final brief chapter of interim conclusions. The report is approximately 276 pages in length, of which approximately 165 pages is 12 point, single spaced text, including references. The remaining 111 pages are photos, figures and tables.

Background

The Gulf of Mexico is home to a significant share of the U.S. fishing industry, representing 20% of commercial fishing, and 30% of salt water recreational fishing. Local residents also participate to an unknown, but probably significant extent in salt water subsistence fishing. The agency recognized that it was important to assess the extent of storm damage to fishing industry infrastructure and to the communities in which it was located as the seriousness and geographical extent of the storm became evident. This report addresses these impacts. The assessment was to be based on rapid ethnographic assessment using a combination of standard ethnographic field techniques including participant observation; intensive interviews with fishing industry participants from various industry sectors including commercial harvest, processing, distribution, recreational for hire, and others; enumeration of fishing infrastructure; creation of GIS maps; and use of data and reports on storm damage produced by others. Surveys based on random sampling were precluded under the circumstances. Separate reports by others were commissioned to assess economic impacts.

Since 2002, NOAA Fisheries has conducted research on the fishing communities of all five states bordering the Gulf of Mexico. As a result of this effort, NOAA Fisheries had gained substantial knowledge and familiarity with the fishing communities in the area impacted by Hurricane Katrina. Reports on Gulf of Mexico fishing communities that included analysis of secondary data such as licenses, permits, landings data, and GIS maps which physically located fishing-dependent businesses, infrastructure and, in some instances, the homes of fishermen were completed during 2004 and 2005 before Katrina struck. These reports contained the most complete and current baseline data available on fishing communities in the Gulf of Mexico in August 2005. Using these reports as *Time 1 Assessments*, field teams returned to the storm damaged areas to do *Time 2 Assessments* of the condition of the damaged fishing communities. Because of their intimate knowledge of the region's fishing communities based in their work compiling the baseline data, the contract research firm that had just completed the baseline community reports was asked to do the assessment.

The assessment need was current and critical, requiring researchers to enter the affected Gulf communities as soon as possible, visually evaluate the damage, and conduct interviews with fishermen and others in fishing-dependent businesses to determine the extent of hurricane damage. They began data collection activities in September 2005, ceasing data collection in May 2006. Thirty-eight communities distributed across 10 parishes and counties in three states were assessed; each was visited up to three different times --first during the fall/early winter 2005/2006, then during the mid/late winter 2006, and finally during mid/late spring 2006.

Reviewer Responsibilities

The Center of Independent Experts (CIE) shall provide three expert reviewers. Each reviewer's duties shall require a maximum of seven days of effort, including time to read relevant documents and to produce an individual written report consisting of their comments and recommendations. No travel is required, so each reviewer shall work from their home location. Each reviewer's report shall reflect his/her area(s) of expertise, and no consensus opinion (or report) will be required. Further, each reviewer shall only comment on sections within his/her area of expertise.

Expertise needed to review the *Final Technical Report* is social science expertise (primarily anthropological and sociological) in community-level rapid social impact assessments of areas damaged by sudden natural and/or man-made disasters, e.g., those caused by major storms like hurricanes or tornados, those caused by tsunamis or other sources of flooding, or those caused by major oil spills. Reviewers should be knowledgeable about rapid assessment processes in general, and rapid ethnographic assessment in particular (e.g., Leonard Bickman and Debra J. Rog, *Handbook of Applied Social Research Methods*, Thousand Oaks, CA: Sage, 1997; James Beebe, *Rapid Assessment Process*, Walnut Creek, CA: Altamira Press, 2001; Adi Utarini, AnnaWinkvist, and Gretel H. Pelto, "Appraising studies in health using rapid assessment procedures (RAP): Eleven critical criteria", *Human Organization*, Vol. 60 (4): 390-400 (2001); Setha M. Low, Dana H. Taplin, and Mike Lamb, "Battery Park City: An Ethnographic Field Study of the Community Impact of 9/11", *Urban Affairs Review*, Vol. 40 (5): 655-682 (2005). Familiarity with the marine fishing industry and fishing communities is desirable.

The documents supplied to the reviewers shall consist of the (1) original Statement of Work for Impact Assessment, Inc., and the (2) *Final Technical Report, Preliminary Assessment of the Impacts of Hurricane Katrina on Gulf of Mexico Coastal Fishing Communities*. The reviewers shall become familiar with the research plan and the background documents.

Specific Reviewer Tasks and Schedule

1. Read the Statement of Work for Impact Assessment, Inc.
2. Read and assess the *Final Technical Report, Preliminary Assessment of the Impacts of Hurricane Katrina on Gulf of Mexico Coastal Fishing Communities*.
3. Specific points to be addressed in the reviewers' reports include:
 - (a) Is the rapid ethnographic assessment methodology used scientifically sound? Does it fall within the range of accepted rapid social assessment approaches used in the United States? If not, provide recommendations for improvement with attention to future rapid assessment studies
 - (b) Are the fishing community social and infrastructure impact data and analyses presented in the report consistent with the methodology described in the report? If not, provide recommendations for improving the data and/or the analyses with attention to future rapid assessment studies.
 - (c) Does the report provide comparable pre- and post-impact, fisheries-focused social and infrastructure data at the state level for the states of Alabama, Mississippi, and Louisiana? If not, recommend improvements.
 - (d) Does the report provide comparable pre- and post-impact, fisheries-focused social and infrastructure information at the community level for affected communities for the states of Alabama, Mississippi, and Louisiana? If not, provide recommendations for improvement.
 - (e) Are the report's conclusions supported by and consistent with the data and their analysis as described in the report? If not, provide recommendations for improvement.
5. No later than December 1, 2006, submit a written report¹ to the CIE that addresses the points in item 3 above. See Annex I for additional details on the report outline. Each report shall be sent to Dr. David Sampson, via email at david.sampson@oregonstate.edu, and to Mr. Manoj Shivlani, via email at mshivlani@rsmas.miami.edu.

¹ Each written report will undergo an internal CIE review before it is considered final.