



System Requirements for Guam's Data Capacity

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SYSTEM REQUIREMENTS FOR GUAM'S DATA CAPACITY

Abstract

To what extent can local officials, residents and organizations on Guam consider data resources when addressing public issues?

The Knowledge@Guam Initiative developed from a need to bring Guam's data capacity into the 21st Century. KGI aims to understand the degree of substance, accuracy, and potential utility of Guam's existing data resources through an assessment of the three main forms of public sources: censuses, intercensal surveys, and administrative records. This assessment, along with interview findings, will inform the development of the Knowledge Management Center – a centralized access point to explore, visualize, and share localized data sets. The Knowledge Center will feature online and in-person resources to support public issues education, community planning, data management, and statistical analysis.

With this capacity, KGI expects more people to consider data-driven evidence when estimating the potential impact of their decisions on the broader public. Research findings support this projection, indicating that residents indeed require more reliable, intelligible, and accessible information to support their decisions and ultimately, the well-being of the community

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Abbreviations

ACS	American Community Survey
BLS	US Bureau of Labor Statistics
BSP	Guam Bureau of Statistics and Plans
CCF	Community Capitals Framework
CONUS	Continental United States of America
CPI	Consumer Price Index
CPS	Current Population Survey
DLM	Guam Department of Land Management
DOD	US Department of Defense
DOI	US Department of the Interior
DOL	Guam Department of Labor
DPHSS	Guam Department of Health and Social Services
FOIA	Freedom of Information Act
GDOE	Guam Department of Education
GDP	Gross Domestic Product
GEDA	Guam Economic Development Authority
GHURA	Guam Housing and Urban Renewal Authority
GIP	Gross Island Product
GovGuam	Government of Guam
GVB	Guam Visitors' Bureau
HHS	US Department of Health and Human Services
HIES	Household Income and Expenditure Survey
IPUMS	Integrated Public Use Microdata Sample
KGI	Knowledge@Guam Initiative
KMC	Knowledge Management Center
KMS	Knowledge Management System
MLS	Multiple Listings Service
NGO	Non-Governmental Organization
OEA	Office of Economic Adjustment
SIPP	Survey of Income and Program Participation
SNAP	Supplemental Nutrition Assistance Program
SOP	Standard Operating Protocol
SOS	Survey of Surveys
UOG	University of Guam
US	United States of America
USDA	US Department of Agriculture



Top Data Issues

Any State (or Territory) should have an integrated statistical system, functioning under administrative oversight. Guam's Integrated Statistical System, like all others, has three components:

- Censuses
- Intercensal Surveys
- Administrative Records

These three sources must be fully operational and integrated to obtain the highest quality, most useful statistics for the island's planning and policy development. *Fully operational* systems have rigorous data monitoring and evaluation controls, consistent population surveys between Censuses, and digitized records management and analysis programs. *Fully integrated* systems maintain a central point of control over official data, synthesizing data collection, analysis, and publication efforts across government agencies.

According to these guidelines, Guam's statistical system is mostly operational and somewhat integrated. Bringing Guam's statistical system to full operation will take considerable investment in related Government of Guam (GovGuam) programs and systems. While a significant undertaking, this effort is decently positioned for implementation because 1) the Guam Decennial Census has been effective for decades; 2) data collection already occurs across government agencies; and 3) suitable technologies exist to handle the extent of GovGuam's knowledge management needs with reasonable commitment.

Bringing the system to full integration, however, will require active, longer-term investment from the people of Guam, its stakeholders, and the government itself. GovGuam must convert data modernization from a strategic priority to a standard practice across agencies – a practice independent from the tides of elections. This will require extensive personnel development, inter-agency negotiation, policy remediation, and mission support throughout government. Horizontal integration in such areas will resolve many data capacity and efficiency issues.

To attain full operation and integration of statistical systems, the first issues to address are those that inhibit the flow of information within and beyond the island community. Guam's challenges in this regard are related to its lack of three main features:

1. Access to a central point of data
2. Quality controls for data value and reliability
3. Analysis capacity for research by request



Issue 1: Data Access

Guam operates without a centralized point of contact for official data, physically or virtually. Every other State and Territory in the US has a central data collection agency except Guam. Guam disperses its statistical data collection across the Department of Labor (DOL), Guam Visitor's Bureau (GVB), Department of Public Health and Social Services (DPHSS), Bureau of Statistics and Plans (BSP), and University of Guam (UOG), among others.

It can be beneficial to keep information on a closed circuit, only reaching a certain group. Members share an understanding of what is significant, and work together to preserve it through instruction and practice. This is especially true for businesses vying for market share in high demand industries. For government, though, different principles apply.

Data Portal

Centering data collection and analysis would reduce costs and duplication of effort, as well as improve alignment with US standards and conventions. GovGuam should consider methods of streamlining these efforts to obtain more data and more comprehensive data in a timely fashion. This centralization should come with a complementary website to open access to the public via the internet.

This online platform could provide a sufficient degree of anonymity, collective insight, and moderating authority to improve connections between the community and valid information. Interpersonal expression on Guam can be more reserved than mainland standards – particularly in professional or passing interactions – though social connections are notably strong. This is likely because of factors such as its small population size relative to land mass and geographic isolation from other groups. Family ties are deep-rooted and reputations last. Information passes quickly through social circles, making confidentiality a routine concern. As a result, privacy issues easily arise, which is why any poll must include a large sample of residents relative to the population size for it to hold truth.

Data White Paper

The people of Guam often engage with one another through informal communication chains. Mainland standards would consider them outdated, but they have worked on Guam for centuries. Not until recently have problems developed that could have been prevented through the support of more sophisticated information systems (e.g., waste management, flooding, invasive species). Now the buildup poses data demands for Guam, the Military, and other prospective contractors in the action.

Memorandum of Understanding

Data management has been a chief challenge for GovGuam. Calculating the potential impact of the buildup on local communities would require reliable and extensive place-based data. Public agencies collect extensive data. While recorded, they are rarely analyzed or shared without request. This can impede the flow of information – whether for business, entertainment or notice; prolong processes and transactions that involve multiple entities; and compromise public accountability, resources, confidence, and services in the region. Some data sets are coveted by their creators, only released under duress. Others are unavailable from lack of resources, awareness, or incentive to share these assets with the community, such as a set of terms agreed upon by the parties involved. Defining data obligations and applications in fair terms would promote trust, transparency, and collaboration between agencies.

Public data should not be proprietary unless it contains sensitive information. Over time, storing away records in different formats and locations can lead to systemic inefficiencies for GovGuam, such as duplication of effort, delayed decision making, and corporate amnesia. The potential value of Guam's data is significant, but its actual value falls short.

Standard Operating Protocols

The potential impact of the buildup is significant and far-reaching. As the population increases, so will demand for goods and services. New demands could benefit or compromise the region's well-being depending on resource management. Increased need for goods and services is more concerning for island communities like Guam that rely on imports to sustain local society. Public investment could rectify many of the practical implications of the buildup, such as increased traffic and housing costs.

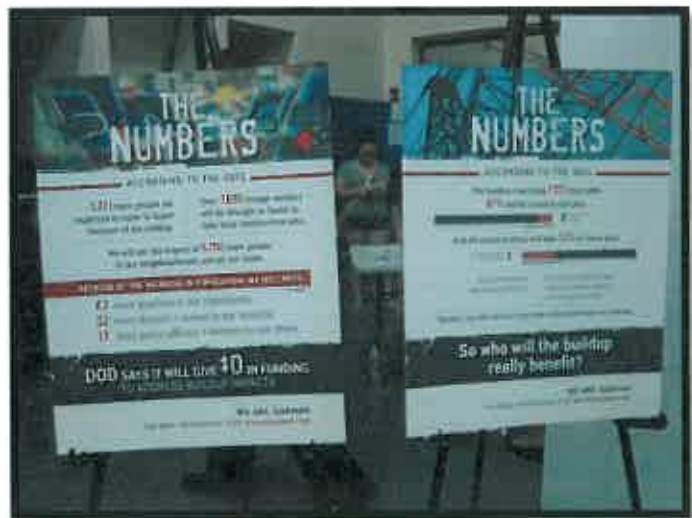
Strategic Outreach



The people of Guam are split on the issue of the military buildup, expressing both support and opposition towards the action. Those in support of the buildup note the potential economic benefits, including more jobs and tourism, as well as the security benefits of keeping troops in the region. Those in opposition widely claim that Guam's finite resources and outdated infrastructure are incapable of managing such an expansion effectively, while others raise moral or cultural objections. Positions on the buildup are largely substantiated through testimony rather than official records or figures, because these resources are inaccessible.

The common thread through every perspective on the buildup is uncertainty rooted in oral history, anecdote, and misinformation. People do not have enough evidence to support their ideas and concerns in any direction. Educating the public about the buildup from an academic, though accessible, perspective would enhance dialogues and produce constructive ideas for managing community change.

Images from the SEIS Hearing May 2014





Issue 2: Data Quality

Local information systems rely on the strength of personal networks. With information systems becoming more complex, this method is no longer effective for Guam. Even so, it remains engrained in the mind of its people and government. Guam needs to unify information management systems in promotion of a common appreciation for reliable data. With the knowledge generated through such a system, GovGuam could produce sound projections for social, economic, and environmental conditions. This could help mitigate growth issues, monitor change, frame constructive policies, and sustain local economies.

Data Standards

The landscape for data provision and technical analysis in Guam is characterized by two contradictory factors. On the one hand, data-collection agencies administer a number of rigorously-organized and well-run data collection programs. When data are provided to the public, they are skillfully analyzed by technical experts, particularly those housed at UOG. The available data sources are limited, though. Many key surveys are conducted infrequently, and published data are often difficult to access, interpret and validate statistically.

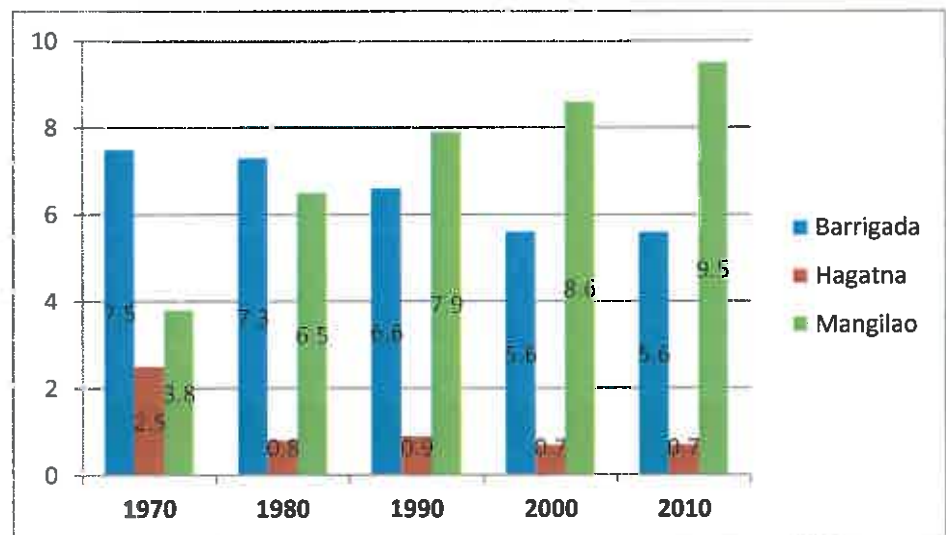
Many existing data sources are based on strong methods, but are sub-optimal in terms of the frequency with which they are provided to the public, response rates and plans for updating sampling procedures and methodologies. For example, the labor force survey appears infrequently, has a relatively low response rate, and should be redesigned based on 2010 Census counts. Making provisions for gradual enhancements that leave intact compatibility with previous survey rounds would be valuable.

Implan, REMI and RIMS—the three main economic models available for CONUS—are not produced for Guam. The island lacks a standard model because it must derive from other sources. The Voorhees Center of the University of Illinois-Chicago (UIC) identified seven possible approaches to producing an economic impact model that could be operational during the buildup. These were summarized in the Data Gap Analysis performed by UIC for Guam in 2011.² Each approach entailed its own lag-time, start-up costs and issues in terms of data quality and potential utility.

² See Appendix for UIC's Data Gap Analysis

As construction for the buildup wanes and Marines account for a bigger share of the Island's economy. The 2011 analysis anticipated that a different set of data needs will emerge. Market data—supply and demand for housing and labor markets—and human capital measures as crucial for assessing and responding to the impacts of mission growth. Figure 1 below shows KGI's three target villages' Census population data since 1970, indicating growth patterns.

Figure 1. Barrigada, Hagåtña and Mangilao as Percent of Guam's Population: 1970 to 2010³



³ Guam Census, 1970-2010



Data Conversion

The right mix of resources and time would allow all of the relevant data sources in Guam to be updated and standardized in support of annual and quarterly tracking of the issues. But even under ideal circumstances, coordinating the enhancement and dissemination of these data sources would require substantial effort and time. The reality of scarce resources and time complicate the challenge. As is the case with potential economic impact approaches, the development of each targeted data set entails distinct challenges, resource commitments and benefits.

Survey of Surveys

The work of assessing those scenarios requires a series of intermediary projections that convert estimates of total economic growth into estimates of impact by industry, year and village. Together with an industry-occupation matrix, these estimates would provide the basis for planning efforts in workforce training and overall economic development. They would also provide a composite “big picture” with which to organize the cumulative efforts of the various entities working to improve data provision and planning analysis on Guam.

A qualitative survey of targeted GovGuam representatives would expand what the public knows about the content, quality, and condition of the administrative records collected. This way, data collection systems can begin the integration process by informing policy revisions. After passed, proper implementation of these standards will be possible.



Issue 3: Data Analysis

Population statistics have demonstrated increasing predictive value and social benefit. Trends have become easier to track by a wider audience through the availability of non-identifiable data – information that cannot be linked to an individual or small group. Public data needs to be translated into reliable information for various users, from residents to scholars to organizations. Public awareness of the value of data is low, and the capacity for its analysis is expedient.

Village Baseline Indicators

Data analysis efforts on Guam have two distinct challenges to confront. In the next two years, the buildup of Marine Corps activities will provide an intense economic stimulus to the island. Initial estimates suggest that thousands of guest workers will come to the Territory as part of construction efforts. The sheer amount of spending combined with intensifying visits from government officials and consultants is likely to produce significant impacts that will ripple throughout the island's economy. Inflation, which would alter economic realities for creditors, debtors and citizens on fixed incomes, will likely rise.

These ripples could be tracked better by breaking down data sets to the village level, and reinforcing them as the unit of analysis for population impact variations over time. Village Mayors' Offices should play a major role in this effort, because KGI's research widely found that people most often turn to the Mayor for local notices and referrals. The Mayor's Office acts as the de facto Village Information Center as it is, though their budgets do not support this function sufficiently.

Village Monograph Prototype

Existing evidence suggests that the high wage premiums paid for military jobs are luring qualified workers out of the private sectors – a labor-market filtering process likely to intensify as construction activity picks up. The expected GDP increase on Guam could be as much as 30 percent in the coming years.

In the short term, it would be prudent to make proactive preparations to capture benefits from the buildup. This could be achieved by creating a standard for presenting original research at the village level of analysis. Data analysis capacity would inform the proper actions to follow in light of current population conditions through planning and modeling ability.

Pilot Village Monographs

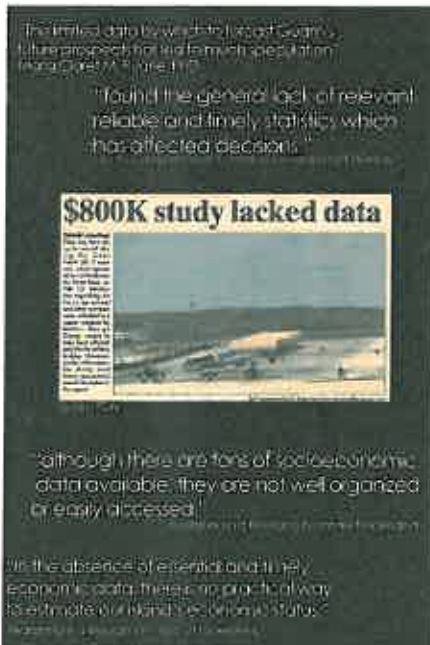
Guam's current data infrastructure lacks the capacity to track and measure independent developments at any level. This precludes the ability to produce estimates of local needs in relation to prospective activities such as the buildup.

The short-term economic impacts of the buildup will be dominated by construction activity, making construction forecasting a priority to anticipate both construction industry growth and benefits for suppliers and other local businesses through increased consumer spending.

Custom Survey Research Pilot

After the build-up is complete, the assignment of Marine troops to Guam will result in longer-run changes to employment, housing and transportation issues. Several common planning challenges result from mission growth, all of which will require specialized survey research to monitor and rectify local developments. These challenges include:

- **Supply/demand mismatches in multiple housing market segments.** The influx of troops, officers, contractors and civilians living off-post typically results in affordability challenges for existing residents. It initiates housing filtering in which an influx of renters/buyers into one market segment pushes current occupants into other housing types, price ranges and areas.
- **Skill shortages.** The combination of on-post employment and new employment generated through on-post purchases and employee spending creates significant shifts in labor demand. This in turn creates demand for skills the pre-build-up population typically lacks. Additionally, current residents may face new labor-market competition from the spouses of the enlisted troops, officers, contractors, and DOD civilians moving to the island.
- **Social/educational services provision challenges.** In most cases of mission expansion, the incoming population (troops, their families, and economic migrants) consumes public education and basic social and medical services at a high rate, while supplying few of the labor skills necessary to provide those services. This places the typical growth community in the position of stretching its already thin service provision even further.





- *Infrastructure provision challenges.* Economic and population growth rapidly create demand for transportation, water, sewer and other kinds of infrastructure. The cost of maintaining this infrastructure will impact public spending over the long-term. In the short-term, the gap between demand and supply may result in shortages.

Research Questions

Considering these issues, this report addresses the following questions:

- What existing data and methods could be translated into digital formats and published online to an open platform for people to explore questions about Guam and find useful answers, and what are the implications of creating such a portal?
- What existing data and methods could be used to enrich the inventory of a web portal and to cross-check the information released by different authorities on Guam, and what are the implications for enabling such scrutiny of public data?
- To what extent can Guam develop a single entity to undertake systematic analyses of island conditions upon need or request?

Strategic Goals

To answer these questions, KGI researchers reviewed relevant GovGuam laws and regulations, analyzed available data sources and methods, reviewed relevant literature, and interviewed agency officials and community members. Specifically, researchers interviewed local officials, including mayors and vice majors, as well as residents of target villages to learn more about the strengths, challenges, and priorities of different communities in relation to its current resources.

Based on this review, KGI developed a list of key goals to evaluate the usefulness and appropriateness of existing data sources in advancing information access, quality, and analytic capacity on Guam:



Goal 1: Data Access - Translate data into useful information by developing an online interface hosted by the University of Guam to promote data sharing, learning, and collaboration;

Goal 2: Data Quality – Verify data by establishing standards that produce consistent information that is valued by stakeholders;

Goal 3: Data Analysis – Systematize data by developing capacity to conduct systematic analysis of island conditions upon request.

Each of the three (3) goals had between three (3) and five (5) corresponding tasks and objectives (Table 1). This model guided the progress of study and production of resources.

Table 1. KGI Goals and Objectives

Goal	Objective / Deliverable
1. Data Access	Guam Data Portal
	Data White Paper
	KGI SOP
	GovGuam-UOG MOU
	Data Conference
2. Data Quality	Data Standards
	Data Conversion
	“Survey of Surveys” Report
3. Data Analysis	Village Baseline Indicators
	Village Monograph Prototype
	Pilot Village Monographs (3)
	Survey Research Pilot



Background

Guam and other US territorial entities – such as Puerto Rico and American Samoa – lack many of the statistical activities that states receive as full members of the union. These entities have Delegates to the US House of Representatives, and can vote in committees, but not on the floor. None have Senate representation or the ability to vote for President and Vice President. These entities, however, are included in national political conventions, but their votes no longer count because candidates are now selected before the conventions.

Political Status

If Guam were a State, the federal government would sponsor its involvement in various surveys on a recurring basis. These surveys assist in planning and policy formation. Notable surveys that Guam lacks include:

- American Community Survey (ACS) – For States, the ACS replaced the long form Decennial Census for the 2010 and future censuses. Guam continued with the long form in 2010. This reduced the comparability of data because some items and procedures had changed between censuses. While states get continuous updates on population and housing characteristics, data on Guam are only collected once a decade,
- Current Population Survey (CPS) – The CPS is the United States' current labor force survey. It is conducted monthly for States, the District of Columbia, and Puerto Rico, but not in the Territories.
- Survey of Income and Program Participation (SIPP) – SIPP is a longitudinal study that tracks the same households over time to show the relationship of income to various social and educational programs and facilities, and the costs involved in them.

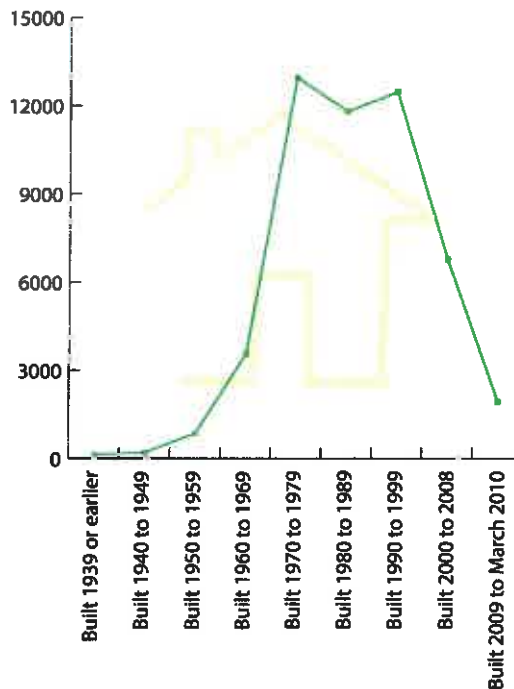


Security Context

KGI emerged from a need for better surveillance and management of Guam's resources. In 2006, the U.S. government revealed plans to shift part of its military capacity in the Asia-Pacific region from Japan to Guam. The proposed shift, referred to as the (military) "buildup," included thousands of service members.⁴

Guam's deep seaport, established military bases, and proximity to Asia made the island a desirable option for large-scale equipment and personnel transfers in the region. Its existing resources and infrastructure, however, would be overburdened by an influx of this scale. Figure 2 below shows the construction associated with Guam's tourism boom that started in the 1980s and tapered off by 2005. This growth in infrastructural needs created unprecedented issues for the local community.

Figure 2. Homes Built by Year on Guam
Homes Built By Year On Guam



⁴ Following World War II, the U.S. established a military presence in Okinawa, Japan to deter future acts of Japanese aggression. Over time, this security arrangement has become unnecessary, if not detrimental to relations between countries. Circumstances in the region have changed, with China as the main security threat, and Japan the key ally. Facing increased public backlash, the Japanese government pushed to renegotiate the terms of the Japan-U.S. Security Treaty. In 2006, the governments approved the "Roadmap for Realignment," which redefines roles, missions, and capabilities related to the Treaty, including recommendations for military relocation, with one proposed destination being Guam. See: <http://www.mofa.go.jp/region/n-america/us/security/scc/doc0605.html>

Approach

These discussions produced KGI's original community data, including which types of data community members are likely to use, how people prefer accessing such knowledge, and where they go now to obtain information that is relevant to their needs and priorities. By focusing on what people value and prefer, KGI intends to increase public awareness and use of localized data in decision-making processes, including whether or not to endorse the buildup.

In the social sciences, the prevailing means to track and measures resources are quantitative methods. Case study approaches combine methods, such as interviews, document review, and observation. Comprehensive approaches like outcome mapping use evaluation processes that involve a range of stakeholders in planning the evaluation.

Research Framework

KGI selected an approach in the field of community development to accomplish the research objective, the Community Capitals Framework (CCF).⁵ KGI introduced the proposed framework to stakeholders during the initial discussion rounds for input. Based on the feedback received, KGI adapted the approach to fit conditions on Guam by including an additional category. KGI's approach now accounts for communities' Digital resources as well, bringing the number to eight categories of analysis, or "Community Capitals."

Figure 3: Community Capitals Framework



⁵ Emery, M., Fey, S. & Flora, C.B. (2006) Using Community Capitals to Develop Assets for Positive Community Change. *CD Practice*, (13). Retrieved from: <http://srdc.msstate.edu/>.

Researchers selected this approach because of its adaptability, recognition, and ability to accomplish the research objective. According to the original Framework, there are seven categories of resources inherent to a given community: 1.) Human, 2.) Social, 3.) Financial, 4.) Cultural, 5.) Natural, 6.) Political, and 7.) Built. For the purposes of this study, “Community Capitals” are intrinsic resources – tangible and intangible – that produce a vibrant community when managed effectively. By this definition, Community Capitals are subject to growth or depletion, and capable of re-investment over time into the creation of new resources.

Focus Group Interviews



In 2012-13, UOG engaged in a series of discussions with local leaders to plan KGI’s implementation, particularly which villages would participate in the study. As a preliminary assessment of Guam’s official data capacity, the scope of study is limited to GovGuam’s 48 entities and three target villages: Barrigada, Hagåtña, and Mangilao. In collaboration with the Mayor’s Council of Guam, researchers arrived at the decision to select villages at random to reduce bias.

As part of UOG’s annual Charter Day celebration (March 2014), KGI hosted a Sensing Session with GovGuam employees. The purpose of the session was to convene GovGuam stakeholders, inform them of KGI’s approach, garner stakeholders’ input and support, and mobilize the Survey of Surveys process.

The research team performed targeted outreach to GovGuam agencies and stakeholders to ensure proper participation in the session. Participants represented the following agencies:

- Guam Economic Development Authority
- Department of Labor
- Department of Corrections
- Guam Police Department
- Western Pacific Regional Fishery Management Council
- Agency for Human Resource Development
- University of Guam’s College of Liberal Arts and Social Sciences



Participants shared their agency’s data needs and concerns, and offered recommendations for conducting the Survey of Surveys, including how to identify, approach, and collaborate with data gatekeepers to generate reliable data across agencies. The session introduced KGI and the Community Capitals Framework, then opened into a discussion around two main questions: 1) “What would you like to know about your community?”, and 2) “What issues prevent you from finding information about your community?” From the conversation, KGI drew three main conclusions:

1. GovGuam stakeholders want access to more reliable available information;
2. Finding the right point of contact/data gatekeeper is key to data sharing process;
3. Personal contact with stakeholders is critical for conveying KGI’s message and building support for the project.

KGI based these conclusions on responses to the two questions described above. For the prompt, “*What would you like to know about your community,*” participants offered the following data requests:

- Homeless population count
- Role of Mayors (e.g., during typhoon)
- Number of working mothers
- Number and type of land plots (e.g., commercial, residential)
- Festivals (attendance)
- Recreational activities (types, when, where)
- Number of stray dogs
- Size of senior citizen population
- Jobs needed/ gainfully employed population
- Priority bridge/ road projects
- Population on parole
- Population on SNAP/ food stamps
- Number of local businesses/ where owners live
- Crime rates, types, and number of police officers on-duty
- Water costs/resource ownership
- Historical sites
- Number of abandoned buildings
- Trust, credibility, and transparency in data



In response to the prompt, “*What issues prevent you from finding information about your community,*” participants suggested the following:

- Community needs to understand that data collection equals revenue
- Mayors don’t collect data
- Not recognizing and using untapped resources
- Poor advertising of available information and/or not provided in comprehensible format
- Past arguments between agencies about sharing data/ servicing information requests
- Systems are antiquated
- No centralized, long-range mechanism for information needs

Using these sensing rounds as a guide, KGI held a series of focus groups interviews with community members of different persuasions to collect data of interest to the study. During April and May of 2014, KGI held five distinct focus groups, each engaging individuals that share key characteristics. These included village of residence (Barrigada, Hagåtña, or Mangilao), GovGuam employee status, or private/non-governmental employee status. Researchers grouped participants that shared one of these characteristics, and engaged them separately in guided discussions.

Through a series of open-ended questions, facilitators prompted participants to share perspectives regarding the organization, function, and priorities of local society. The purpose was to determine through discourse the status of data systems, preferences, and awareness on Guam by comparing and contrasting the insights offered by different groups.

Informed Consent

The investigation actively recruited participants, (e.g. for interviews), so researchers ensured that each participant signed and returned a consent form and is provided an information sheet. This was done during the focus group registration process. These forms, along with all questions asked of participants, such as written questionnaires, were submitted to UOG’s Institutional Review Board and approved by a peer review committee.

The opening remarks introduced participants to the research objective, project history, and accompanying staff members. This included an explanation of the voluntary, anonymous, and confidential nature of the study. The facilitator described the purpose of the in depth interview, organization of the session, approach being used, quality assurance and documentation formats, and expected outcomes of the overall study.

Research Documentation



Focus group sessions were recorded in four main ways: easel notations, audio recordings, written responses, and photographs.

Easel notations captured the main points conveyed by participants' oral responses to guide conversations and ensure accurate interpretation of comments. Easels were also used for ranking priority issues among participants at the end of the session.

Audio recordings began at the start of the presentation, pausing for breaks. For best results, recorders were placed in the middle of the group within a few feet of respondents, and be adjusted if needed. Written responses were encouraged by facilitators throughout the sessions, and captured in the space provided in the printed questionnaire.

When finished, the research team collected all written responses from participants, including surveys and evaluations, and labeled them with the group type and date; copied audio recordings onto at least one additional hard drive/memory disk; took photographs of easel notation pages and gathered them together once captured; and scanned all written responses into digital format for posterity. In the days following, audio recordings were transcribed by staff, following custom transcription guidelines.

Appreciate Inquiry Technique

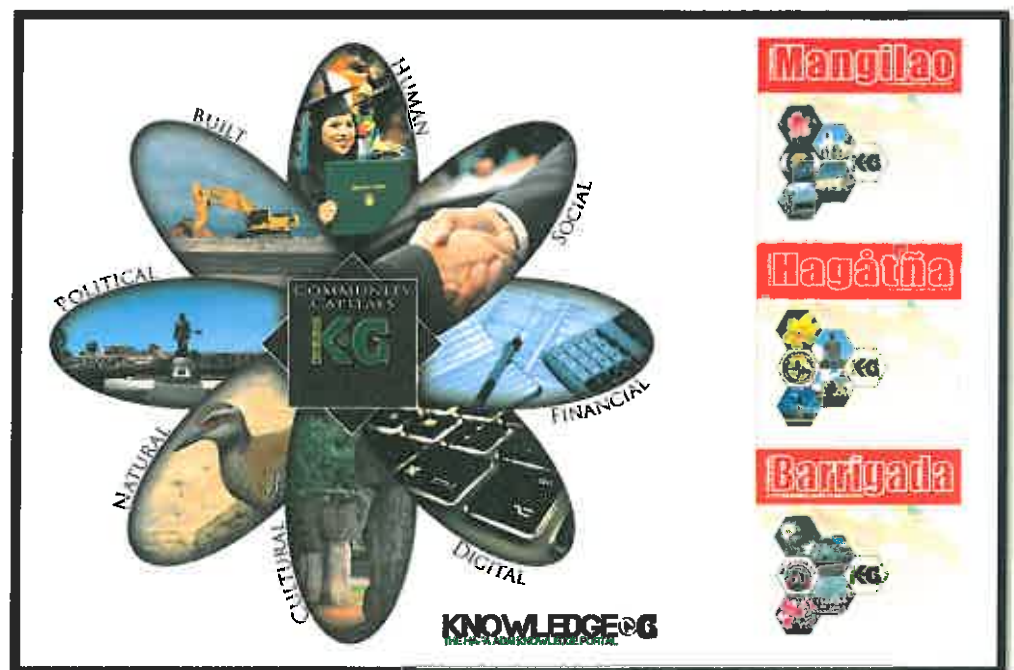
For consistency, each session followed the same interviewing method – a technique called “Appreciative Inquiry.”⁶ Facilitators guided participants through a series of prompts and discussions. These conversations encouraged participants to reflect upon the features, traditions, values, and practices of their communities or organizations that they wish to preserve, as well as those not already in place that they wish to establish.

⁶ Cooperrider, D.L., Whitney, D. & Stavros, J.M. (2008) *Appreciative Inquiry Handbook* (2nd ed.) Brunswick, OH: Crown Custom Publishing.

In particular, probes focused on eliciting perspectives regarding the:

1. Types of data that would be useful for people to have on-hand,
2. Preferred methods of rendering and maintaining this information,
3. Recommended processes of evaluating and preserving these resources.⁷

These discussions guided KGI's initial data discovery efforts, including which types of data community members are likely to use, how people prefer accessing such knowledge, and where they go now to obtain information that is relevant to their needs and priorities. By focusing on what people value and prefer, KGI intends to increase awareness and use of data in decision-making, including whether or not to endorse the buildup.



⁷ See Appendix for Focus Group Questions.



Goal 1: Data Access

Objectives:

1. Developing an initial **data portal** through UOG that serves as single point of contact to request support in finding existing data and conducting further studies about Guam;
2. Preparing a **white paper** that identifies Guam's data sources, lists their relevant characteristics, and describes existing social and economic conditions in the community;
3. Compiling a **standard operating protocol (SOP)** document that provides detailed steps for the KGI team to follow when they receive a request for data;
4. Establishing a **Memorandum of Understanding (MOU)** between the Governor of Guam's Office and UOG that memorializes cooperation in this effort; and
5. Performing **strategic outreach** in Guam's villages to promote informed opinion and constructive involvement in the Navy's Supplemental Environmental Impact Study comment periods.



Objective 1: Data Portal

Homepage:
<http://www.uog.edu/kgi>

Data on Guam is not published regularly or online, limiting its utility for researchers and casual users alike. Regularly posting all official data on a single site – as opposed to being spread out across agencies and buried sub-pages on agency homepages as it is now – would strengthen all-around engagement with and use of the considerable amount of data already provided on island

KGI developed a Data Portal hosted by UOG's official web domain to establish a central, online platform to connect with useful, Guam-oriented data resources and services. The Portal operates under the university's existing Communication & Information Technology infrastructure, and follows all associated policies, procedures and conventions for maintaining web sites and services. This includes related web content, privacy, security, access, and maintenance.

UOG recently overhauled its website. The new structure allows for decentralization of content management, and, potentially, site administration if KGI can demonstrate need and capacity. Two KGI staff members participated in web content management training with UOG's Communications Department. Both are now trained and authorized to publish content revisions for the Data Portal. With the portal's initial structure and content currently in place, this development will reduce the lag time between content creation and online publication. It also enables scheduling of updates more readily, as the Portal is less tied to UOG's overarching communications needs.

The aim is for the website to create easy access to data about Guam for researchers, students, government agencies, and the general public. This will be the end product of KGI. The beta version is being publicized so that users can test it and suggest improvements. The website needs to be maintained and improved by continuing to add content over time.

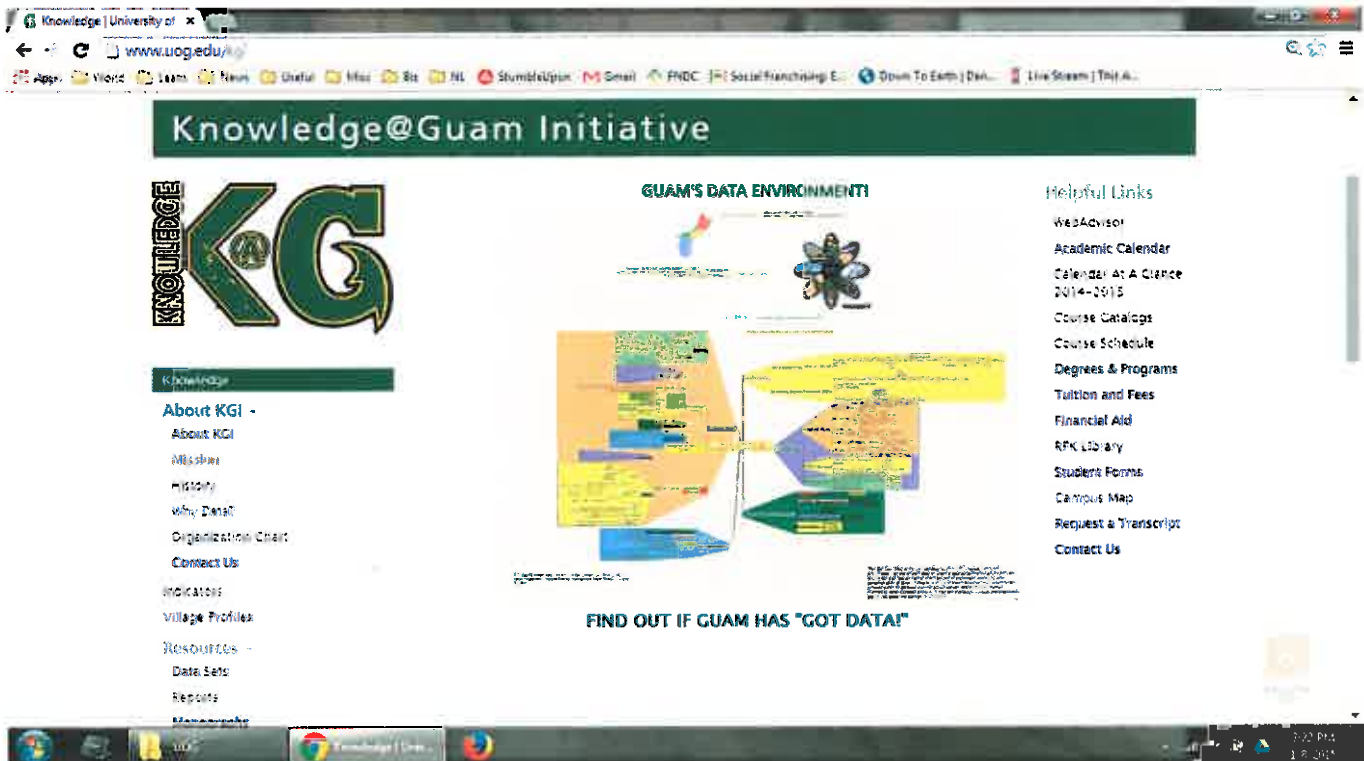
Advancements in technology have made it easier for people from different places, traditions, and upbringings to connect at various levels by sharing information and opinions. They also make it possible to create cost-effective information systems that promote community knowledge, inclusive government, and transparency in local decision-making.



With a user-friendly website and UOG-based expertise, KGI could become a public information generator for Guam like the *Boston Indicators Project* is for eastern Massachusetts. Researchers near and far could use the data hosted by the site to estimate the degree of impact a change in the community could have on different aspects of local living.

Currently, the site offers three tabs of content, covering (from top to bottom): About KGI, Resources, and Ask an Expert. Within "About KGI" are five sub-pages (Mission, History, Why Data, Organization Chart, and Contact Us). Within "Indicators" are a description and example of each area of the Community Capitals Framework. Village Monographs include the three pilot villages (Barrigada, Hagåtña, and Mangilao). The "Resources" tab features four sub-pages (Data Sets, Reports, Monographs, and Links & Directories). The "Ask an Expert" tab includes two sub-pages (Request Data and FAQ). These pages include a point of contact for data requests and initial guidance on how users can retrieve additional information about Guam.

Image 1: Screenshot of KGI's Homepage





Objective 2: Data White Paper*

All other Insular Areas have central data collection agencies – the Central Statistics Division in the Department of Commerce in the Commonwealth of the Northern Marianas Islands (CNMI), the American Samoa Department of Commerce’s Statistical Office, and the University of the Virgin Islands Caribbean Center. Only Guam disperses its statistical data collection among several entities (DOL, UOG, GVB, DPHSS, BSP, etc.)

By centering data collection and analysis, costs will be less, duplication will diminish, and US conventions are more likely to be standard and comparable. GovGuam should consider methods of streamlining **these** efforts to obtain more comprehensive data in a timely fashion.

Rights to Access Public Information

The Freedom of Information Act (FOIA) and Open Government Law give the people of Guam the right to access any recorded information held by a public Authority. Some information may not be given because it is exempt, e.g., because it would unfairly reveal personal details about someone.

Access rights cover all types of recorded information, including:

- Information held on computers
- Emails and printed or handwritten documents
- Images, video and audio recordings

Determining what information is or should be available can be discovered using several methods, including:

- Finding out the mission of an Authority, whether by calling them or looking on their website. Missions indicate the types of **services** provided by Authorities, as well as the information they may keep.
- Visiting the Law Library or the Bureau of Statistics and Plans to see what Authorities have published. If the Requester finds publications on related topics, but not the specific information they’re looking for, then it is likely the publishing Authority has this information. Authorities are required to make certain information available to the public by a preset date, such as “Citizen Centric Reports.”



- Following local media (e.g., newspapers, radio stations) provide information leads. Following current events could help determine what Authorities are working on or responding to in the community at a given time, which they must have information on to resolve.
- Browsing government budgets and legislation are helpful as well. Both require extensive research, public hearings, and other information to justify where tax money goes and why laws are passed. Authorities must provide annual reports to the Governor to justify expenses, and these are open to the public.
- Contacting Mayors' Offices can determine where to find information that concerns a particular area of Guam. They should know which Authorities are working on certain issues in their community.
- Noting the fields of information on the forms that Authorities collect from customers to receive services. This may require visiting Authorities, though some have online forms.

Requesting Information

A request for information can be in the form of a question, rather than a request for specific documents. Requesters should look for the information desired on the Authority's website before contacting the Authority. Some Authorities provide instructions for submitting a FOIA request on their website, including ways to submit it and who to direct the inquiry to. If not:

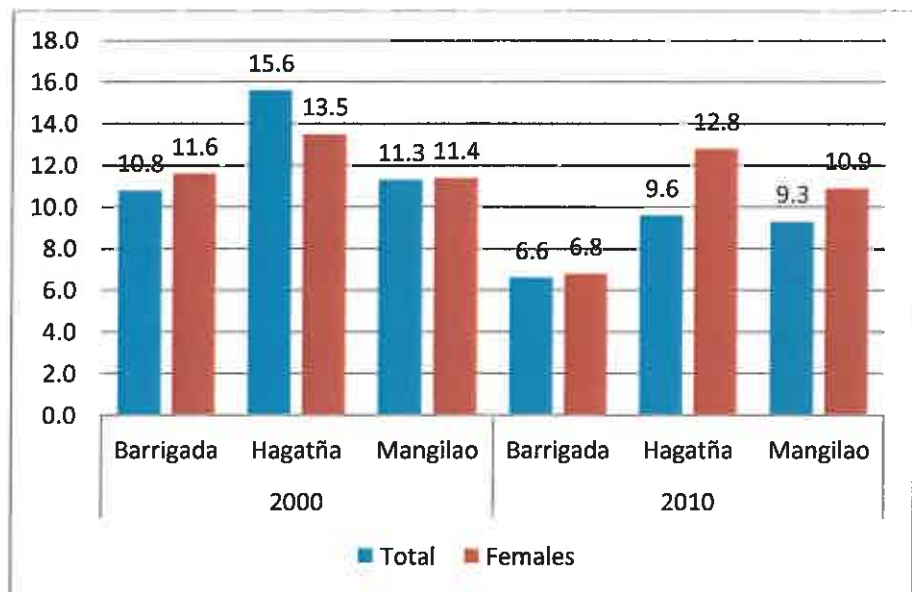
- Submit a written request that describes in as much detail as possible the information they want and the format they want it in (likely limited to hard copy, email, or in-house inspection).
- Include their name, address, and telephone number, and explicitly mention the Freedom of Information Act.

Labor Force Survey

Several components of the Guam Labor Force Survey can likely be turned into useful data through collaboration with DOL. Identifying the barriers to publication of this data is a key question. The survey methods are adequate to capture the rapid increase in population that will occur as a result of the buildup. The sampling frame needs updates, however, for the full array of available administrative data on building permits, births/deaths, and migration. Methodological appendices to the Current Population Survey (CPS) identify a number of approaches for doing this.

DOL currently collects several data items, such as educational attainment status, that remain unpublished. Raw data from previous reporting periods may be tabulated and published, as well as cross-tabulations of unemployment data by gender, age, income and educational attainment, enriching information provided through the Census, such as those represented in Figure 4 below.

Figure 4. Percent Unemployed by Sex, Barrigada, Hagatña and Mangilao: 2000 and 2010⁸



⁸ Guam Census, 2000-2010



Vital Statistics

The military buildup will result in significant population changes that cannot be tracked under current procedures. Several steps can be taken in the short-term to improve vital statistics data availability and analysis:

- Obtain migration data from the Department of Homeland Security. These data – crucial in any analysis, especially those of high priority due to the likelihood that the buildup will induce significant economic migration – are the only missing component of standard vital statistics data.
- Assemble all vital statistics data into a single database. Housing these records in a single location is necessary for regular analysis.
- Produce intercensal population estimates annually, using standard demographic methods and improved vital statistics and net migration data. The Census methodology for the CONUS provides a model for these calculations.

Annual Census of Establishments

The Annual Census of Establishments is the most reliable data source currently available on Guam. A few adjustments could improve its utility:

- Add a total payroll question. This would provide valuable input data for economic impact models and GDP estimates. However, the value of this data must be reconciled with the possibility that a lengthier questionnaire will reduce employer response rates/cooperativeness.
- Recode Annual Census of Establishments and Current Employment Report data for North American Industry Classification System (NAICS) compatibility. DOL has the skills and approach in place to do this, and may be able to make data available quickly, dependent on resource issues.

Industry-Occupation Matrix

It is likely that DOL could create an industry-occupation matrix from its Occupational Employment Statistics data. This would aid economic impact modeling and to any future employment analysis on-island.

Multiple Listings Service

Multiple Listings Service (MLS) data are by far the most detailed and current data available for both the rental and for-sale housing markets. In the CONUS, base community representatives and researchers have been able to obtain these relationships by approaching the data provider directly. A similar approach may be effective on Guam.



Housing Construction and Occupancy

A broad variety of housing data is already collected for Guam. Short-term efforts can productively focus on making these data broadly available to researchers and the public. The Department of Public Works collects housing data of finer detail than the data that are typically available in the CONUS, but the publication of these data is incomplete and the cross-tabulations provided are not optimized to the needs of planning research. A direct approach from representatives of the Guam research community could provide for regular data publication at a finely grained level of detail.

Unavailable Data

The following data sources are currently unavailable to KGI and the broader public:

Guam Department of Labor. The best intercensal data for villages would come from the quarterly (or annual) labor force surveys. However, these data were not made available for the village profiles, but, when they are, they should be included. The data will provide changing labor force participation rates, but are unlikely to allow for demographic, social or economic breakdowns because of the small size of the village samples.

Guam Department of Public Health and Social Services. Births and deaths should be included at the village level, but the DPHSS is behind in its processing and tabulation by village of birth or death. Hence, these data cannot yet be included in the village profile.

Agriculture Census. If the results of the agriculture censuses are available by village, they were not found, and so not included in the current village profiles. When they become readily available, they can be included.

Other possible data. It is likely that statistical data are available by village for public safety, housing (from GHURA), and other agencies. When these data become available they can be included in the village profile.

The KGI team also conducted focus groups in each of the three selected villages. The gist of each of those focus groups will be summarized and added to the village profiles before publication. Both in the focus groups and in other settings, villagers were obviously more interested in aspects of their own lives, like dealing with traffic and potholes than in the older census statistics, and so these issues also are addressed in the profiles.



Objective 3: Standard Operating Protocols

The SOP Manual ⁹ supports the establishment of a viable Knowledge Management System for Guam. This requires a standing body to process and deliver data requests. UOG is the best option to host such a system because its existing expertise and facilities are most suitable for the job. Its research and communications infrastructure offers the capacity to support a Knowledge Management Center (KMC). Within UOG, there are three options for incorporation: Cooperative Extension, Research Corporation, and Graduate Studies & Sponsored Programs.

KGI establishes through the KMC the initializing governance elements and processes to develop a sustainable knowledge infrastructure for Guam. This includes the creation of an online Knowledge Portal as the central interface for Guam's data resources and services. Through strategic outreach – including focus groups, conferences, workshops, and social media – KGI introduced the approach to the community.

The processes and procedures outlined in the SOP Manual provide the instructional means to create a reliable interface between knowledge seekers and data creators on Guam, as well as a platform to manage the quality and scope of the information collected. Serving as this platform, the KMC will maintain a virtual presence through an online Data Portal, and a physical basis at UOG to respond to data requests, host information, and conduct further research about the island community. The SOP manual will be available at the Knowledge Portal and UOG.

The SOP serves to guide data users and collaborators, allowing these groups to access information independently by following written, step-by-step instructions. When compared to individual performance, the SOP also functions as a mechanism for workplace accountability. This document will evolve as the need arises to provide the flexibility for the KGI-KMC to realize its intended purpose and objectives.

⁹ See Appendix D for SOP Manual



Objective 4: Memorandum of Understanding

The Office of the Governor initiated a Memorandum of Understanding (MOU) with UOG in September 2013, which enabled the university to manage, oversee and complete the KGI Task Order. As a collaboration between the Governor's Office and UOG, KGI bridges policy and academics. The joint effort to improve community practices and conditions focuses on collecting official data and developing standardized measurements of community well-being, such as poverty and flood risk levels. Converting the social characteristics of a given location into measurable signs of collective progress or regress is a prevailing method in social science research for identifying public issues and achievements. Narrowing in on areas of need can help groups focus and concert efforts to address public issues, while recognizing areas of prior achievement can help groups leverage existing resources to resolve issues more efficiently.

KGI conducted several meetings throughout 2013 to discuss staffing, documentation, co-location, village cooperation, GovGuam agency support, and KGI's amendment. In the amendment, KGI added content and focused on recruitment possibilities for project staffing. KGI apprised BSP of the MOU and project amendment, and discussed data ownership, focus group preparation, and data conference logistics.

Objective 5: Strategic Outreach

In early 2014, KGI conducted a series of focus groups that engaged a total of 92 participants (44 male, 48 female). Participants ranged in age from under 19 to 60+, educational attainment from some high school credit to Master's Degrees, place of birth from Guam to the Philippines to Washington D.C., and income level from less than \$9,999 to \$50,000+.¹

Within weeks of completing the focus groups, KGI held the 2014 Data Modernization Conference on 11 June 2014. The Conference served to convene participants from different focus groups, and other data experts and supporters. About fifty new and returning collaborators shared and compared opinions of focus group insights, and heard from experts on public issue-solving. The conference brought together previously isolated perspectives, helping to generate a mutual understanding of Guam's data infrastructure issues among participants. Maintaining clear and common definitions of public issues is essential to finding the best solutions.



KGI held separate focus groups for the project's three target villages of Barrigada, Hagatña, and Mangilao. With help from the respective Mayor's Offices, KGI recruited 49 residents to represent the data interests, perspectives, and concerns of their communities. Preliminary analysis of the conversations indicates that the most pressing data needs from the village perspective revolve around Social, Built, and Natural capital. Common across village Focus Groups was a strong desire for better information, planning, and investment in safety and infrastructure (particularly sewer systems, roads, sidewalks, and water supply).

Barrigada

Barrigada helped KGI kick-off the focus groups with 23 community members participating. The community demonstrated cohesion around preserving certain qualities, values, and traditions that already exist in the village, particularly in terms of its sports leagues, athletic tournaments, close families ties, strong leadership, and cultural dances and festivals.

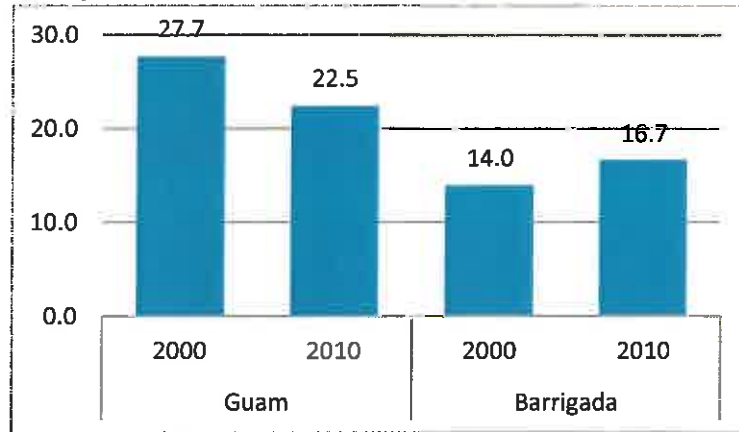
To expand upon the village's strengths, participants suggested developing a more efficient mass transit system, redefining village boundaries, installing toll booths and more working fire hydrants, growing a village garden, opening a learning center, enforcing building maintenance, renovating the local theatre, and building flood prevention and drainage systems. Figure 5 shows that fewer residents of Barrigada work in the same village in which they live, indicating that more residents need to commute to their jobs, which places more stress on traffic and road conditions.

From all of these suggestions, participants from Barrigada identified their top three wishes for the village as 1) infrastructure updates, 2) safety, and 3) developing the Tiyan campus to become a regional complex for education, events, and recreation.

"One of the most important things that I thought was great for Barrigada was our community came together to form the neighborhood watch. It makes you feel like, 'Wow, there's still people out there that care about each other.' They're watching out for each other, making sure that were all safe in our own village."
– Barrigada Focus Group Participant



Figure 5. Percent Working in Same District as Residence, Guam and Barrigada: 2000 and 2010¹⁰



Hagåtña



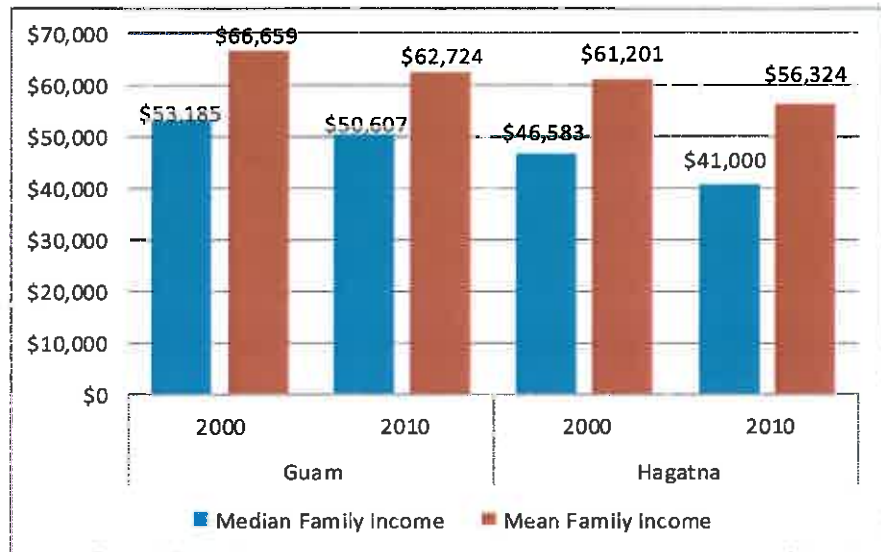
As the capital of Guam, the Village of Hagåtña provided a distinct perspective during the focus group discussions. Without a relatively small residential population, though large professional and governmental presence, KGI invited residents from the neighboring village of Agana Heights to represent the broader residential cluster area. Participants expressed a desire to preserve the traditions of the Liberation Day Parade and Santa Marian Kamalen, status as the home of the Legislature and forthcoming museum, position as the center of island-wide events, and recognition as the village with the first shopping center on Guam.

To capitalize on Hagåtña’s centralized location and established government and business community, participants suggested improving public parks, implementing electronic signage, establishing a tourist information center, burying utility lines, removing eye sores, creating a dog park, constructing walking bridges and bike lanes, and improving transportation and trash disposal. With a lower mean and median family income than Guam as a whole (Figure 6), residents of Hagåtña do not reap much of the benefit from the village’s tourism or business center. Business owners and government officials mostly live elsewhere

Participants from Hagåtña identified their top three wishes for the village as 1) renovate and enlarge the community center, 2) create a sports facility, and 3) upgrade infrastructure.

¹⁰ Guam Census, 2000 and 2010

Figure 6. Median and Mean Family Income (2009 Dollars) Guam and Hagåtña: 2000 and 2010¹¹



Mangilao



Focus group participants from Mangilao expressed both pride and want for their village. Through the dialogues, community members reflected upon several fond experiences and traditions with which they would like to retain. These included fishing in Pago Bay, spending time at the Thursday night market, running 5ks, attending UOG's Charter Day event, coconut husking, celebrating Chamorro Month, educational activities and facilities provided by UOG and Guam Community College, going to cockfights, renovating the Santa Teresita Church, and constructing new sports facilities and fields.

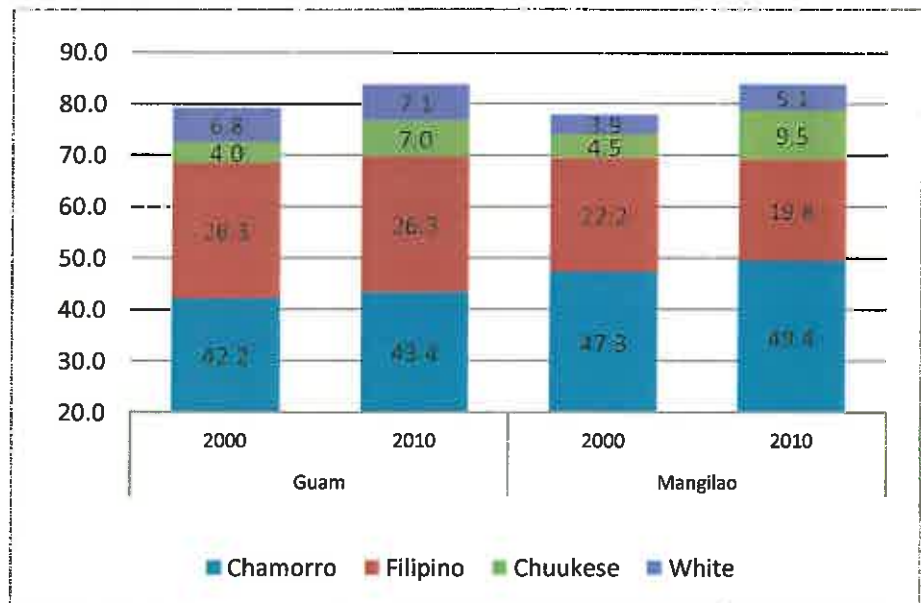
To build on these strengths, participants offered various recommendations, including creating a dog pound and homeless shelter, developing youth programs, setting aside emergency funds, implementing a manam'ko transportation program, establishing a neighborhood watch, investing in a police outpost, developing a community garden, building bike lanes and sidewalks, offering informational activities for parents and children, improving water pressure, and synchronizing traffic lights.

¹¹ Guam Census, 2000 and 2010

Participants from Mangilao ranked their top three wishes for the village as 1) peace and safety, 2) clean environment, and 3) community engagement/cohesion.

Unique to Mangilao was the request for greater community cohesion and engagement and a cleaner environment. This is likely because the village has a large student population as home to UOG as well as a large migrant population for its employment opportunities. There are not as programs that unite the community like there are in Barrigada. From the 2000 to 2010 Census, the percent reporting Chamorro ancestry alone remained at 37 percent for all of Guam, but at 42 percent for Mangilao. The percent reporting for Filipino decreased from 22 to 19 percent in Mangilao, while those reporting Chuukese increased 5 percentage points, such that almost 1 in every 10 people living in Mangilao in 2010 was Chuukese (Figure 7).

Figure 7. Largest Ethnic Groups, Guam and Mangilao: 2000 and 2010¹²



¹² Guam Census, 2000-2010

GovGuam

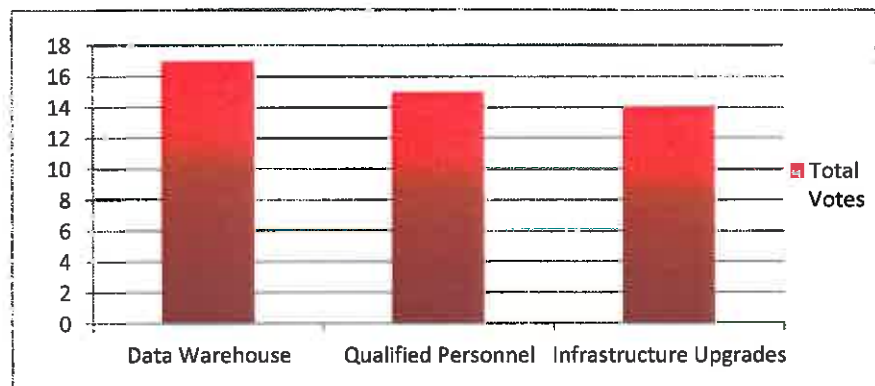


To balance the village perspective, KGI conducted two additional focus groups, one with GovGuam representatives, the other with members of non-governmental organizations (NGOs) and private entities. The GovGuam Focus Group engaged 20 people from 10 agencies: Economic Development Authority, Department of Labor, Department of Public Health, Department of Administration, Bureau of Statistics and Plans, Guam Legislature, Power Authority, Port Authority, Waterworks, and Housing and Urban Renewal Authority. Representing NGOs were 23 participants from AmeriCorps, Tatuha, Guam Animals in Need, Humatac Community Foundation, Guam Preservation Trust, and Amot Taotao Tano Farm.

The GovGuam Focus Group discussions revealed differing data-related needs and priorities than those of the villages. GovGuam participants generally aspired for greater investment in Digital, Human and Built capital. Aspects and practices of their agencies in which participants wished to maintain included the passion of employees, birthday lunches, training and professional development opportunities, staff retreats, workforce wellness programs, Chamorro Month celebrations, employee recognition, and holiday festivities.

Building on these strong suits, GovGuam participants offered several recommendations, such as capacity for database administration, reliable IT infrastructure and qualified personnel, additional staff, automated/paperless systems, standard operating procedures for data collection, succession planning, inter-operability between entities/software, knowledge transfer policies and protocols, on-site graphic designers and urban planners, computer software training, infrastructure and building improvements, state of the art equipment (not leased), and an integrated resource base. The top priority for GovGuam was building the government’s technological capacity by digitizing data and storing it in reliable facilities (“data warehouses”). Second was recruiting more qualified personnel, followed by infrastructure/building upgrades.

Figure 8: GovGuam’s Top Priorities



NGOs and Small Businesses



Review of focus group discussions among NGOs and private entities indicated a desire to preserve the Chamorro language and culture, night markets at Chamorro Village, local art making and cuisine, familial support, hospitality, historical sites, village fiestas, Guam Homeless Collation, coral reefs, Green Army, strategic planning processes, implementing new software systems, personal networks and relationships, spirit of volunteering, Discovery Day event, traditional medicine and healing practices, wood carving, mayoral involvement in the community, and the policy of “adopting one (animal) until there’s none.”

To enhance these valuable customs and characteristics, NGO Focus Group participants suggested creating innovative transportation systems, preserving cultural education, building quality infrastructure, community-supported farming and agriculture, limitless services, more outreach, providing appropriate services for demographics, expanding the “Rainbows” program to every school, increasing access to youth programs and facilities, securing more funding, collaborating with businesses, limiting bureaucracy, developing a village database, linking education and advocacy, respect for the environment and each other, and finding loving homes for all domestic animals. Participants from NGOs ranked their top three wishes for the village as 1) cultural preservation, 2) youth programming, and 3) funding opportunities.

Data Conference



In June 2014, KGI hosted the Data Modernization Conference¹³ in Tumon, Guam. The Conference served to convene the study’s focus group participants, data stakeholders, and potential partners for further considerations. Nearly 50 participants attended the event, 15 of which were returning focus group participants.

The day-long event opened with remarks from the President UOG, Dr. Robert Underwood. Following the introduction was an overview of KGI’s goals, objectives, and progress to-date, including preliminary focus group findings. The Conference’s key note speaker, Dr. Michael Levin, spoke of solutions to Guam’s data limitations, such as not being included in the US Census’s American Community Survey and Household Income and Expenditures Survey, among others. Another key limitation Dr. Levin highlighted was the need for exit forms for all people leaving the territory. Without such data, there is no way to determine at a given time how many people are located on Guam.

¹³ See Appendix for Guam Data Modernization Conference Report

Goal 2: Data Quality

Goal two's objectives include:

1. Establishing a set of notional **KGI data standards** to ensure that data provided through the portal has consistent periodicities, collection methods, units of analysis, and other characteristics;
2. Creating a **data conversion guide** that specifies processes for converting data from the various Guam sources to a uniform, machine-readable format;
3. Surveying other Guam data stakeholders on the status of their survey research and information systems management and produce a **brief report** on the results.





Objective 1: Data Standards

KGI follows the US Census Bureau's Statistical Quality Standards to initiate quality control systems and standards. Currently, KGI is in the first phase of the Statistical Control Standards implementation cycle (Statistical Quality Standard A-1). By design, KGI adheres only to the standards that are possible for Guam at this time. This will enable KGI to identify what is needed to fulfill all federal guidelines for quality information.

Guam Census data are coded in a processing center in the US, and then captured by scanning equipment. The 2010 Census data were edited and tabulated using Statistical Analysis Software (SAS) by outside contractors. In recent censuses, Bureau personnel did the editing and tabulation.

KGI researchers designed a database using Excel to ensure the data directly reflects the content of US Census Profiles and other official sources on Guam. Before entering numbers, researchers set up a template that included headers, sub-headers, and specific field names of the data to be inputted. In a given worksheet, rows represent different data fields (e.g., household income, ethnicity), while columns represent iterations of these field according to different variables of interest (e.g., year, village).

After inputting the data sources into Excel, researchers itemized the contact information and other pertinent information of each agency. The Guam telephone book and other local listings are being used to locate agencies that have statistical data not represented in the yearbook.

KGI researchers also reviewed the Statistical Yearbook compiled by BPS – Guam's main statistical report – to record the sources of each data table according to the contributing government agency. About 75 sources – Federal, Territorial, and Local – provided information for the Yearbook. Each agency keeps its own administrative records. Many of these summaries of these records appear in the Guam Statistical Yearbook, including those on health, education, elections, labor force, imports and exports, and public safety. For various reasons, some agencies are not fully represented.

Agencies may not be represented because they need technical support for developing tables. KGI's database is a resource for tracking agencies that collect statistical and other potentially useful data for Guam. The database supports strategic outreach to agencies that have data, but may not have the ability to manage, share, or analyze it effectively. It also helped ensure that all key agencies participated in the focus groups, Survey of Surveys, and Data Conference. Through this resource, KGI could develop the capacity to manage relations with data partners, and offer technical support for areas of need and mutual benefit.



Archiving

All datasets and reports obtained through Guam's Integrated Statistical System – including KGI-generated data products – must be archived.

The basic process should be as follows:

1. **Back up all electronic data files onto two or more memory devices;**
2. **Keep these devices in secure places, preferably different sites;**
3. **Back data up in a secure place off island.**

Every effort must be made to preserve the captured, digitized data – both in the original form and in the final edited file at a minimum. It is also useful, when possible, to keep intermediate data sets, if they are well named (with the survey and the date of the file in its name) in case programmers have to return later to the data set, either to continue the edit or for analysis of the data or the flow of the processing.

The data, with complete documentation, must be kept in several locations to make sure they are preserved. All Census data should be preserved at the University of Minnesota's Integrated Public Use Microdata Sample (IPUMS) project; IPUMS is also preserving survey data now. But, the data should also be preserved in a bank vault and other secure locations. Losing the data makes further analysis impossible.

It is also important that the media used to preserve the data are updated as new forms of preservation become available. The East-West Center preserved many electronic census data sets from the 1960s and 1970s on Compact Disks (CD), including many from the Pacific Islands. The data were moved from large magnetic tapes to CDs. A current project is moving them to external hard drives, but many of the CDs are no longer readable because of decay over time.

A primary reason to maintain archives is for trends analysis. IPUMS for Guam exist for 2000 and 2010. Trends can be run on the two data sets to see change in single variables or combinations of variables, for example, trends in Chamorro educational attainment that might not be available in printed reports. GVB statistics provide a wealth of long term information on the changing picture of tourists and other visitors. DOL has more than 25 years of digital data to show trends in numbers and characteristics of the labor force. Proper archiving will allow for kinds of trends analyses that would not be otherwise available.



Confidentiality

In all statistical work, maintaining confidentiality is the highest priority. If respondents – whether in censuses, surveys, or administrative records – do not feel confident and comfortable providing the data, that is, if they feel that others may have access to their data except in compiled form, then they are unlikely to provide them. Every precaution must be taken to safeguard names and addresses and other information that might be embarrassing or detrimental.

Confidentiality is maintained by either not digitizing the names in the first place or removing them before editing and tabulation data. If the names and other alphabetic information are keyed or scanned, then this data set should be archived before removing the information, but then this original file must be protected in a bank vault (and, as noted above, in at least one place off-island because of the potential for earthquakes, typhoons, and other natural disasters. If the names are not digitized, that is they are collected on the questionnaires but not captured during scanning, then a separate scanning operation capturing the whole questionnaire but not digitizing should take place, the scan checked, the DVDs or other media with the scanned questionnaires stored in secure places, and then the original forms can be destroyed.

The recent loss of birth records in the Department of Public Health and Social Services illustrated the problem. When the system crashed, more than 2,000 birth records from Oct 1, 2012 to Oct 31, 2013 were lost. Again, as reported in the media, “The data was backed up, but that was lost as well, according to DOA”, Kaneshiro said. “DPHSS does not know what caused the system to crash.” Fortunately, these data *were* backed up in the States, and so could be reinstated

Policy

Guam Senator Michael San Nicolas introduced the legislation in December 2013 to set up a 90-day timeline, and legislature passed Bill 234 requiring the Office of Technology to establish protocols to back up critical electronic data (according to Marianas Variety Guam, Feb 4, 2014). If agencies obey this law, at least one copy of data sets will be preserved. The Office of Technology needs to ensure the confidentiality and integrity of data when it is transferred to new media as they emerge.



Objective 2: Data Conversion Guide

Guam generally has the data available on island to have a fully-integrated statistical system. KGI staff keyed Census cross-tabulations from 1970 and 1990, to go with those already keyed for 1930, 1940, 1950, 1960, and 1980, 2000, and 2010. These electronic data follow the Standards outlined above, and permit longer term trends analysis than those that appear in the KGI village profiles, and for other uses – like installation of new utilities and commuting patterns.

The Guam Agriculture and Economic Censuses provide only a single written report for each round. The Decennial Census provides a series of products over several years after the data collection. These include:

- Printed Reports – Traditionally, the Census Bureau printed a series of reports for Guam, starting with a publication providing counts by Election District, then age and sex, and then other population characteristics, crossed by geography and other demographic, social, and economics variables. Reports on Housing followed a similar pattern. In 2000, Census the cross-tabulations were dropped until OIA provided their funding. For 2010, American Factfinder provided some cross-tabulations. They could be downloaded from digital form to paper, but almost all printed reports were dropped. Guam gets about the same amount of printed reports as the States. The move has been to electronic form.
- Summary Files – The Census Bureau produces summary files for each census. These provide tables not available in the printed reports. Most of these are simple cross-tabulations for geographic areas. They are useful but do not provide for additional cross-tabulation above what is presented.
- American Fact Finder – Additional 2010 Census cross-tabulations can be made using the American Fact Finder. The tool will produce tables for geographic levels as long as confidentiality can be maintained; otherwise, the table will be suppressed.



- **Integrated Public Use Microdata Samples (IPUMS)** – The Census Bureau generated IPUMS for both the 2000 and 2010 Guam Censuses. These samples provide 10 percent of the households on Guam for further statistical analysis. As microdata, regression and multivariate analysis is possible, but all geography is removed. This means that tables can only be generated at the Guam level, and not for Villages or Regions.
- **Maps** – The Bureau provides TIGER line files after each Census. Guam’s government assists in updating the maps for each census. In theory, these maps can be used in sample surveys, but because the houses are not included, they are not useful for most kinds of sampling. The maps will still be used for the 2015 HIES if funded.

The Census Bureau does not provide microdata, except as IPUMS without geography. This complicates sample selection. GovGuam agencies must use other methods to obtain data for sampling frames. The Bureau processes data for censuses and certain surveys (like the 2008 Micronesian migrants’ survey) but the microdata remain in the Census Bureau to protect confidentiality of the respondents. Guam cannot use any Census data for further sampling unless it is converted from the formats provided into a machine-readable format, such as Microsoft Excel. Excel is the most widely used software for raw data management, particularly among non-statisticians. For this reason, KGI used Excel to capture data that technicians keyed in to the program by hand.

Through the project, KGI compiled raw data from all available Guam Censuses. The team processed data for the 1990 Guam Census, 2000-2010 Census comparison tables, GDOE, and Guam Election Committee from Portable Document Format (PDF) files to Excel spreadsheets. This development of a library of raw data enabled KGI to examine trends on Guam related to the population, economy, establishments, education system, and politics. KGI then identified the DOL, GVB, and DPHSS as key data creators to engage for more robust trends and projections.

Objective 3: Survey of Surveys Report



The Survey of Surveys (SOS) is a survey of GovGuam agencies' administrative records. KGI conducted a pilot SOS in December 2014 to follow up with GovGuam Focus Group participants to gather supplemental information on their agencies' data management capacity. KGI researchers developed the survey questionnaire (see Appendix F), and implemented it in collaboration with an advanced level Data Analysis course at UOG taught by Dr. Ron McNinch – a faculty member in the College of Business and Public Administration. A small sample of 12 survey participants responded to the survey¹⁴, conducted by phone, out of a total pool of 20 Focus Group participants.

The 11-question survey used a combination of multiple choice and fill in the blank questions. These questions focused on collecting objective and subjective information around different agencies data management policies, standards, and integrity. The following is a basic summary of the results of this sample:

- 64% of agencies maintain a Data Inventory
- 36% of agencies maintain a Public Data Listing

Regarding data categorization, of the four responses:

- One used a standard data vocabulary
- One used standard data types
- One used standard data formats
- One used standard data labels

The three most common roles for data management in this sample include:

- Communicating the strategic value of agency data to internal stakeholders and the public
- Fulfilling FOIA requests
- Working with the agency's relevant officials to ensure that data privacy and confidentiality are fully protected

The most common point of contact in data role management in the government of Guam appears to be through the Director's Office; while the most common data policies instated by agencies apply to internal audits and reviews.

¹⁴ See Appendix G for Survey or Survey Responses



Other important data policies reported include:

- Data records retention/archiving
- Data update/maintenance schedule
- Public comment/review
- Data request
- Requested data release schedule
- Online data reporting/publishing

Curiously, 72% of agencies rated their level of data resources as “acceptable” to “very good.” Two thirds of government agencies did not have a data sharing agreement with other agencies at the point of inquiry. Of the few agencies that have data sharing arrangements, most are related to revenue or labor concerns.

The most popular data sources for respondents were:

- Internal Databases / Policy Manuals
- Immunization / Infectious Disease Reports
- Census Demographic Profiles
- Annual Statistical Yearbook
- Compact Impact Reporting
- Annual Financial Statements
- Procurement Reports
- Public Announcements

To support FOIA requests, the three most common suggestions were:

- Implementation of common policies
- Enforcement mechanisms
- Data management standards

Researchers will conduct additional surveys in the future that include larger samples and more in-depth questions. This pilot showed that UOG students can earn credit, whether academic or financial, through applied coursework in survey research. About 30 students and Teachers' Assistants were involved in this survey effort. Through Dr. McNinch's advanced courses alone, KGI can access a pool of about 70 students each semester. KGI is arranging for the course partnership to extend into the 2015 spring semester. A large portion of the curriculum will include the Household Income and Expenditure Survey (HIES), which UOG is set to launch in early 2015 in collaboration with BSP. KGI's Census expert estimates a need for at least 75 enumerators to collect and tabulate HIES data. In surveys past, Guam's HIES has suffered the consequences of lack of qualified survey workers, who require both training and supervision.



Kinds of Records

In addition to the data provided by survey respondents, there are various other known data sources on Guam, including:

- Department of Public Health and Social Services (DPHSS) – DPHSS collects vital statistics information (births and deaths, fetal deaths, marriages and divorces), and other information on Women, Infants and Children (WIC), hospital beds and patients, immunizations, and so forth. Many of these data are provided to and appear in the Statistical Yearbook.

In the 1980s and 1990s DPHSS produced its own yearbooks, which provided many more detailed tables. They ceased these publications around the time they stopped keying the births and deaths. Currently, births and deaths are only keyed through 2005 and 2006. DPHSS is preparing to key the interim data soon. As part of KGI, CSPro dictionaries and screens were created for births, deaths, marriages, and divorces. Data from mid-2011 onward are being captured using STEVE – a system that uses almost only alpha characters, making tabling difficult.

- Guam Visitor's Bureau (GVB) – All visitors to Guam fill out entry forms. The only required part is the customs information. Voluntary information collected on the back of the form is filled by most visitors and residents. The customs information is not tallied, or at least does not appear in the yearbook.

Prior to KGI, assistance was provided to GVB to migrate the editing and tabulating the visitor information from DOS (IMPS) to Windows (CSPro). At one time, all the major statistical activities on Guam used DOS for processing. So far, only GVB has made the conversion. DOL and DPHSS remain in DOS. The GVB edit was rewritten using the IMPS edit as guide, and sets of about 30 tables and 100 tables have been produced. GVB is currently undergoing reconciliation between the two systems. But these data are produced consistently, on time and fully, which benefits GVB, but also provides timely tables to the Yearbook.

Forms also collect information on potential migrants – i.e., intended residents – data which GVB is not currently assessing or tabulating. Guam has no exit form. If it did, with the census 2010 population, added births, removed deaths, and net migration (incoming migrants minus outgoing migrants), and current population estimates could be obtained. Analysis of characteristics of returning residents could also be obtained. Occupation and industry are collected but not tallied.



As part of the Impact of Compact reporting, GVB has traditionally prepared separate tables on the Freely Associated States migrants, a useful source of aggregated data on these specific migrants.

- UOG – collects and publishes annual data on the student and faculty populations. Some of these data go into the Statistical Yearbook, others only appear in the standalone publication. More could be done, though, specifically with migrants and ethnic breakdowns.
- Guam Housing and Urban Renewal Authority (GHURA) – should have statistics on numbers of units, characteristic of the residents, and conditions of the units, none of which appear in the yearbook or village profiles so far.
- Guam Police Department (GPD) collects detailed information on driver's licenses, violations, arrests, etc., but KGI has yet to collect village level data from law enforcement for inclusion in the village profiles. KGI has made overtures to a few established contacts within GPD for data access, and receive referrals to the Director for such matters. This reaction is not limited to GPD. KGI approached **several** other contacts in different agencies to initiate data collaboration, all of whom referred staff to the Agency Director.



Goal 3: Data Analysis

Goal three's objectives include:

1. Identifying a set of **baseline indicators** to measure variations in demographic, economic, labor and housing conditions on Guam by using each of the 19 village's as distinct units of analysis;
2. Creating a **village monograph prototype** for use during community workshops;
3. Producing a set of **village monographs** for the three pilot villages.
4. Developing the capacity to undertake **custom data research** by request, inclusive of survey research, by conducting a custom data research pilot;



Objective 1: Village Baseline Indicators

Guam's population of about 170,000 covers an area divided into three traditional regions: North, Central, and South. Recently, however, many have started referring to areas of Guam by the Department of Education's school district names: Lagu (North), Luchan (East), Kattan (West), and Haya (South). Most people on Guam think of themselves as being from a particular "village," though the Census Bureau uses the term "municipality."

There are 19 villages that cover an area of 212 square miles – about the same land mass as the US city of Chicago with a fraction of residents. Guam has about 830 residents per square mile according to the 2010 Census, which compares to rural communities in the mainland. The Census Bureau defines "Rural" areas as any block or block group having a population density less than 1000 people per square mile.

The problem with measures of population density, among others, for Guam is that the island is treated as whole rather than 19 parts. The federal government treats Guam as a rural community. There are villages, however, that would be considered "Urban" areas under the same guidelines, such as Dededo and Tamuning, which have population densities of about 1,500 and 3,500, respectively.

The federal government designates Guam a distinct, rural community for the purposes of resource allocation. This is beneficial for the island's agricultural programs, which includes food assistance, education system, and other public needs. It leaves gaps in other areas, however, such as ground transportation, waste management, and other public works. In other words, the island is unprepared for major development in areas such as tourism and national security because it is a rural community with urban and other unique characteristics that current government policies and programs cannot account for properly.

The Census Bureau collects its data for Guam by village. The following summarizes the Census topics available as part of KGI:

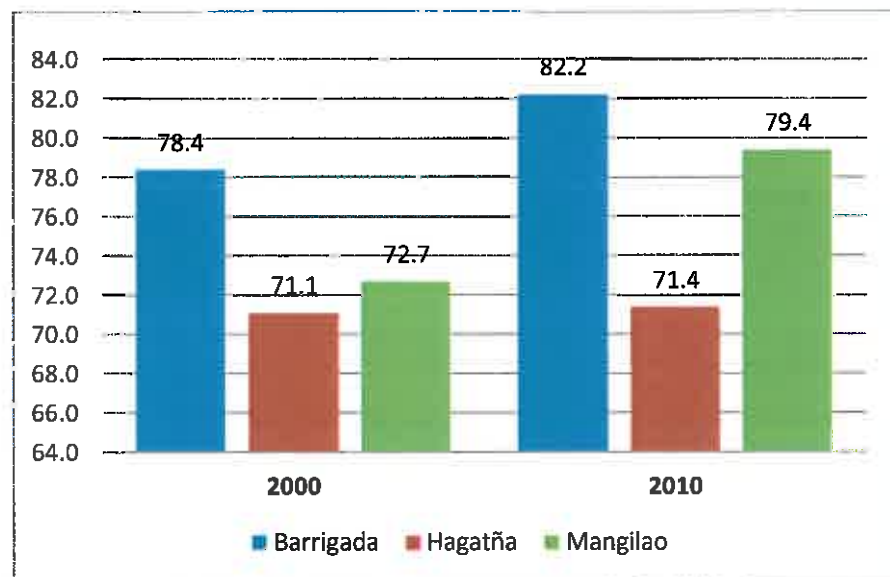
- Age and Sex provides the most vital information about a population and is the basis for most of the cross-tabulations of population data. Schools, health, and recreational facilities are planned on the basis of these variables, and fertility and migration.
- Marital Status provides information about ever-married and never-married people, which could influence housing and marketing. When crossed by age, the average age at first marriage is obtained, which is useful in predicting fertility and potential family structures.



- Fertility provides information about the number of children being born, and is useful for planning educational and health facilities.
- Ethnicity provides information about the ethnic makeup of the population to see changes in geographic location and demographic, social and economic characteristics by group.
- Birthplace provides information about long-term migration for the population. Since only about half of Guam's population is actually born on Guam, this information is particularly important in developing and maintaining social and educational programs, and housing.
- Previous residence and Length of residence provides information about short-term migration. Often the question is asked about residence 5 years before the census providing mid-decade estimates of the population. In 2010, the Census Bureau changed the item to residence one-year before the census, so losing the mid-decade estimate. (But the 2005 HIES should provide similar estimates).
- Language provides information about the amount of English spoken, other language use, and frequency of both languages
- Education provides information about current school attendance at the time of the census and educational attainment of the total population and ethnic, birthplace and other characteristics. Vocational education is also collected.
- Military/civilian provides information about current military and their dependents. Information on Veteran's status is also collected.
- Labor Force Participation provides information about who is employed, unemployed, and not in the labor force. Armed Forces and Subsistence activity is also collected. Commuting statistics are also collected, as well as place of work for addition commuting data.
- Occupation and industry provides information about the distribution of occupation and industry of the working population.
- Class of Worker provides information about Private Sector and Public Sector (Government) workers and self-employed workers

- Income and Poverty provides information about various income categories and poverty rates.
- Housing provides information about many housing characteristics including structure, plumbing, cooking, rent and mortgage.

Figure 9. Percent High School Graduates, Barrigada, Hagåtña and Mangilao: 2000 and 2010¹⁵



¹⁵ Guam Census, 2000-2010

Objective 2: Village Monograph Prototype

As part of KGI, researchers developed three village profiles using statistical data and a variety of other sources. The information was brought together in a non-academically-oriented narrative, allowing current residents in villages, and potential residents to get a picture of what life is like in a particular village, or to compare villages.

Sources

Among the sources used for the first three profiles, Barrigada, Hagåtña, and Mangilao, are the following:

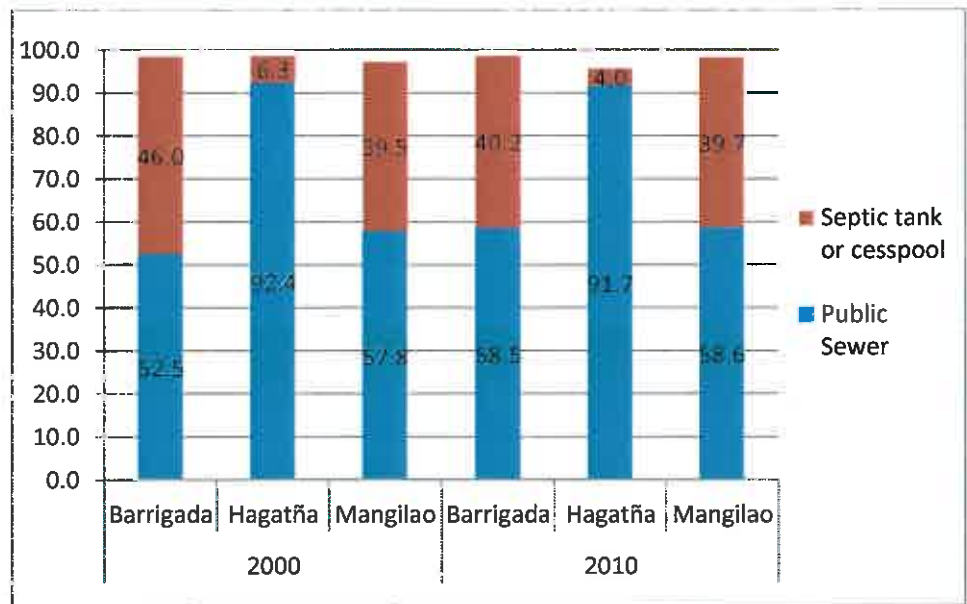
- Decennial Census – The major part of the profile looks at changes over time – from 1970 to 2010 for the total population and 2000 and 2010 for other variables. Cross-tabulations were available for both censuses, so it was possible to combine them to show trends. Both population and housing were covered. Data are available in printed reports, BSP developed Excel spreadsheets, summary files, but not PUMS. The Census Bureau does not release microdata, thus only printed or electronic cross-tabulations could be used.
- Economic Census – The Census Bureau collects an Economic Census every 5 years ending in 2 or 7. The 2012 Guam Yearbook provided tables on prior reporting, but not the 2012 data. Remaining in largely disordered Excel tables, these will be integrated into the village profiles.
- Guam Department of Education – provides annual statistics on numbers of students by grade in its schools. The profile includes the information for the schools in village under consideration.
- Voters and Elections – The Election Commission provides information on Registered and Actual Voters in elections in even-numbered years. They also provide counts by candidate for President, Governor, and Delegate, summarized by village.
- Land parcels – The yearbook presents data on land parcels, their estimated worth, and buildings, summarized by village.
- Projections – The International Programs Center at the Census Bureau provides projections of Guam’s population by sex. The Bureau of Statistics and Plans disaggregates the estimates to program projections by village, and these are also included in the village profile.

Objective 3: Village Monographs (3)

KGI developed village monographs for three of the villages (Barrigada, Hagåtña, and Mangilao). Similar methods and data can be used to develop the subsequent ones. KGI is meant to integrate data sets via its website, and continued funding will assist in this effort. OIA would be one of the biggest users of these data sets and the website, though support for technical assistance in this area is needed.

The pilot village monographs show variation in the baseline indicators over time, from 2000 to 2010. They also enable comparison of characteristics, such as poverty levels, labor force participation, and public sewage access (Figure 10 below).

Figure 10. Sewage Disposal, Barrigada, Hagåtña and Mangilao: 2000 and 2010¹⁶



¹⁶ Guam Census, 2000 and 2010



Objective 4: Data Research Capacity

The Survey of Surveys results provide initial insight into the general topics needed to develop an integrated database. Work needs to continue to organize data from the Yearbook and other sources into a series of navigable directories in an organized and hierarchical form. Both tabulations – for those who want to use already established compilations – and non-confidential microdata – for those who want to make their own tables should be provided.

Household Income and Expenditures Survey

KGI engaged in two planning meetings with BSP, and a site visit to the Department of Land Management (DLM). The meetings served as a platform to discuss options for sampling frames, enumerator recruitment, questionnaire updates, mapping technologies, and approaching DOL for survey alignment for the 2015 Household Income and Expenditures Survey (HIES). So far, however, collaboration efforts with DOL have been unsuccessful.

The United Nations and other agencies recommend implementing and processing HIES every five years to assist in measuring the relationship between population variables, especially income and expenditures. The data are used to reweight the Consumer Price Index (CPI) and for use as deflators. As noted, if Guam were a State, it would be included in the US Consumer Expenditure Survey, the equivalent of HIES. Guam collected and processed the HIES for 1977, 1995, and 2005.

BSP and UOG submitted a joint grant request to the Office of Insular Affairs (OIA) to conduct the HIES for 2015, which awaits full approval. The 2015 HIES will require government cooperation across agencies and extensive recruitment of enumerators. If completed, it will provide mid-decade data to be used to assist in planning and policy development in many parts of the public and private sectors.



Labor Force Survey

The Bureau of Labor Statistics used to collect Quarterly Labor Force surveys. During the first decade of this century, the surveys were cut back to about once a year. Traditionally the microdata were provided to BPS to make additional tabulations, as needed, for the yearbook, and for trends analysis. Currently, the data are not provided, although some limited data do appear in the Statistical Yearbook. No data are provided by village.

Annual Health Survey

DPHSS seems to collect an annual Behavioral Risk Survey. It is not clear if these data are available by village. It is also not clear where the microdata reside. But the fact that the data are collected and tabulated is important and will be useful for planning.

School Food Survey

As far of a recent study to assess actual costs of providing children with Free or Reduced meals in Guam's primary and secondary schools, UOG Extension Service was funded to conduct a survey about the issue. About 300 households reported population, housing, and regular and annual expenditures, and about 120 household kept a weekly diary of expenditures. These were analyzed with other elements to provide a basis for requesting additional offset funding from the Federal government.

These surveys should provide the elements needed for intercensal surveys. The samples have to be large to account for sampling errors, and Guam's agencies really cannot afford to do much more surveying than it already does. Both respondent and enumerator fatigue comes into play.

Compact of Free Association Impact Reporting

The Compacts of Free Association (COFA) allows for free entry of citizens of Palau, the Federated States of Micronesia (FSM), and the Republic of the Marshall Islands (RMI) into the US and its Territories. Most of the migrants tend to be poor, so one of the requirements of the Compacts was annual reporting to the US Congress of the impact of the migrants on Hawaii, Guam and other territories. OIA is supposed to do this reporting, but for the most part, OIA has requested that each territory or State do its own reporting, and then OIA passes on those reports to the US Congress.

Guam collects administrative records from DPHSS, GDOE, and other government agencies, and establishes dollar amounts of impact each year. Local leaders believe the US Government does not compensate Guam sufficiently for the impact, adding cumulative amounts to its reports.



In addition to the Administrative Records, OIA has funded a series of Micronesian migrants' surveys to assess the impact on the migrants themselves. OIA funded the first survey of Micronesian migrants in 1992 conducted by UOG. The second survey was conducted in 1997 by the Bureau of Labor Statistics, and a third survey was conducted by UOG in 2003. The surveys, starting in 1997, were used, with ones in CNMI and Hawaii, to distribute \$30 million the US Congress appropriated to offset at least some of the costs to Guam and the other areas for hosting the Micronesian migrants. The funds were distributed on the bases of post-Compact migrants and their children.

In 2008, OIA chose sample blocks, which they said will not work for surveys, rather than the snowball method which had been approved by the Government Accountability Office and used in all the previous surveys. BSP found that the sample for Guam was based on 216 Micronesians in the selected blocks. The cost for the three surveys in 2003 was \$300,000, but the cost for the surveys in Guam and CNMI with Hawaii using the ACS was \$1.3 million.

For 2013 round, the Bureau used 2010 Census data for Guam and CNMI but the ACS again for Hawaii. The 2010 data were 1.5 years after the 2008 data collection. Not much should have changed, but quite a bit did because of inflated Micronesian counts in Hawaii via the ACS. Guam's part of the \$30 million decreased.



Lessons Learned Task Statement

Knowledge@Guam Initiative

1 – 31 December 2014

Background:

The Lessons Learned Task Statement is part of Amendment 3 to the University of Guam's (UOG) Knowledge@Guam Initiative (KGI). The following provides a detailed review of challenges and remedies in relation to KGI's goals and objectives. This includes an overview of project tasks and management practices used to achieve results under the amendment. Arranged by Goal Area, the Statement describes the main factors contributing to delays in project deliverables in *Part I: Key Issues*, and the constructive outcomes that derived from the efforts in *Part II: Prospects & Outcomes*.

Note: KGI Amendment 1 – requested November 2012, approved February 2013 –extended the performance period from April 30, 2013 to August 31, 2013. The five-month extension included work coordination with UIC technical support, and contributed to project slippage and timeline adjustments.

Part I: Key Issues

Goal 1: DATA ACCESS

❖ Objective 1 – Memorandum of Understanding

Issue 1: Processing Period

Memorandum of Understanding (MOU) processing was the most significant cause of delay in the delivery of KGI goals and objectives. Adjusting the timeline required amendments to the MOU and signatory processes at the Governor's level, outside the scope of UOG's oversight.



Given its importance, the document affected project fundamentals, like staffing and remuneration.

- **Recommended Remediation:**
KGI’s findings suggest that projects could reduce MOU issues and related delays in the future by establishing contract provisions that:
 1. Allow for **contract flexibility** for expertise recruitment that meet UOG hiring requirements;
 2. Provide **multi-year periods** to accommodate potential MOU processing delays.

Issue 2: Internal Sponsorship Change

During planning rounds, the initial workgroup was considering options for account sponsorship within UOG that conflicted with the KGI Grant Agreement. While supported at the President’s level, UOG’s executive office was unfit to oversee the strategic direction and administration of the project. This caused KGI to change host accounts from the College of Natural and Applied Sciences (CNAS) to the Assistant Vice President of Sponsored Programs and Research, which took unforeseen processing time.

- **Recommended Remediation:**
KGI’s experience suggests that conducting a *Risk Assessment* prior to beginning research preparations could mitigate delays, including those related to Internal Sponsorship. *Note: This recommendation applies to most other issues identified in this report.*
 1. **Risk Assessment Area: Internal Sponsorship** – Prior to submission, future proposals should follow a Risk Assessment that covers key outcomes expected for the project period. This document should support project planning and efficacy, and include appropriate disclaimers for Internal Sponsorship.



❖ **Objective 2 – Web Portal**

Issue 1: Website Renovation / IT Capacity

UOG's official website underwent a comprehensive renovation from 2013 to 2014. In December 2013 – the same period that KGI was soliciting applications for the Project Coordinator position – the migration from the old host to the new website occurred. While planned to an extent, this disrupted both 1) KGI's recruitment and 2) the development of the Web Portal.

1. **Recruitment.** The site was down or severely limited in content during the migration period (Dec. 2013 – Jan. 2014). Project applicants noted difficulty applying for the position because the Job Announcement was not available online in the week leading up to the application deadline. This may have prevented other candidates from applying.
2. **Web Development.** While UOG published the new website in January 2014, its content and functions are still in development. KGI staff met and interacted with the Communications Department – the unit that oversees the telecommunications infrastructure of UOG – throughout the project period, particularly since March 2014 when formal discussions of the timeline and implementation of the Data Portal began. KGI was able to create a landing page under UOG's domain for the Portal at this time.

The structure and functionality of UOG's website was still forming when the Portal needed to be in testing mode according to timeline estimates. With three months remaining, it became clear that publishing the Portal within the second grant amendment period was unlikely, at least according to expectations. KGI could make limited progress on the Portal until the website became more viable. Staff maintained contact with the Communications Department for status updates during this time.



By the summer of 2014, UOG's website had the capacity for decentralized content editing permissions, enabling KGI to manage the content of the Web Portal, but not the structure. A contractor currently manages the structure of the website due to the university's limited internal capacity. In November, two KGI staff participated in training to become designated Web Content Managers for UOG. This expedited the content publishing process for KGI. When needed, however, KGI must submit requests for structural changes to the Portal from the web contractor via UOG's Communications Director. This prolongs layout revisions and the Portal's overall development.

– ***Recommended Remediation:***

KGI's efforts indicate that two (2) key approaches could improve relations and turnaround times related to UOG IT and Communications:

1. ***Website Administration*** – In the short-term, KGI could improve Portal-related efficiencies by promoting current Content Managers to Administrators within the content management system. This would involve a written justification of the need for a higher position level for website development to the Communications Director, additional staff training, and modified website permissions settings.
2. ***Systems Integration*** – Over the long-term, UOG should perform its own integration of information systems. Currently, the UOG's Library, Computer Center, and Executive Communications Department operate separately, though collaboratively. The Director of Communications is the center of media communications. Instead of functioning as a liaison, though, these systems should operate as one, not three.



❖ **Objective 3 – White Paper**

Issue 1: Staffing Requirements

The greatest challenge for KGI involved the lengthy UOG professional staff recruitment processes and finding qualified staff interested in the short-term (one-year) employment period.

The processing time of up to three (3) months affected project start times by imposing timeline delays. Internal procedures contributed to recruitment delays, including appointing search committees, reviewing applicant eligibility, and conducting interviews and selection. Compounded by the departure of key staff, the lack of a qualified applicant pool was a major factor in KGI's extension.

– ***Recommended Remediation:***

The KGI Workgroup suggests a few options that, combined or separate, could help resolve project recruitment issues and related setbacks:

1. ***Contingency Funding*** – The recent establishment of UOG's Research Corporation – a facility for research collaboration and contract services – could support a system of sustained research and grants capacity. By working with the Research Corporation, KGI could generate funds for a personnel account to bridge potential breaks between funding periods for grants and sponsored research that may disrupt employment. This could provide more permanent and full-time research positions, which would be attractive for potential applicants who may otherwise avoid the uncertainty of limited term employment.
2. ***Remote Opportunities*** – Guam's geographic isolation drives away much of the talent the island produces. Young talent in particular is eager to broaden their perspective, while also feeling a strong connection to their family and culture. Providing flexible terms of employment could retain some of this talent, such as by supporting off-island collaborative work and other remote opportunities.



❖ **Objective 4 – Strategic Outreach / Data Conference**

Issue 1: Key Stakeholder Engagement

KGI engaged three main groups of key stakeholders in the project: GovGuam Collaborators, Village Officials, and Community Members and Organizations. The following delays resulted in relation to KGI's outreach strategy:

1. GovGuam Collaborators – To ensure project success, KGI reached out to a wide group of colleagues in various GovGuam agencies throughout the grant period. Whether by post, email, or phone, KGI staff approached every relevant entity of GovGuam.¹⁷

KGI engaged several key collaborators from different agencies, such as the Guam Economic Development Authority and Department of Public Health and Social Services, in workgroup meetings and events. These ties produced critical input on project goals, objectives, and timelines. This process was formational, revealing ideas and challenges not yet considered. It also contributed to delays in two (2) main ways:

- a. Agency insight prompted necessary changes to matters such as KGI's outreach strategy for the Survey of Surveys (See XX); and
 - b. Agency representatives – however committed to the project and involved in statistical work – referred KGI's data requests to published reports or the Director's Office for further information.
2. Village Officials – Working with the Guam Mayor's Council and Mayors' Offices of the pilot villages required several planning meetings to finalize focus group sessions and other planned activities. This required schedule adjustments.

¹⁷ Some agencies, such as the Department of Military Affairs, Retirement Fund, Ancestral Lands Commission, and Board of Accountancy, have missions that conflict with or are outside the scope of KGI.



Due to coordination and scheduling delays, confirming mayoral stakeholders (Barrigada, Hagatna and Mangilao) contributed to time delays and ensuring dates.

3. Community Members and Organizations – The pilot villages varied in their level of social cohesion, demonstrated through focus group participation. Respecting the authority of the Mayors' Offices, KGI played a secondary role in focus group recruitment. This left some gaps in perspective for at least one of the pilot villages. The given mayor supported KGI, but lacked connections with the different groups needed for representative comment. Staff had to use a different recruitment tactic for this village. Social media, personal networks, and university-wide listservs supported the Event Announcement and drew in a few unrepresented voices.

For all three (3) groups, KGI encountered challenges with Calendar Alignment and Venue Selection. Coordination of KGI Focus group meetings and Data Conference became time consuming for the workgroup. Tasks included schedule coordination, venue appraisal, participant outreach, and attendance management.

– **Recommended Remediation:**

Outcomes in this area suggest that future projects could improve Key Stakeholder Engagement efforts using the following methods:

1. **Targeted Outreach** – *Radio show, press release, teachers/classes*
2. **Participant Survey** – Most convenient time and venue for participants
3. **Event Reminders** – *E-Vite and Reminder – agenda, maps/directions*



❖ **Objective 5 – Standard Operating Protocols (SOP)**

Issue 1: Protocol Development

As an after-the-fact documentation of negotiated research procedures, KGI's SOP development necessarily followed any of the delays incurred for the other project objectives.

– ***Recommended Remediation:***

Research shows that future undertakings could reduce slippage in SOP development through the following:

1. ***Risk Assessment Area: Protocol Development –*** KGI's outcomes indicate that conducting a *Risk Assessment* prior to beginning research preparations could mitigate delays, including those related to SOP development. *Note: This recommendation applies to most other issues identified in this report.*

Goal 2: DATA QUALITY

❖ **Objective 1 – Data Standards**

Issue 1: Student Researcher Recruitment

UOG's internal procedures for recruitment contributed to delays in both identifying and processing KGI staff. During KGI's planning phase, initial roles and tasks were defined to implement grant goals and objectives. These included Data Technicians, Survey Enumerators, and Student Researchers – the project's main data entry positions. Once the leadership team formed, the need for support staff was immediate. The pool of viable applicants, however, was small, likely due in part to the positions low pay and temporary status. There is also a lack of training and awareness of the possibilities of survey work on campus and across Guam.



– **Recommended Remediation:**

KGI's experience suggests that future projects could mitigate delays in Personnel Recruitment in two (2) main ways:

1. **Student Research Pool** – Improving the talent pool for student researchers and long-term survey enumerators would require increasing the amount of applied learning coursework in different areas of data analysis at UOG. KGI has initiated this process, but at least two sizeable courses would be required to fulfill the fieldwork needs of HIES alone (est. 75 enumerators).

❖ **Objective 2 – Data Conversion**

Issue 1: Recording Method

A good portion of staff time went to transcribing focus group audio recordings for reference purposes. The 11 sessions covered more than 50 hours of recording time.

– **Recommended Remediation:**

This experience indicates that future projects could reduce Data Conversion delays using two (2) main approaches:

1. **Single Input Audio/Video Recording** – Transcription time could have been reduced by using a single input rather than multiple feeds, which researchers used to capture comments from participants positioned at a distance from a central recorder. Combining different feeds of the same recording creates unnecessary patchwork and duplication of effort. Ideally, these discussions would be video recorded so that transcribers can identify the respondent readily across overlapping discussions.
2. **Live Note-Taking** – Another technique that would save transcription and replay time would be real time notations. These should have a predefined structure in electronic format that follows the interview questioning.



❖ Objective 3 – Survey of Surveys

Issue 1: Course Alignment

– ***Recommended Remediation:***

KGI's pilot collaboration with UOG's Data Analysis and Analysis course showed that such partnerships could increase research efficiency and student credentials through two (2) main mechanisms:

1. ***Credit Options*** – KGI has engaged in initial discussions with faculty about creating options for students to earn different forms of credit for contributions to sponsored research projects. Ideas so far consist of tuition reimbursement, job titles and promotion options, and other skill certifications issued by the professor/university.

Issue 2: Election Alignment

– ***Recommended Remediation:***

KGI's outcomes indicate that conducting a *Risk Assessment* prior to beginning research preparations could mitigate delays, including those related to the local political climate. *Note: This recommendation applies to most other issues identified in this report.*

1. ***Risk Assessment Area: Local Elections*** – Before submitting a proposal, future projects should conduct a Risk Assessment that covers key outcomes expected for the period. This document should support project planning and efficacy, and include notes on local elections cycles. Research planned during gubernatorial election years needs well-established contingency plans and mitigation strategies to perform sound policy analysis.



Goal 3: DATA ANALYSIS

❖ Objective 1 – Village Baseline Indicators

Issue 1: Content Expertise Recruitment

Two contributing factors affected KGI's Content Expertise Recruitment efforts: *Internal Expertise* (existence of UOG-Based Expertise) and *Teaching Schedules* (availability of faculty during semesters).

1. Internal Expertise – Project start dates and availability of research faculty limited to intercession periods -Semester breaks for 9-month faculty or on sabbatical status).
2. Teaching Schedules – Contracts with faculty content expertise expired due to teaching and other research obligations. Working with faculty on nine-month teaching appointments limited KGI's access to their support to semester breaks (summer and intercession). Contracting faculty during the semester requires prior administrator approval. This was unattainable for KGI because such negotiations need considerable lead-time for approval.

UOG has procedures to engage external faculty and contractors to provide specialized services that are unavailable locally. KGI followed UOG's procurement policies to recruit faculty. The Request for Proposals gives first priority to UOG faculty with expressed interest and availability for the positions, and then to external cooperators. Eight (8) UOG faculty members responded to the Request, of which only four (4) followed up with further interest, and three (3) offered their availability to work on the project.

– **Recommended Remediation:**

Observations suggest that future undertakings should use the following approaches to mitigate Content Expertise Recruitment issues:



- 1. Research Contracting Platform** – The recent establishment of the Research Corporation at the University of Guam (RCUOG) offers the much-needed efficient grants management environment. Projects shifting under RCUOG oversight has reported shorten recruitment periods from under a week to process project staff. This includes quicker account establishment support and processing of requisitions. RCUOG’s streamlined grants management platform is poised to resolve the majority of the above factors experienced under the KGI.

❖ **Objective 2 – Village Monograph Prototype**

Issue 1: Case Selection

– **Recommended Remediation:**

- KGI’s practice suggests that conducting a *Risk Assessment* prior to beginning research preparations could mitigate delays, including those related to Case Selection. *Note: This recommendation applies to most other issues identified in this report.*

- 1. Risk Assessment Area: Case Selection** – Before submitting a proposal, future projects should conduct a Risk Assessment that covers key outcomes expected for the period. This document should support project planning and efficacy, and include notes on case selection.

❖ **Objective 3 – Pilot Village Monographs**

Issue 1: Personnel Development

Framing the Village Monographs around the Community Capitals Framework (CCF) required considerable investment in personnel development. The approach is unfamiliar to most outside the field.



Most KGI staff are UOG students or recent graduates without much professional experience. Applying the research framework to large amounts of data required considerable investment in time and effort to orient and train project support staff. With start dates staggered as well from processing and selection time, multiple trainings were necessary to bring the whole team to speed.

– ***Recommended Remediation:***

Experience indicates that future projects should use the following approaches to mitigate delays regarding Monograph development:

1. ***Training Curriculum***
2. ***Reference Guide***

❖ **Objective 4 – Custom Survey Research Pilot**

Issue 1: Funding Turnaround Time

2015 Guam Household Income and Expenditure Survey (HIES)

– ***Recommended Remediation:***

Future projects should consider using the following approaches to reduce exposure to sustainability risks:

1. ***Alternative Revenue Source***
2. ***Funding Calendar***



KGI provided an opportunity to incorporate several efforts under the goal areas, and generated potentially useful data resources for the community. It laid the groundwork for UOG to establish a Knowledge Management Center to complement the research efforts of its Research Corporation and future projects upon request. The research team identified the following opportunities as potential research collaborations for KGI:

Collaboration Opportunities:

1. Household Income Expenditure Survey

Under KGI's oversight, the project team supported the Bureau of Statistics and Plans in proposal development and survey design for the upcoming HIES. The resulting request is awaiting approval by the US Department of the Interior.

The HIES will provide data on income by category, including demographic, social, economic, and housing characteristics, and general, regular, and diary expenditures from a random sample of Guam's households. This will assist in revising Guam's Consumer Price Index (CPI) and GDP deflators. Results will explore the current labor force, including the various characteristics of wage earners. This proposal if funded will help enhance GovGuam's ability to use and report consistent, reliable, efficient and cost-effective demographic, social, economic, housing, and expenditures data, and understand the relationships between the items to assist in determining economic indicator performance measures comparable to US indicators.

2. *National Oceanic and Atmospheric Administration (NOAA) Habitat Blueprint -- Mannel/Geus Merizo*

Project collaborators expressed interest in aligning information needs with KGI and the CCF framework to address site data assessment aligned under the natural and social capital Indicators. The agency cooperators are the Bureau of Statistics and Plans Coastal Management Program.



The CCF approach allows community planners and cooperators the opportunity to develop and capture good indicators around community issues or in this case projects generating important information for informed decision-making.

3. *Guam Department of Public Health and Social Services (DPHSS)*

During the course of the KGI focus group session with GovGuam stakeholders, DPHSS identified the need for data processing assistance and support related to keying and processing data sets on births and deaths. The workgroup attempted to address the issue and proposed a work plan under the KGI; follow-up efforts did not materialize due to internal agency commitment and data privacy issues that require more in-depth discussions. This remains an important data set to address at a future time.

4. *Guam Assisted Living Residence (ALR)*

Under the ALR work effort, the KGI workgroup participated in providing technical assistance in drafting a ALR Monograph proposal to assist in the development of the ALR data series. This involves research work involves identification of related special surveys and research related to Guam senior citizens quality of life, health spending.

Initial Proposal for conducting ALR scope of work

- a. Senior Citizens Monograph
- b. Senior Citizens Program Asset Map
- c. Economic Development Strategy
- d. Resources and services for Senior Citizens



Other Opportunity Areas

1. Creating the KGI-Community Capitals Statistical Yearbook

The BSP Statistical Yearbooks are Guam's most consistent source of data discovery. The most current 2012 Yearbook contains 544 pages, 23 chapters that categorize 95 data sets, based on 67 sources.

KGI researchers explored the incorporation of the CCF into the existing Yearbook to promote better understanding and a uniformed approach to decision-making processes.

This methodology to organize the yearbook using the CCF provides opportunities to assess the distribution of data sets generated under the current yearbook data compilation. The objective includes mirroring the current data sets with a different community based classification of information and other CCF indicators.

Therefore, presenting the vital information provided by the Yearbooks into information that is useful not only at the organizational-level, but at the community-level as well, benefitting the entire island.



2. KGI Community Capitals Data Book
3. *Residential Instruction Programs*- The KGI project provides research opportunities for UOG student researchers to work on applied research projects. The conduct of the survey of survey task element demonstrated the involvement of student researchers in the actual pilot KGI survey of Government agencies. Two courses below provides an opportunity to leverage the use of student researchers to conduct action research and work directly with updating important government information. Discussions with lead faculty to explore the right collaboration approach to support the use of student researchers to help with the KGI village monographs and survey work.

The KGI provides opportunities to also explore and align the research work efforts in other college and research disciplines.

- a. PA 305 Data Analysis and Reporting

This course provides students with basic research tools used in of public administration, criminal Justice, and other applied fields. Emphasis is given to data collection, analysis, and interpretation skills. Major topics include research methods and techniques to study planning, organizing, staffing, directing, reporting and budgeting. Applied policy research is the consistent theme for this course. Prerequisites: BA130.

- b. PA 501 Introduction to Research

Concentrated study of research methodology, including planning, organizing and executing research projects; techniques of gathering data; use of library facilities and other sources of information; analysis and interpretation of data; the art and strategy of presenting oral and written findings. Prerequisites: MA 385 and graduate standing.

4. *University of Guam Institutional Review Board*-The KGI provides an opportunity to capture and document the types of health and social sciences research and survey work requiring Principal Investigators (PIs) to comply with IRB protocols. Compilation of the local research conducted aligns closely under the CCF framework as potential CCF indicators and measures.



KGI Staff Capacity Building

During the course of the KGI project period, both full-time and part-time staff have gained invaluable experience and knowledge under the grant. Because of this experience and training, several key staff transitioned from the KGI to full-time employment with other local government agencies and the Guam legislature. In their exit interviews, departing staff shared their experiences gained under the KGI as a key contributing factor in their decision to continue work in related research work roles.



Concluding Remarks & Suggestions

This study has shown that Guam generally has the data available on island to have a fully- operational and -integrated statistical system. As part of KGI, staff keyed earlier census cross-tabulations, specifically those from 1970 and 1990, to go with those already keyed for 1930, 1940, 1950, 1960, 1980, 2000 and 2010. These electronic data will permit longer term trends than those that appear in the KGI village profiles, and for other uses – like installation of new utilities and commuting patterns.

These are some of the basic planning challenges with which mission-growth communities in the US must contend. Guam is likely to experience other, smaller challenges seen elsewhere in the CONUS, as well as challenges distinct to the island economy, its status as a territory and the probability of continued economic in-migration from elsewhere in the Outer Pacific. Itemizing the probable short- and long-term challenges will enable Guam to take advantage of the opportunities provided by mission growth and respond adeptly to the challenges of rapid economic expansion.

When the current labor force surveys are made available, they can also be integrated into the statistical system. Other surveys, like the Behavioral Risk Surveys, provide useful information for trends and decision making.

Continuous updating of the Guam Statistical Yearbook will summarize the Census and survey information as well as provide much more data from GovGuam agencies.

Survey Inclusion

Guam is not included in many surveys that are conducted in States, because it is a Territory and not a State. The Governor and Guam's Delegate should insist on inclusion in the same programs as the States. The Bureau of Labor Statistics conducts many surveys that exclude Guam and the other Insular Areas. All land in the US – and its lawful inhabitants – should be treated equally by the federal government. Territory or State, all areas need to be included in surveys to assist in planning, particularly:

American Community Survey – The ACS has replaced the Decennial long form, the sample of about one (1) in six (6) households asked in the States. The Census Bureau divided the country into 120 parts, and collects detailed population and housing data from one (1) in 120 units each month, completing the cycle over a 10 year period. Guam does not get the ACS, but instead continues with the long form in the Decennial Census. Instead of getting timely compiled data for months and years, Guam only gets detailed data once every 10 years, perhaps on the assumption that conditions do not change over the period of the decade.



The Census Bureau position has been that Guam does not have street addresses and does not have adequate maps, so a sample could not be drawn. However, the Census Bureau received OIA funding to report on the Micronesian migrants in the 2008 Impact round, and used the **exact** methods they said could not be used – a selection of blocks for a sample draw – indicating that there is little reason why Guam could not be part of the ACS. Unless the Delegate and Governor insist on it in Congressional Hearings for Census Bureau funding, it is unlikely to happen. When it does, Guam will have more current, detailed planning data.

Other continuing and one-shot surveys – While the ACS is the most important survey Guam does not get, other surveys, like the CPS and SIPP, could be modified for use on Guam, and then Guam and the other Insular Areas, if included, could obtain comparable to the Stateside data. And, could implement programs, as needed, on the basis on the information gathers and processed, and analyzed.

2020 Planning

Because Guam is so far from Washington, DC, a general disconnect between the Census Bureau and the agencies on Guam exists. But even with the time differences, advances in communication should make greater involvement possible. While most of the 2010 products are now available, detailed analysis of them should continue, looking both at the 2010 data, but also as preparations for the 2020 census. In 2010, enumerators interviewed everyone with the long form, which is somewhat more expensive than the short form. Appropriate sampling would improve the quality of the long form data, and would bring down costs.

This operation would require the complete mapping described elsewhere, and then an appropriate sample drawn. With the mapping of the whole island, this could be done. However, if Guam moves to the ACS with the rest of the country, the long form would no longer be used – but the mapping would still be needed for the sample draws. Guam should also be involved in items and design of the questionnaire, office operations – including coding because staff on Guam are much more likely to know the ethnicities, places, languages, occupations and industries for Guam than staff at the Census Bureau.



From OIA, Guam should strongly consider requesting inclusion in all related surveys. The Department of the Interior became the lead agency for US government dealings with Guam during the 1950s. The specific office was the Office of Territorial and International Affairs (OTIA) until a few years ago, when it became the Office of Insular Affairs (OIA). For completely unknown reasons, the Census Bureau insists on calling the Insular Areas, "Island Areas," and some agencies in the territories have adopted that.

Statistical Enhancement Program

From about 1990 through about 2006, OIA funded the Statistical Enhancement Program, which resided in the Census Bureau's International Programs Center, and was headed during the later years by a Marshallese for three years, and then for the last three years by a Saipan Chamorro. The entities were Guam, American Samoa, CNMI, the Virgin Islands, FSM, the Marshall Islands, and Palau.

The program was successful, assisting the Insular Areas in upgrading general statistics, and also targeting certain problem areas. At the beginning of the project, only American Samoa produced a yearbook, but by the end of program, all Areas had produced statistical yearbooks. Guam's series of statistical yearbooks started very late, but continues now – many of the others only produce yearbooks periodically (the last CNMI yearbook was in 2002). The OIA program provided statistical assistance for HIES, the Micronesian Migrant Surveys, CSPro training and applications, etc. Since both DPHSS and BLS continue to use DOS for keying and processing their data, a reinstatement of the Statistical Enhancement Program could produce low-cost technical assistance in these areas as well as assist the other Insular Areas.

Financial and Technical Assistance

Currently, KGI is funded by the Department of Defense. Continued support will be needed to advance the work. While KGI funds village monographs for three of the villages (Barrigada, Hagåtña, and Mangilao), similar methods and data can be used to develop the subsequent ones. KGI is meant to integrate data sets via its website, and continued funding will assist in this effort. OIA would be one of the biggest users of these data sets and the website. A request should be made to provide technical assistance in this area.



Training Workshops

The OIA Statistical Enhancement Program also provided funding and venues for training in programming (first IMPS, then CSPro) as well as in selected topics, like cause of death coding, developing statistical yearbooks, etc. OIA provided funds for technical assistance in developing census monographs, reports on statistical activities, like labor force and HIES surveys, and development of the CPI. OIA has recently funded Brian Hannon to assist in developing and maintaining CPI. This funding should be requested to continue.

Interagency Working Group on Statistics

Over the years, Guam has had interagency statistical committees. A Population Advisory Committee is set up each census to review materials from the Census Bureau, review the tabulation plans, and approve final results for the census enumeration. Guam would benefit from having a standing committee that would help streamline activities and avoid duplication. The current mapping situation is one case in point. The State Data Center should head the committee. The Bureau used to have affiliate agencies, and probably still does so these should constitute at least the core of the committee.

Full Staffing of Statisticians

Since two of the three of the State Data Center staff retired, to be replaced by one staff so far, it is clearly understaffed. The Center needs to make sure the Yearbook continues to be up-to-date; review and coordinate statistical activities on the island; ensure that Census Bureau conventions are followed; and that data are disseminated in a timely manner. The Data Center needs to bring together results of census, surveys, and administration records into a coherent whole.

Guam Statistical Yearbook

The Guam Statistical Yearbook is the showcase of Guam's Statistics. All agencies on Guam should work together to provide the highest quality, timely information together for the yearbook. Besides in paper form and pdf, whenever possible Excel files should appear on the BSP website so that users can get the most benefit out of the yearbook. It should be possible to "push a button" and obtain a current yearbook at any time during the year.

Complete Island Mapping

Guam needs a single set of geo-coded island-wide maps with housing units and non-housing buildings:



Department of Labor Sketch Maps – DOL has sketch maps of the whole island. However, these maps were no longer updated after 2006 – if reports are true – and so no updating. Units have been built and others abandoned since 2006. General updating is needed. The DOL maps are detailed, even as sketch maps with many geographic features. A book accompanies each sketch map that gives many details about the structure, its general look, paint, windows, and so forth, to assist the enumerators in uniquely identifying the units.

Land Management Maps – Guam's DLM has been compiling detailed digital maps of Chamorro Trust Lands since 2007. These maps use GPS to obtain the coordinates of units – housing and others. The resulting maps are detailed and plotted to scale, but they do not have the additional features of the DOL maps, so enumerators need to be better map readers with these than with the Labor maps. Only about five percent of Guam is Chamorro Trust Lands, meaning that the rest of Guam would need to be digitized for sampling.

If Guam were a State, they would not have digitized maps themselves, but the Census Bureau has complete digitization from that it continuously updates. Statehood would provide digitization for Guam. Since it does have to do its own digitizing, some agency needs to bring the Bureau of Labor and Land Management together, to (1) request DOI funding to continue both the Labor and Land Management mapping, and then (2) to so reconciliation so Guam has a single set a maps. Funding would need to be included for some continuing map updating, but the initial mapping would at least serve for some time. The CNMI was able to obtain funding to completely digitize, and that work is nearly finished.

Quarterly Labor Force Surveys – Quarterly Labor Force surveys show seasonal variation. Guam's labor force characteristics change during the summer when schools are not in session, and around Christmas, when stores hire additional workers for that period. The 2012 Statistical Yearbook shows quarterly Labor Force surveys for 2011. These may have continued in subsequent years, but all surveys on Guam have difficulty obtaining enough enumerators to cover all selected units. This study suggests that Guam consider taking the quarterly sample draw and dividing into three equal parts. The monthly surveys would each cover a third of the total sample. As they are processed, a rolling three month average could be applied to obtain a smoother series of estimates. With highly qualified enumerators, more complete coverage could be obtained.

Needed Activities



Labor force surveys are still processed in DOS using the Census Bureau's IMPS package. DOS is no longer maintained. Moving to Windows and the CSPro package being used at the Guam Visitor's Bureau and elsewhere would be more appropriate and will enable complete tabling.

Other surveys as needed. When Guam has quarterly labor force surveys, selected quarters can have add-ons to assist in providing needed information for planning by various Guam agencies. These might include specific statistical needs, like number of children getting Free or Reduced meals, or attitudes, like feelings about the garbage dump or other environmental issues.

2010 Guam Monograph. After the 1980 Census, a group of government employees divided the available data from the 1980 Census and wrote a monograph called "Guam's People". The exercise was started again after the 1990 census, but was never completed. Several researchers are now working on a revision through the 2010 Census results. These longitudinal data, while not giving information specific for current planning, do provide historical perspective. The government should encourage completion of the monograph, and the resulting work should appear on the KGI website.

Up-to-Date Data Sources. The most important outstanding source is the need to have completed keying of births and deaths to have those completely done, but also as input to estimates and projects. As the KGI and BSP websites continue to develop, other needed data sets will become apparent. This continuous development and the discovery of additional data set needs will affect the established KGI products and increase the future supportive roles of the KGI-KMC.



**Grant Period
Extension
Request**

**Government of Guam-University of Guam
Knowledge@Guam Initiative**

¹ Focus Group Participants. (2014) Demographic Surveys. Knowledge@Guam Initiative, University of Guam.

GR0706-12-14
Amendment 3 of 3

University of Guam
Knowledge@Guam
Initiative



**Staff
Acknowledgment**

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APPENDIX A



GOT DATA MAP

A larger version can be viewed at www.uog.edu/kgi

APPROVATIVE INQUIRY **APPROVATIVE INQUIRY** **APPROVATIVE INQUIRY**

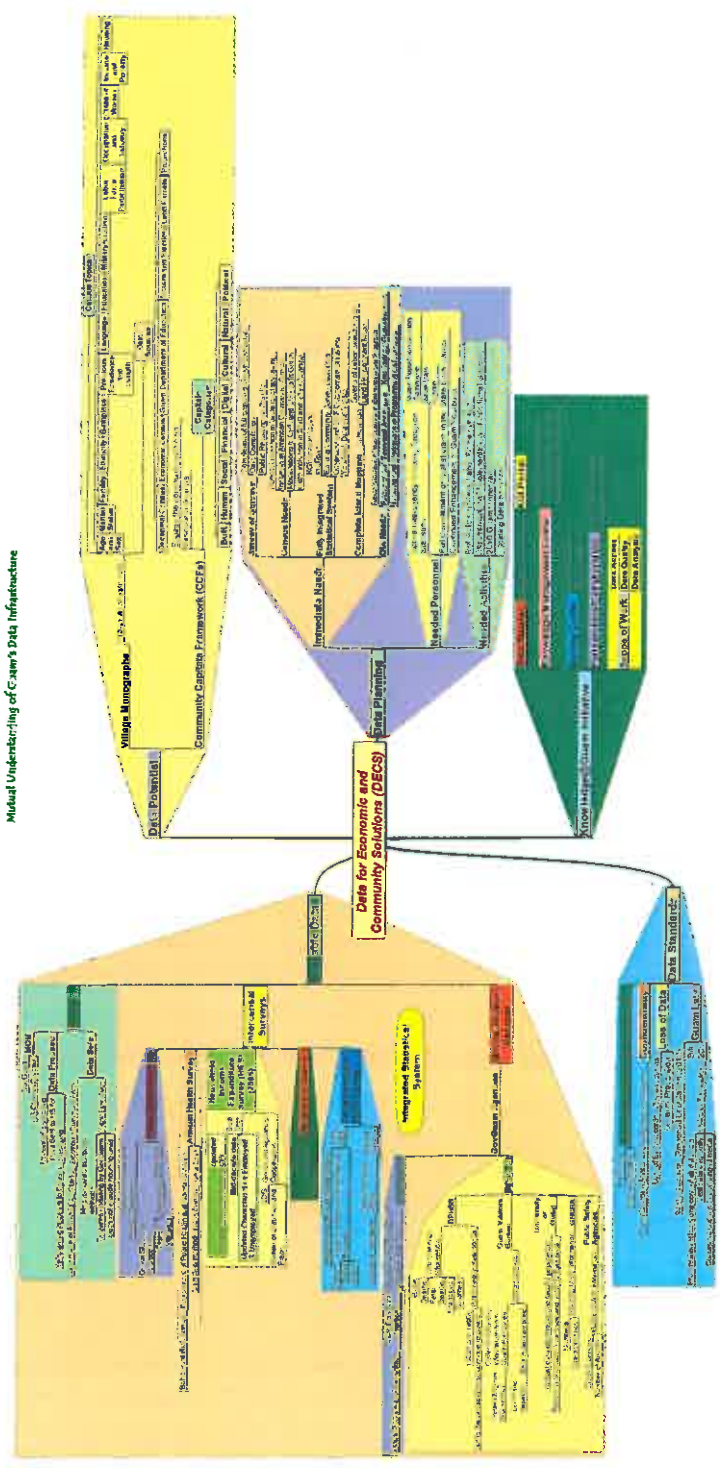


CHANGES IN THE CURRENT STATE OF THE ECONOMY AND THE NEED FOR A STRONGER DATA INFRASTRUCTURE TO SUPPORT THE GOVERNMENT'S EFFORTS TO IMPROVE THE QUALITY OF LIFE OF THE PEOPLE OF GUAM.

COMMUNITY NEEDS

GOT DATA **Creating A More Informed Community**

Mutual Understanding of Guam's Data Infrastructure



The Got Data Map is the working illustration of KGI's conclusions and observations on the current state of Guam's data infrastructure as of 12/31/14. This map has an outline of the degree of assurance, accuracy, and potential utility of Guam's data resources. It is meant to serve as a visual for the general public to encourage steps to obtain, create, and share information. Providing more informed policy and decision-making processes and improved local and economic outcomes for Guam.

CHARTERED BY PETER R. BARGMAS (2011) Under the authority of the Guam Cooperative Extension Service, Communities, Youth, Families, Food & Agriculture

APPENDIX B



UIC'S DATA GAP ANALYSIS 2011

The Marine Corps Build-Up on Guam:

Data Needs, Assets and Gaps

Draft: Please do not cite or distribute

May 5, 2011

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Introduction:

The pending military build-up on Guam poses distinct challenges for the economy, the housing market and the public sector. In March 2011, the Voorhees Center, the Office of Economic Adjustment (OEA) and the Bureau of Labor Statistics conducted a joint visit to the territory. At the request of OEA, we have compared data needs and data availability on Guam to the data needs and issue engagement established in two years of running the Research and Technical Assistance (RTA) Project in the continental U.S.

The landscape for data provision and technical analysis in Guam is characterized by two contradictory factors. On the one hand, data-collection agencies on the island run and administer a number of rigorously-organized and well-run data collection programs. When data are provided to the public, they are skillfully analyzed by technical experts, particularly those housed at the University of Guam (UoG). However, the available data sources are limited, many key surveys are conducted infrequently, and published data are often difficult to access, interpret and validate statistically.¹

Putting into place the resources necessary to bring data provision efforts up to the level experienced in the continental U.S. is a long-term process. In the short- and mid-term, there are many beneficial steps that can be taken to enhance, extend and systematize existing data resources. Incrementally enhancing these existing resources is a complicated process that will require coordinated action from a significant number of engaged parties. To provide focus and an initial framework for the enhancement of existing resources, this data gap analysis assumes that the short term goal for the use of data will be enhanced data analysis and modeling/projections related to military-buildup impacts. This data gap analysis uses the RTA Project as a prospective template with which to organize and plan these data enhancement efforts.

Assessing the Build-Up's Challenges: Suggestions from the RTA Project

Data and planning efforts on Guam have two distinct challenges to confront. In the next two years, the build-up of Marine Corps activities will provide an intense economic stimulus to the island. Initial estimates suggest that as many as 20,000 guest workers will come to the Territory as part of construction efforts. The sheer amount of spending combined with intensifying visits from government officials and consultants is likely to produce significant impacts that will ripple throughout the island's economy. Inflation, which would alter economic realities for creditors, debtors and citizens on fixed incomes, will likely rise. Existing evidence suggests that the high wage premiums paid for military jobs are luring qualified workers out of the private sectors – a labor-market filtering process likely to intensify as construction activity picks up. And the expected GDP increase on Guam could be as much as 30% in the coming years. In the short term, it would be prudent to make proactive preparations to capture benefits from the buildup. Targeted areas that would be helpful include employment gains, business development and economic diversification. At the same time it will be important to take steps to mitigate adverse impacts including those in the areas of housing and other infrastructures.

After the build-up is complete, the assignment of Marine troops to Guam (“sustainment”) will result in longer-run changes to employment, housing and transportation issues. Our work on the Research and Technical Assistance Project identifies several common planning challenges that result from mission growth:

- *Supply/demand mismatches in multiple housing market segments.* The influx of troops, officers, contractors and civilians living off-post typically results in affordability challenges for many existing residents, and initiates a process of housing filtering in which an influx of renters/buyers into one market segment pushes current occupants into other housing types, price ranges and areas.
- *Skill shortages.* The combination of on-post employment and new employment generated through on-post purchases and employee spending creates significant shifts in labor demand. This in turn creates demand for skills the pre-build-up population typically lacks. Additionally, current residents may face new labor-market competition from the (often highly credentialed) spouses of the enlisted troops, officers, contractors and DoD civilians moving to the island.
- *Social/educational services provision challenges.* In most cases of mission expansion, the incoming population (troops, their families and economic migrants drawn to the economic growth) consumes public education and basic social and medical services at a high rate, while supplying few of the labor skills necessary to provide those services. This places the typical growth community in the position of stretching its already thin service provision even further.
- *Infrastructure provision challenges.* Economic and population growth rapidly create demand for transportation, water, sewer and other kinds of infrastructure. The cost of maintaining this infrastructure will impact public spending over the long-term. In the short-term, the gap between demand and supply may result in shortages.

These are just some of the basic planning challenges with which mission-growth communities in the continental U.S. (CONUS) must contend. Guam is likely to experience other, smaller challenges seen elsewhere in the CONUS, as well as challenges distinct to the island economy, its status as a territory and the probability of continued economic in-migration from elsewhere in the Outer Pacific. Itemizing the probable short- and long-term challenges will enable Guam to take advantage of the valuable opportunities provided by mission growth and respond adeptly to the challenges of rapid economic expansion.

Probable Short-Term Data Needs

The short-term economic impacts of the build-up will be dominated by construction activity. This makes a construction forecast—one that anticipates both construction-industry growth and the growth of construction suppliers and businesses benefiting from the consumer spending of construction employees—a priority. The resourceful effort (validated by peer review) by UoG economist Maria Claret Ruane to assess the total economic impact (including indirect and induced impacts) to Guam of the build-up provides a total estimate of impact from which to work backwards and anticipate specific economic scenarios. But the work of assessing those scenarios will also require a series of intermediary projections that convert estimates of total economic growth into estimates of impact by industry, year and (ideally) village. In conjunction with an industry-occupation matrix, these estimates would provide the basis for planning efforts aimed at workforce training and overall economic development. They would also provide a composite “big picture” with which to organize the cumulative efforts of the multiple parties working to improve data provision and planning analysis on Guam.

Unfortunately, Implan, REMI and RIMS—the three main economic input/output models available for CONUS—are not produced for Guam.ⁱⁱ As a result, any economic impact model from the island must be derived from other sources. Our trip to Guam identified seven possible approaches to producing an economic impact model that could be operational during the build-up. Each approach entails its own lag-time, start-up costs and issues in terms of data quality and potential utility (Figure 1).

Figure 1: Options for development of an economic impact model.

Approach	Timeframe	Resources	Data Quality	Assessment
Derive list of backwards linkages from 2007 Economic Census "class of customer" data	1 month	Computation and assessment by Voorhees staff	Poor. The list would provide detailed information on the purchases made by construction contractors. But it is based on pre-recession data from the Economic Census. And the absence of information on transactions between a) non-construction industries and b) household industries would make the model unable to estimate either induced spending impacts or the impact of more than one round of construction spending. This model would only be able to estimate the <i>minimum</i> economic impact for the detailed industries.	This quick-and-dirty approach could be used to estimate minimum anticipate impacts on non-construction industries in Guam. The ease and simplicity of the approach would allow for a rapid start to the process of anticipating construction impacts. But the underlying data limitations are sever enough as to severely limit subsequent use.

Approach	Timeframe	Resources	Data Quality	Assessment
Construction contractor survey conducted through Guam BSP/Chamber	12 months	Negotiation with Guam officials and construction contractors; potential Voorhees travel to Guam to administer survey/interpret results	Medium. The data would be current, and would allow us to estimate total payroll by wage bracket, a capability not produced by any other model. Including survey questions on purchases and expenditures would potentially allow us to develop an input-output matrix.	This approach improves upon the basic estimations from the 2007 Economic Census. With the right questions, it could represent a very favorable ratio of benefits to effort
Construction contractor survey conducted as supplement to Annual Census of Establishments	6-18 months	Negotiation with Guam DoL and funding for development and administration of supplement.	Medium. This approach substitutes a different data collection vehicle for the survey data itemized above. It would provide the same benefits as the contractor survey conducted through Guam BSP or the Chamber, but with greater data reliability. Guam DoL's participation would allow Voorhees to limit its involvement.	This is the simplest way to get medium-to-high quality data
Derive limited matrix of transactions from 2007 Economic Census data	1 year	This approach requires two distinct steps. First, negotiation with U.S. Census Bureau, Guam DoL for researcher access to confidential 2007 Economic Census Records. Second, researcher access in either Maryland or Chicago and considerable time pull the data and assemble a matrix.	High. Like all other approaches, this would lack consumer spending estimates. But it would allow for a thorough assessment of the inter-industry impacts of growth. This approach could be conducted in conjunction with other approaches.	This approach requires extended negotiation, but potentially has a high pay-off. Before committing, we would need to inventory the available data, based on the Census Bureau's data-collection forms. ⁱⁱⁱ Additionally, the data quality produced by BEA methods on Guam, and the intricacies of adapting them to an island economy, raise concerns about data quality.
BEA/RIMS II	1 year	Requires BEA approval and participation; contingent on applicability of current RIMS approach to a national economy	High. This would provide fully developed and validated multipliers, and a framework for updating them. At the same time, RIMS lacks a transaction matrix, so the ability to trace linkages across economic sectors would be limited.	This should be the first approach we investigate. It is similar to the approach immediately above, but BEA administration would improve data quality and the ease of production. The main point of concern is that future data availability is contingent on the Department of the Interior continuing to fund the collection of GDP data for Guam.
REMI	??	Dan has a REMI contact. We should get in touch and assess what they have for Guam.	Unknown	This is a low-probability, high-payoff option. If available, REMI data are likely to be very expensive. They will also suffer from the same limitations as the BEA data.
KPMG Model	??	Acquisition of 1990s KPMG model from OEA files or Guam-Gov. The model could either a) be updated or b) serve as a template for the construction of a contemporary model	Low, but potentially high. All uses of this model are contingent upon updating its contents or using it to steer a new approach.	Obtaining and evaluating this model are valuable activities, regardless of the ultimate approach to developing economic impact estimates

Each of these approaches is complicated and beset by enough potential barriers that it may be advisable to pursue multiple options at once. For example, inquiries with BEA, REMI and the keepers of a “KPMG model”^{iv} could work concurrently with the development of a survey instrument for inclusion with the Annual Census of Establishments *and* efforts to obtain authorization for researcher access to Guam’s Economic Census records.

Ideally, efforts to develop an economic impact model would occur simultaneously with the development of an analytical strategy that may combine or triangulate among multiple estimates of economic impact and multipliers.

Potential Long-Term Data Needs

As construction for the build-up wanes and the Marines account for a bigger share of the Island’s economy, we anticipate that a different set of data needs will take hold. Our experience with the RTA Project in the CONUS identifies market data—supply and demand data for the housing and labor markets—and human capital measures as crucial for assessing and responding to the impacts of mission growth.

Ideally, the right mix of resources and time would allow all of the relevant data sources in Guam to be updated and standardized in support of annual and quarterly tracking of the issues. But even under ideal circumstances, coordinating the enhancement and dissemination of these data sources would require substantial effort and time. The reality of scarce resources and time complicate the challenge. As is the case with potential economic impact approaches, the development of each targeted data set entails distinct challenges, resource commitments and benefits.

Figures 2-4 identify likely data needs for Guam, and **assess the gap between the data goal and currently existing data**. The gap analysis covers three distinct data areas: areas where the existing data are sufficient, areas where existing data require substantial enhancement, and areas where no existing data source appears to address data needs:

Figure 2: Current data sources adequate to projected needs:

Issue	Guam sources	Source Notes	Data Target	Additional Resources Needed	Comment
Employment by Industry	Annual Census of Establishments, Current Employment Reports	Guam DoL administers quarterly survey from list of business phone numbers provided by phone company, permits and contractor licenses.	No changes required; adding a question on total payroll is a possibility	Annual Census of Establishments costs \$50,000 to administer. Adding questions to the questionnaire carries potential cost and may reduce response rate.	Data are close to data provided in the CONUS. The Annual Census of Establishments includes data on gender, citizenship and full-time status. This is the most reliable data source available on-island. Guam DoL could potentially add supplements where beneficial
Wages	Occupational Employment Statistics	Provides detailed earnings information at the level of occupations	No changes required. Supplementary data on wages by industry could be acquired by adding total payroll questions to the Annual Census of Establishments.	Adding questions to the Annual Census of Establishments carries potential costs and would likely diminish the response rate.	This source is not ideal. But it provides good data, especially if private and public employment are separated. Occupational wages for state/federal employees should be available without negotiation, and would prove valuable for evaluating the impacts of the build-up on construction.

Guam's Current Employment Report is the only data source that currently meets anticipated data needs. Although finer industry detail is available in the U.S., the broad industrial divisions into which these data are grouped (Wholesale Trade, Retail Trade, etc.) should be sufficient given the extra attention analysts on Guam can give to individual industries and firms. Obtaining a timetable for Guam Department of Labor's (DoL) plans to publish existing data coded in NAICS would be helpful to this end.

Figure 3: Data sources in need of upgrading to match projected needs:

Issue	Guam sources	Source Notes	Data Target	Additional Resources Needed	Comment
Unemployment Rate	Current Labor Force Survey, GDOL. A sample of 1,800 households and based on the Current Population Survey concepts and questions. Data last appeared for 2008, but Guam DoL is currently conducting a new survey.	Guam DoL hires 30 enumerators to cover 1,800 households. They are adapting a block group-based approach that would allow for intercensal population estimates. The 50% response rate is low by CONUS standards, and improvements are desirable.	Quarterly unemployment estimates and constant data provision	\$200,000 per year for survey comparable to Current Population Survey. Cost could be defrayed with phone-based follow-up interviews	Quarterly household survey. Most recent is for September 2009. Unemployment history also published, quarterly data from 3d Q 1974, although some quarters missing.
New Housing Starts	Guam Department of Public Works, via Bureau of Statistics and Plans	Provides monthly construction and occupancy data by municipality. Covers total permits by type and amount.	Quarterly data cut by building size, type and construction cost	Negotiation with Department of Public Works to secure/clean data	New housing starts will be one of the best ways to track the build-up and its impacts. This data source ideally provide a handle on housing market changes before other data sources are brought on-line
Median Household Income	2010 Census; Guam Household and Per-Capita Income report from labor force survey	Household and Per-Capita Income Survey Instrument is a supplement attached to the labor force survey. It is included in the 2011 labor force survey.	Annual estimate of household income. Supporting data to enable cross-tabulations by family size, age, industry/occupation of primary earner are desirable, but not essential.	Included in \$200,000 for Current Population Survey-style survey	The infrastructure for this indicator is in place. Marginal funding could produce a detailed supplement including household characteristics, but at the cost of a diminished response rate
Median Sales Price	Capitan Real Estate/Guam MLS	Guam has functioning and well-detailed MLS. The goal is to identify the owner and gain, through negotiation or access to a fee, current and historical data	Monthly list and sales price by property type and municipality	Negotiation with keeper of MLS data to secure the data	The great detail and coverage of this data source make it highly valuable, even on a fee basis. Data acquisition costs would likely be significantly lower than the cost of developing an alternative approach/data source

Issue	Guam sources	Source Notes	Data Target	Additional Resources Needed	Comment
Median Gross Rent	Capitan Real Estate/Guam MLS	Guam has functioning and well-detailed MLS. The goal is to identify the owner and gain, through negotiation or access to a fee, current and historical data	Monthly rent asked by property type and municipality	Negotiation with keeper of MLS data to secure the data	The great detail and coverage of this data source make it highly valuable, even on a fee basis. Data acquisition costs would likely be significantly lower than the cost of developing an alternative approach/data source
Residential/Commercial Vacancy Rates	Captain Real Estate; Guam MLS; Marianas Business Journal; Guam Housing and Urban Renewal Authority	All data sources are incomplete and speculative	Quarterly estimates of vacancy rate by municipality	A probably combination of negotiation and data purchases. Forceful advocacy from UoG would likely procure data at a discounted rate	These data have two main benefits in the CONUS: 1) they track market conditions in finite detail and 2) they provide a differentiated map with which various data users can begin to evaluate patterns in development. The main value of this data on Guam is #2

The overwhelming majority of data currently available for Guam falls into this category. The Guam Department of Labor currently oversees a labor force survey that appears to produce sound results. However, the survey was last conducted in 2009, and appeared erratically in the years prior. The unemployment rate is the single most important indicator used in the RTA Project in the CONUS. This suggests that ensuring constant collection of unemployment data should be a top priority. Median household income is reported via a supplement attached to the labor force survey. This data gap could be addressed by ensuring the regular administration of both.

The currently available housing data can be separated by supply and demand. Supply-side data on housing construction and occupancy from the Department of Public Works appears to be close to providing comprehensive coverage. The data cover different housing types and locations, and appear to offer extra detail on permitting costs. Negotiation with the authorizing agency may result in the steady provision of finely detailed data fitted to the needs of analyzing the military build-up.

All of the other housing data—vacancy rates, sales prices and gross rent—are potentially covered by a common set of currently unexamined resources. By accessing the Guam Multiple Listings Service, obtaining data from Capitan Real Estate and the Marianas Business Journal, and working with the Guam Housing and Urban Renewal Authority and Guam Housing Corporation, recurring data on housing costs and demand likely can be procured. This will entail considerable negotiation, cooperation, and, potentially,

payment to the current holders of the data. Identifying a local intermediary to coordinate these efforts would be a crucial first step.

Figure 4: Data needs currently unmet by any data source

Issue	Guam sources	Source Notes	Data Target	Additional Resources Needed	Comment
Educational attainment	Guam Department of Education, available through 2008 Guam Statistical Yearbook	The 2010 Census will provide comprehensive data in the short-term, but the currency of this data will gradually diminish.	Updated estimates every 3 years	This could possibly be done as a supplement to the Labor Force Survey, which currently collects educational attainment data the first time a household is enrolled in the survey.	
Basic Demographics	2010 Census; birth, death and migration records from Guam Department of Public Health & Social Services; assorted survey supplements	All three sources are not currently inadequate to the basic, crucial task of tracking Guam's population growth and transformation. The 2010 Census will provide a tardy one-time sample. Birth and death records appear to be available, but no system is in place to aggregate and review them between decennial census surveys. To be fully effective these data will need to be combined with migration data from DHS.	Annual estimate of on-island population change and demographic shifts, supported by database of combined records and selected survey supplements.	1) Digitization or streamlining reporting of Guam Department of Public Health records, 2) meeting/negotiation with DHS to secure migration data, 3) design/funding/implementation of an annual supplement to the Guam unemployment survey, 4) annual production of population estimates based on the intercensal projection methods used by the Census in the CONUS. ^v	These data are of lesser importance to the CONUS-RTA Project, but are crucial for Guam

Data on these two issues have appeared infrequently enough that other data sources should be identified. Educational attainment data currently come from school-based reports, and not a population survey. This highlights the extent to which this demographic information is absent on Guam. The educational attainment data collected by Guam DoL when a household enters the unemployment survey could bridge part of this gap. The intercensal population estimation methods currently used by the Census in the CONUS could also be helpful.

Basic demographic data can be obtained in the short-term from the 2010 Census (due for release in mid-2011). Afterward, such data would be unavailable. One potential option for updating population estimates is to digitize existing birth/death records and to obtain in/out-migration data to the island from The U.S. Department of Homeland Security.^{vi} Given the likelihood of the build-up attracting economic migrants from elsewhere in the region, this is a high priority.

Next Steps

The aim of this data gap assessment is to establish potential analytical priorities and timeframes around which a coordinated effort to enhance data tools on Guam can be organized. Validating these priorities with our partners is a crucial step. Once a prioritization of data needs is agreed upon, this analysis should serve as a tool for assigning tasks and resources, and developing the strategic relationships necessary to improve data availability and analysis for Guam.

While the development of a strategic plan remains a priority, there are many attainable, short-term data goals that are likely to play a role in any long-term data development plan. Pursuing these goals in the short-term will speed the long-term data development process, and will also help to clarify the challenges and possibilities with which any planning effort must contend. Our initial assessment identifies six general areas of focus in which concerted efforts in the short-term are likely to generate significant results:

- 1) *The Guam Labor Force Survey*. Several existing components of the Guam Labor Force Survey can likely be turned into usable data through negotiation and collaboration with Guam DoL. Identifying the barriers to publication of this data (resources? Confidentiality concerns? Availability of the data in digital form?) is a key question:
 - a. *Unpublished data items*. The Guam Department of Labor currently collects several data items, such as educational attainment status, that remain unpublished.
 - b. *'Raw' data from previous reporting periods*. It additionally may have previous-period raw data that potentially can be tabulated and published.
 - c. *Cross-tabulations of unemployment data* by gender, age, income and educational attainment.
- 2) *Vital Statistics data*. The military build-up will result in significant population changes that cannot be tracked under current procedures. Several steps can be taken in the short-term to improve vital statistics data availability and analysis:
 - a. *Obtain migration data from the Department of Homeland Security*. These data – crucial in any analysis, and an especially high priority due to the likelihood that the build-up will induce significant economic migration – are the only currently missing component of standard vital statistics data.
 - b. *Assemble all vital statistics data into a single database*. Housing these records in a single location is necessary for producing regular analysis.
 - c. *Produce intercensal population estimates annually*, using standard demographic methods and improved vital statistics and net migration data.

The Census methodology for the CONUS provides a model for these calculations.

- 3) *Annual Census of Establishments.* The Annual Census of Establishments is the most reliable data source currently available on Guam. A few small adjustments could improve its utility:
 - a. *Add a total payroll question.* This would provide valuable input data for economic impact models and GDP estimates. However, the value of this data must be reconciled with the possibility that a lengthier questionnaire will reduce employer response rates/cooperativeness.
 - b. *Recode Annual Census of Establishments and Current Employment Report data for NAICS compatibility.* Guam DoL has the skills and approach in place to do this, and may be able to make data available quickly, dependent on resource issues.
- 4) *An industry-occupation matrix.* It is likely that Guam DoL could create an industry-occupation matrix from its Occupational Employment Statistics data. This would be a valuable aid to economic impact modeling and to any future employment analysis on-island.
- 5) *Housing data.* A broad variety of housing data is already collected for Guam. Short-term efforts can productively focus on making these data broadly available to researchers and the public:
 - a. *Multiple Listings Service (MLS) data.* MLS data are by far the most detailed and current data available for both the rental and for-sale housing markets. In the CONUS, base community representatives and researchers have been able to obtain these relationships by approaching the data provider directly. A similar approach may be effective on Guam.
 - b. *Housing construction and occupancy data.* The Guam Department of Public Works collects housing data of finer detail than the data that are typically available in the CONUS, but the publication of these data is incomplete and the cross-tabulations provided are not optimized to the needs of planning research. A direct approach from representatives of the Guam research community could provide for regular data publication at a finely grained level of detail.
- 6) *Data accuracy and consistency.* The build-up signals new challenges for Guam agencies currently collecting data with minimal resources at their disposal. Pre-emptive steps should be taken to continue/enhance current data quality levels in the future:

- a. *Ensure that the labor force survey methods are adequate* to capture the rapid increase in population that will occur as a result of the buildup. Most important, the sampling frame should be updated using the full array of available administrative data on building permits, births/deaths, and net migration. Methodological appendices to the Current Population Survey identify a number of approaches for doing this.
- b. *Put in place processes to sustain and improve current surveys.* Many of the existing data sources are based on strong survey methods and sample design, but are not optimal in terms of the frequency with which they are provided, response rates and plans for updating sampling procedures and methodologies. For example, the labor force survey appears infrequently, has a relatively low response rate, and should be redesigned based on 2010 Census counts. Making provisions for gradual enhancements that leave intact compatibility with previous survey rounds would be valuable.
- c. *Ensure the continued production of GDP data.* GDP data underpin and/or strengthen a number of data sources and analytical strategies available for Guam. These data are produced by the Bureau of Economic Analysis with funding from the U.S. Department of the Interior (DOI); DOI does not appear to have a direct stake in other data reliant on GDP reports. Ensuring continued support from DOI is crucial to avoiding future hiccups in data availability.
- d. *Prioritize on-line data consolidation and provision.* Data not published regularly and on-line have limited utility to researchers and laypeople alike. Regularly positing all Guam data in a single site (as opposed to spread out across agencies and buried sub-pages on agency homepages) would strengthen all-around engagement with and use of the considerable amount of data already provided on island.

This list of short-term possibilities is encouraging in its length, breadth and coverage of virtually of the key data provision areas for Guam. The Voorhees team is optimistic about the possibility for productive short-term action on these issues and seeks to use this list for discussion with the UoG on next appropriate steps to meet the overall goal described earlier in this data gap analysis.

Finally, the Voorhees team expresses its great appreciation to all Guam entities who contributed to this analysis, and we look forward to feedback from our partners.

ⁱ In particular, on-line access to data – essential in the contemporary environment – is erratic. And metadata on data-collection procedures is often unavailable for the data sources not produced in cooperation with federal agencies.

ⁱⁱ Representatives of Implan and REMI confirmed that impact models are unavailable for Guam. The U.S. Bureau of Economic Analysis does not publish RIMS multipliers for the island.

ⁱⁱⁱ Data forms for the economic census are available online:
<http://www.census.gov/econ/census07/www/sitemap.html>

^{iv} KPMG developed a model in the 1990s for analysis related to the closure of NAS agaña. While the contents of that model would at this point be too dated to justify current use, the approach, methodologies and assumptions behind that model would constitute a valuable starting point for current efforts.

^v Documentation on the census approach to these estimates is available online:

<http://www.census.gov/popest/topics/methodology/2010-relnotes.pdf>

^{vi} These estimates would also be valuable as a key component in an intercensal population estimation model based on the Census Bureau's model for the CONUS.

APPENDIX C



FOCUS GROUP QUESTIONS

University of Guam
Knowledge@Guam Initiative (K@GI)
Modified Appreciative Inquiry
Focus Group Interview Questions



The information you disclose during this K@GI Focus Group session is confidential and reports will not be linked to participants in any way, to ensure that your confidentiality is assured. This statement is included and explained in the K@GI packet under the consent form tab. Thank you for agreeing to participate in this modified Appreciative Inquiry focus group.

Stated purpose for this Appreciative Inquiry¹ event:

As part of the K@GI project deliverables, the study methodology includes capturing the opinions, and views of community members about ways to help the organization transform their SLB food system.

Part I. Introduction to the Modified Appreciative Inquiry (AI) Process

- AI allows us to shift from the typical “what is wrong with this picture” approach and instead asking participants today to explore “what are we doing right, and how can we do more of it in the future?”

Opening question- Please briefly introduce yourself and share something that you enjoy doing that not too many people know about you.

Consider the following AI Questions to get the thinking processes flowing:

- Describe a “peak experience” you have had with friends or family here that makes you think, “Yes! This is why I work for (organization).” Please share why do you recall this particular experience?
- Describe something you have done or would like to contribute to your organization. How did or could your organization encourage you to contribute your gifts or talents?
- Identify two or three most important qualities or “assets” that you believe will help create the most vital future for your organization.
- Imagine it is the year 2024. You have the capability to see the entire community landscape and everything that is occurring. You see the three wishes you have for your organization have come true. What are they, and how do you see that they have come true? Please be specific.

Appreciative Inquiry Phases: Discovery Phase I.

The Discovery phase of the AI is designed to allow the K@GI participants an opportunity to discover in its own experiences what they like best about their agency. This phase reviews your ideas and stories about organization peak moments, when your organization was in the most effective state. Identifying the "best of what is" about your organization and identifying the conditions, factors that made these possible.

A. Organization Peak Experiences - Describe or share your most outstanding moments/stories of your organization's past that make you most proud to be part of this organization.

1. _____

2. _____

3. _____

B. Please identify the things that give life to the organization when it is in most alive, most effective, when the organization is most appreciated. Please list of at least five factors.

1. _____

2. _____

3. _____

4. _____

5. _____

C. What should we try to preserve about the organization? Each group will work individually to address each subsection, write their responses, and then share as a group the important findings they identified.

C1. Identify at least five values

1. _____
2. _____
3. _____
4. _____
5. _____

C2. Identify at least three traditions

1. _____
2. _____
3. _____

C3. Identify at least five best practices about the organization

1. _____

2. _____

3. _____

4. _____

5. _____

D. Building on the prior section (subpart C3), each group is asked to make a list of what they think is the most interesting or novel things being done in other organizations. This list can come from things they have seen in other organizations, have heard or read about. (This is a list building activity only, no discussion in this section).

1. _____

2. _____

3. _____

4. _____

5. _____

E. This section focuses on identifying your top three sources of organization information (This is a list building activity only, no discussion in this section).

1. _____

2. _____

3. _____

Appreciative Inquiry Phase II. Dream Phase

This is the exciting part of the AI process, this phase focuses on the future, especially the manner in which the organization attempts to deliver on what the dream can look like. You are asked individually to step into your dream state and expand on that dream about what could happen in your village if their wish came true. If you had your three wishes? What would they be? Keep in mind that this is your opportunity to come up with ways that are bold, positive and in many ways challenge the status quo.

Part A. This is your “possibility proposition” stage of the ideal or preferred organization future or structure of the organization (envision 3 to 5 years into the future). Individually write your top three wishes that you would like to see occur in your organization. Given the chance to create the ideal organization, what would be your top three areas of improvement? (After completing your list, please give the list to the facilitator in your group for posting).

Three Wishes for my Organization

- 1) _____

- 2) _____

- 3) _____

Three improvement areas of interest

- 1) _____

- 2) _____

- 3) _____

Part B. Take a moment to review your group’s dream post. Please observe the common themes that come across as you review the dreamscape listing. Then take your color tabs (to be provided) and identify which dream area is important to you. Rank your **top three** dream areas you feel are important areas to achieve.

Appreciative Inquiry Phase III-IV (Design Phase/Doing Phase)

This section folds both the Design and Doing phase under one area of the AI process. This phase addresses how you can join the process and contribute and identifying what team composition is necessary. The next AI activity focuses on the necessary action steps to take to deliver your ideal vision of the organization. Each group will reflect on the recent AI sessions conducted and asked to make three lists of suggested action steps based on the following:

Part I. Use this time to review the list of the Community Capitals Framework indicators (Refer to CCF handout). Identify at least 10 CCF indicators in your view are essential to making your organization great. Of the 10 indicators, identify your top three indicators

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____
- 7) _____
- 8) _____
- 9) _____
- 10) _____

Of the 10 indicators, identify your top three indicators

- 1) _____
- 2) _____
- 3) _____

Part II. Commitments to make based on the following stakeholder categories presented below:

A. Commitments they want to make as individuals to move the ideal organization vision forward;

- 1) _____

- 2) _____

3)

Action steps Village Municipal Planning Councils can do:

1)

2)

3)

Action steps government agencies can do (identify government agencies that are important to your organization or you interact regularly with):

1)

2)

3)

Action steps Parents/ Families/Youth can do:

1)

2)

3)

Other entities:

1)

2)

3)

B. Identification of organization priority interest areas

What three aspects of your organization do you consider priorities?

1)

2)

3)

C. Resource Identification Interest areas

What kind of resources and activities would be available in your ideal organization?

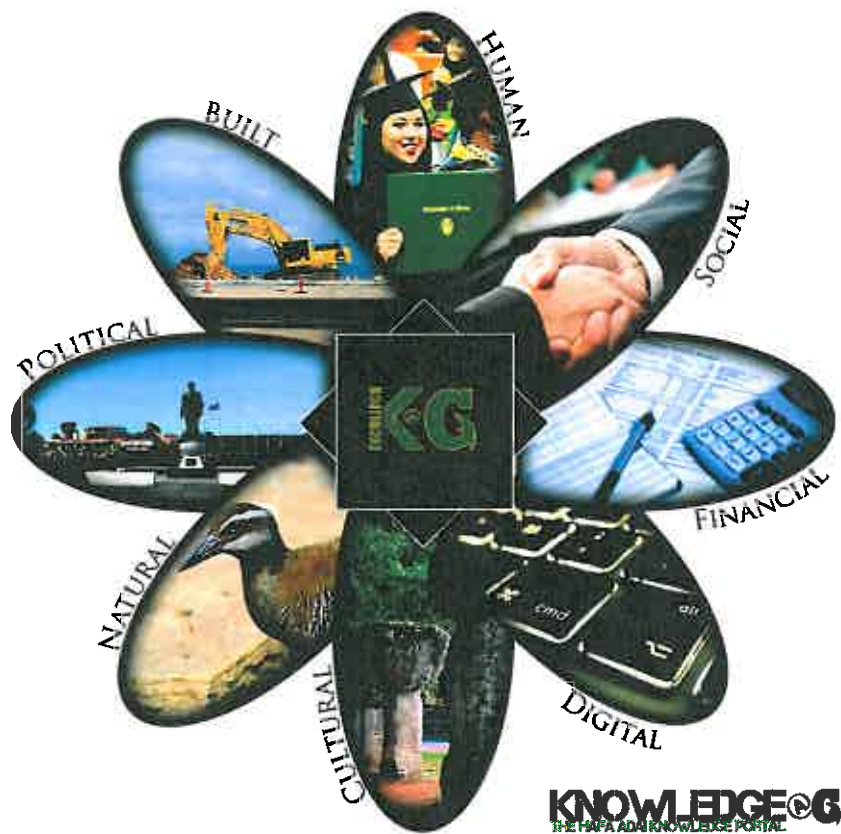
1)

2)

AI Closing Session:

Participants are asked to offer their suggestion on how they would like to move forward the work they had begun and how to build on the ideas and suggestions discussed. Most importantly, to identify what is the missing advantage that is not present in the existing community.

Thank you for your participation.



¹ Cooperrider, D.L. & Whitney, D. 2007 Appreciative Inquiry: A Positive Revolution in Change. Pp. 73-88 in P. Holman, T. Devane & S. Cady (eds.), The Change Handbook, 2nd edition. San Francisco: Berrett-Koehler Publishers, Inc.

APPENDIX D



KGI'S STANDARD OPERATING PROCEDURES

**Knowledge@Guam Initiative
STANDARD OPERATING PROCEDURES
FOR THE KNOWLEDGE MANAGEMENT CENTER (KMC)**

University of Guam
Cooperative Extension Service
December 5, 2014

Foreword

The Knowledge at Guam Initiative (KGI) is the University of Guam's strategy to establish a data-driven system to improve information access on Guam and reduce the threat of unchecked development across the island community.

The Government of Guam's (GovGuam) information systems have become increasingly fragmented, making regional planning and inter-agency collaboration problematic. This is due in part to the administrative powers of the Executive Branch, which enable the Governor to restructure non-autonomous agencies through mergers and divisions. Restructuring can facilitate or impede operations – particularly in terms of information systems – depending on the diligence afforded to the planning and implementation process. Guam's Executive and Legislative Branches are subject to the transience of elected office. Current policies and procedures provide insufficient guidelines for governmental transition, including the transfer of information systems between incoming and outgoing administrations. This indicates that a single point of access to territorial data should reside within autonomous agencies of government.

The policies and procedures provided herein would support the development of a viable Knowledge Management System (KMS) on Guam. An effective KMS requires a standing body to process and deliver data requests. KGI proposes to achieve this through the establishment of the Knowledge Management Center (KMC) at the University of Guam (UOG). As a recognized academic institution, UOG's existing programs, facilities, and information services offer the capacity to support the system's development. Within UOG, KGI is considering three options for incorporation: Cooperative Extension Service, Research Corporation, and Graduate Studies & Sponsored Programs.

KGI establishes through the KMC the initializing governance elements and processes to develop a sustainable knowledge infrastructure on Guam. This includes the establishment of a Knowledge Portal as a single point of access to web-based data products, resources, and services on Guam. KMC operates under the auspices of UOG where it maintains a virtual and physical presence. To develop broad-based support for the KMC and its approach, KGI initiated the branding process for the KMC through promotional efforts in the local community, such as focus groups, conferences, sensing sessions, and social media outreach.

The following Standard Operating Procedures (SOP) provide detailed explanation of how policies should be implemented across KMC data platforms and services. The procedures described within serve as navigational markers to help data users understand the embedded practices and routines associated with creating and retrieving knowledge about Guam, as well as the business structures required to sustain these services. The SOP serves as a resource to guide KMC users and collaborators, allowing these groups to access information independently by following written, step-by-step instructions. When compared to individual performance, the SOP also functions as a mechanism for workplace accountability.

This document will evolve as the need arises to provide the flexibility for the KGI-KMC to realize its intended purpose and objectives.

Part I. Knowledge Management Center – General Operating Guidelines

The processes and procedures outlined below provide the instructional means to create a reliable interface between knowledge seekers and providers on Guam, as well as a platform to manage the quality and scope of the information collected. This interface connects data seekers to a centralized point of access for Guam-based knowledge resources. Serving as this knowledge platform, the KMC will maintain a virtual presence through an online Data Portal, and a physical basis at UOG to field information requests and manage data about the island community. The KMC may follow the Standard Operating Procedures and Guidelines itemized herein to function effectively.

TITLE: KMC Standard Organizational Framework		
SOP #:	Page: 2 of	Effective Date:

1.0 PURPOSE:

The purpose of this SOP is to provide guidance for accessing research facilities and corresponding with relevant staff whether by mail, phone, fax, email, or in-person. It outlines the organizing processes involved in KMC operations and development. These include the data products, web portal, and related commercial services provided by the KMC. The SOP builds on existing UOG communication technologies, and serves as a sequence of pointers to help navigate the embedded routines and practices associated with accessing and generating information on Guam.

2.0 SCOPE & APPLICABILITY:

This SOP covers all those interested in visiting research facilities and corresponding with relevant staff for whatever reason.

3.0 RESPONSIBILITIES:

- 3.1 Routing to KGI Designated Workgroup -The workgroup as defined under the KGI Initiative is composed of the content area designated workgroup members who will address related content inquiries and coordinate responses to inquiries as channeled through the KGI operating procedures.

4.0 DEFINITIONS:

- 4.1 KMC Point of Contact (POC) – The POC is a designated full-time employee as determined by the KGI Workgroup. The POC oversees the front-end operation of the KMC operation and directs all KGI/KMC inquiries and requests to the appropriate representative or work area.

5.0 FORMS & MATERIALS:

N/A

6.0 PROCEDURES:

- 6.1 Identifying the Point of Contact – The POC for the research program and corresponding information include the following:

Peter Barcinas
Program Leader & Extension Associate III
Economic and Community Systems
College of Natural and Applied Sciences
University of Guam

Phone: 671-735-2055
Email: pbarcina@uog.edu

- 6.2 Finding the Physical Address – Research facilities can be accessed on UOG's campus. Currently, research is conducted in the College of Natural and Applied Sciences (CNAS) through the Cooperative Extension Service's main offices on the second floor (Room 228).

- 6.3 Honoring Business Hours – Research staff and facilities can be accessed year-round, Monday through Friday, from 8 am to 5 pm Chamorro Standard Time (CHST), except during GovGuam holidays and Governor-declared Typhoon Conditions of Readiness one (1) and two (2).

- 6.4 Sending to the Mailing Address – Research staff and facilities can be accessed by postal service using the following mailing address:

University of Guam
Cooperative Extension Service
303 University Drive
Mangilao, GU 96913

- 6.5 Connecting to General Phone & Fax Numbers – Additional research staff and program administrators can be contacted through the following numbers:

Phone: 671-735-2050/2062
Fax: 671-734-1244

- 6.6 Accessing the General Email Address – Research staff and program administrators can be contacted through the following email address:

Email: knowledgeguam@gmail.com

6.7 Accessing UOG Learning Resources – KMC will follow existing policies and procedures for Access to UOG's JFK Library, Micronesian Area Research Center, and State Data Center Affiliate.

7.0 RELATED REFERENCES:

Version:
Effective Date:
Last Reviewed Date:

8.0 PURPOSE:

The purpose of this SOP is to guide the development of Work Groups to plan and carry out specific aspects of the research project that require special knowledge and skills.

9.0 SCOPE & APPLICABILITY:

10.0 RESPONSIBILITIES:

11.0 DEFINITIONS:

11.1 Work Group – This is a group of people who are brought together to work on a specific topic area for the overall research project. The Principal Investigator recruits Work Group members based on the special knowledge, passion, or skills they can bring to the project. Work Group members can fall into a number of categories, including, but not limited to:

- a. Full-time UOG personnel who are paid in full by project funding;
- b. Full-time UOG personnel who are paid in part by project funding;
- c. Part-time UOG personnel who are paid in full by project funding;
- d. UOG faculty consultants who are paid in full by project funding – independent of their UOG salary – as defined by their contract;
- e. Independent consultants who are paid in full by project funding as defined by their contract;
- f. Volunteer consultants who are often GovGuam personnel from other agencies that offer insight to accomplish complementary workplace goals and support resource sharing between agencies.

12.0 FORMS & MATERIALS: N/A

13.0 PROCEDURES:

13.1 Work Group Candidate Identification – The Principal Investigator and Project Coordinator should work together to identify potential Work Group members. During the project's planning stage, a cross-section of GovGuam employees and community leaders, including representatives from the Mayor's Council and Governor's Office, should be contacted for involvement. For village-based research projects, Mayors must be involved in discussions. Other Work Group candidates should come from professional networks, either through direct participation or referrals to qualified contacts, as well as research on relevant programs, GovGuam

agencies, nonprofit organizations, and businesses and points of contact within these entities.

- 13.2 Work Group Invitation – Under the guidance of the Project Coordinator, project staff should work together to create a list of the potential Work Group members identified. The list should be compiled in an Excel document, with column headings including the name of the parent agency, organization, or business; name of the relevant division, unit, or program within the parent entity; name of initial contact person (typically someone in a leadership or data management role); the initial contact person's job title; the entity or contact person's phone number; the entity or contact person's email address; the entity or contact person's professional address (physical address preferred, though mailing address should be noted); and notes/updates.

Using this Master Contact List, project staff should first email the address identified (if available) to establish initial contact with the potential Work Group members. The email should include an introduction to the project, request for involvement or referral to the proper contact person, a brief explanation of why the person/entity has been contacted for involvement, an outline of Work Group membership expectations, and the point of contact and their corresponding phone number and email address to follow up with regarding the request.

If an email address is unavailable, project staff should call the phone number identified during the research process. The call should include similar content as the email described above, though more emphasis should be applied to finding the correct person to contact regarding the Work Group membership request, as well as finding the proper contact method and information for the correct person to contact. If no one answers the phone, additional calls should be placed until there is a response. If there is no response after a minimum of three (3) call attempts, or the line is out of service, then project staff should perform additional research to determine if there is another number to call, or whether the entity is still in operation. Such issues with outreach efforts should be documented in the "Notes" section of the Contact List. If an entity or contact person is deemed highly desirable for involvement in the Work Group, but all abovementioned attempts to connect with them has failed, then project staff should visit the worksite where they believe this person/entity could be found.

Staff should note that is common on Guam for phone numbers, email addresses, and worksites to change or discontinue. This reality prolongs outreach efforts and requires personnel to get creative in their pursuit of Work Group members. The most effective workaround is contacting people within personal or professional networks that tend to be informed of current events or have wide-ranging networks of their own. These people can either provide insight into the status of the entity or person identified, or redirects to other community members who have more direct knowledge of the situation.

13.3 Work Group Meeting Coordination – Project staff should recruit four (4) to eight (8) members from at least two (2) different agencies, organizations, or businesses for a given Work Group. Once project staff have confirmed sufficient Work Group membership, an email should be sent out with a selection of proposed times, dates, and locations of meetings. Project staff should send out an email confirmation that clearly defines the agreed upon meeting time and logistics, and include an agenda or topic items to be discussed.

13.4 Work Group Relationship Management – Work Group relations should be maintained through ongoing communication among members, preferably by email and inclusive of the entire group. Project staff should follow up with members following each meeting to thank them for their contributions and summarize the items covered and commitments made. Work Group members should be invited to all project events that may concern them. Members should also receive copies of or links to any final products generated through the project. Ideally, drafts of these items should be circulated to Work Group members for feedback, as appropriate.

14.0 RELATED REFERENCES: N/A

Version:
Effective Date:
Last Reviewed Date:

TITLE: Recruiting Content Experts		
SOP #:	Page: 2 of	Effective Date:

15.0 PURPOSE:

The purpose of this SOP is to guide the recruitment of content experts for the research project.

16.0 SCOPE & APPLICABILITY:

17.0 RESPONSIBILITIES:

18.0 DEFINITIONS:

18.1 Content Experts: Contracted consultants, often UOG faculty members, paid through project funding whose professional credentials align directly with crucial aspects or products expected of the project, as stated in the grant agreement.

19.0 FORMS & MATERIALS:

20.0 PROCEDURES:

20.1 Content Expert Needs Assessment – The Principal Investigator should review the main subject matters and technical areas required to complete the research project. Based on these areas, the Principal Investigator should prepare a request for applications that outlines the selection criteria, expectations, and submission process for people who could fulfill this role.

20.2 Content Expert Candidate Identification – The Principal Investigator should review applications to identify candidates that best meets the criteria for consideration outlined in the request for applications. The top applicants should be contacted for an interview.

21.0 RELATED REFERENCES:

Version:
Effective Date:
Last Reviewed Date:

TITLE: Conducting Internal Communications		
SOP #:	Page: 2 of	Effective Date:

22.0 PURPOSE:

The purpose of this SOP is to provide guidance for conducting communications among KGI research staff, content experts, and other Work Group members, as well as within University of Guam in general.

23.0 SCOPE & APPLICABILITY:

This SOP applies to those directly involved in planning, conducting, or evaluating research tasks, objectives, and outcomes, including paid and unpaid advisers.

24.0 RESPONSIBILITIES:

25.0 DEFINITIONS:

- 25.1 Internal Communications: The exchange of ideas, messages, or information through speech, writing, signals, or behavior between those directly involved in planning, conducting, or evaluating research tasks, objectives, and outcomes.
- 25.2 Research Staff (also “Research Team”): Full- and part-time (paid) employees of UOG whose responsibilities are ongoing in relation to the research project. These include UOG students who earn compensation, not academic credit for their work.
- 25.3 Content Experts: Contracted consultants, often UOG faculty members, paid through project funding whose academic or professional credentials align directly with crucial aspects or products expected of the project, as stated in the grant agreement.

26.0 FORMS & MATERIALS:

- 26.1 UOG Campus Directory
- 26.2 KGI Contact List

27.0 PROCEDURES:

- 27.1 Email Communications – Email is the preferred method of communicating research tasks, transmitting small electronic files (less than 25MB), and sharing information remotely with multiple stakeholders.
 - 27.1.1 Full-time personnel should receive an official UOG email address upon hire through the submission of a request to the Computer Center. Personnel

should use this email address to send and receive electronic, work-related communications. The email address should be added automatically to UOG's campus-wide listserv managed by the Communications Department. This will enable personnel to receive pertinent announcements and obtain special permissions such as Web Content Manager designation.

- 27.1.2 Part-time personnel should provide their supervisor a reliable email address, preferably one hosted by Gmail. KGI uses Google's Chat, Calendar, Drive, and Hangout functions for instant messaging, joint scheduling, file storage and sharing, and video conferencing, respectively.

27.2 Telephone Communications – Phone calls are the preferred method of communication when email addresses are unavailable, detailed discussion is needed, and other situations arise that would be more suitably conducted over the phone.

- 27.2.1 Internal Phone System – UOG maintains a university-wide telephone system. A 10-digit number consisting of Guam's area code (671), UOG's central office code (735), and a four-digit station number are assigned to each telephone on campus. The four-digit station number directs callers to specific offices or personnel. A given "extension" number can be inputted directly into on-campus phones without having to dial the area or central office codes. A listing of extensions is available in the "UOG Campus Directory." Each Department's office manager/ coordinator should have a copy of this Directory. The process of transferring calls to other extensions varies by phone station. Ask the office manager/coordinator for further direction in this regard.

- 27.2.2 External Calling System – To dial out of UOG's internal system, the caller must first dial "9" then the full off-campus number.

- 27.2.3 Incoming Call System – All incoming calls should be answered promptly. If it's necessary to place the call on hold or transfer the call to another area, you must inform the caller of your intentions accordingly. When answering incoming telephone lines, always answer, "Knowledge at Guam" followed by your name.

- 27.2.4 Voicemail System – The Cooperative Extension Service (CES) does not have voice mail systems for each phone station. Calls are automatically redirected to the main CES line where callers can leave messages on the general voice mail system.

27.3 In-Person Communications – Face-to-face meetings are the preferred communication method for planning research components, clarifying assignments, evaluating individual performance, training personnel, and resolving complex matters, including:

- 27.3.1 Work Group Meetings
- 27.3.2 Site Visits
- 27.3.3 Research Team Meetings

27.4 Teleconferencing – Teleconference sessions are the preferred alternative to in-person meetings when in-person meetings would be advisable, but are impossible because critical participants are in different locations.

27.4.1 The Principal Investigator coordinates the meeting at a time that reasonably accommodates the different time zones of all critical participants. Typically, these meetings are held via Google’s video conferencing feature called “Hangouts.” The CES laptop and projector should be set up prior to the teleconference, if it is open to the group, so that the call can be initiated without delay.

28.0 RELATED REFERENCES:

Version:	
Effective Date:	
Last Reviewed Date:	

TITLE: Procuring Research Materials		
SOP #:	Page: 2 of	Effective Date:

29.0 PURPOSE:

The purpose of this SOP is to guide the procurement of research materials. UOG has a centralized procurement system in which purchases made by personnel on behalf of the university are submitted,

30.0 SCOPE & APPLICABILITY:

This SOP applies to the procurement of all supplies and services for research purposes.

31.0 RESPONSIBILITIES:

It is the responsibility of the Office Manager/Coordinator to oversee the procurement process in collaboration with the Principal Investigator.

32.0 DEFINITIONS:

- 32.1 Procurement – Buying, purchasing, renting, leasing or otherwise acquiring any supplies, services, or construction. It also includes all functions that pertain to the obtaining of any supply, service or construction, including description of requirements, selection and solicitation of sources, preparation and award of contract, and all phases of contract administration.
- 32.2 Requesting Department: Departments with authorization from the President or Board of Regents to manage a sub-account under UOG’s master account. This authorization enables the Department to submit Purchase Orders to the Procurement Office for review and determination. For KGI, the Requesting Department is Graduate Studies, Sponsored Programs & Research.
- 32.3 Open Purchase Order – Purchase Orders without specific items of request, often because they must be selected in-person at a retail outlet. An example of this would be miscellaneous office supplies, each of low value, but together exceeds the petty cash limit of \$100. Such Purchase Orders require designated “buyers,” or those on staff who will be picking up the items. Each designated buyer must sign the Purchase Order and bring a valid form of identification along with them to purchase the materials.

33.0 FORMS & MATERIALS:

- 33.1 UOG Procurement Manual
- 33.2 Purchase Order Form

- 33.3 Receiving Report Form
- 33.4 Purchase Order Adjustment Form
- 33.5 Completed Purchase Order Form Example
- 33.6 Completed Purchase Order Adjustment Form Example
- 33.7 Completed Receiving Report Example

34.0 PROCEDURES:

34.1 Needs Assessment: Personnel should perform needs assessments for the research project on an ongoing basis. As part of the planning process, needs assessments allow personnel to estimate the amount and sort of resources necessary to fulfill research objectives. This entails tracking inventory and in-house expertise. Comparing what is available to what is needed helps increase efficiency, reduce costs, and meet grant requirements within the timeframe outlined in the terms of the agreement.

34.2 Purchase Order Preparation: Once a need is identified, the requesting department must fill out a Purchase Order Form and submit it to the Procurement Office. Ask the Office Manager/Coordinator where to find this form. It should have five copies attached (original vendor, acknowledgment, accounting, accounts payable, and procurement).

Quotes: Before submitting the form, personnel must obtain at least three quotes from different vendors or contractors. The quotes must provide in writing the estimated cost of the good or service to be purchased.

Vendor Selection – Based on these quotes, select a vendor with the best combination of cost, benefit, and location. Vendors must be located on Guam unless the particular good or service is not available on-island.

Purchase Order Form – Complete the following sections of the Procurement Form using the department's typewriter:

- a. Purchase Order Number
- b. G.I. Account Number
- c. Shipping Instruction
- d. Vendor
- e. Vendor No.
- f. Date of Expiration
- g. Articles or Services
- h. Justification
- i. Qty.
- j. Unit
- k. Unit Price
- l. Amount
- m. Total

- n. Requesting Dept.
- o. Procurement Officer
- p. Certifying Officer
- q. Approving Officer

34.3 Purchase Order Approval – Once the above items are filled in, attach the quotes to the completed Purchase Order Form and forward the packet to the Office Manager/Coordinator for review. If correct, the Department Head should sign the form, and the Office Manager/ Coordinator should then provide instructions for personnel to route the packet for further authorization from the proper Approving, Certifying, and Procurement Officers.

34.4 Purchase Order Processing Time – Processing time from Procurement Office to Comptroller takes about at five (5) working days, provided all required documents are attached. Processing may take longer during certain times of year, including registration, year-end closing, budget preparation, and audit.

34.5 Purchase Pick Up/Delivery – The approved Purchase Order may be “open” or “closed.” Open Purchase Orders should have an authorized buyer who may select supplies from the vendor, and present the approved form at check out. This must be done during regular office hours. The vendor will then send an invoice to UOG’s Financial Affairs, who in turn will pay the vendor. Upon receipt of the product or service, personnel must complete a Receiving Report. Copies of the original Purchase Order and invoice/receipt must be attached to the Report and forwarded to the Office Manager/ Receiving Agent for signatures and routing. Personnel should make copies of all forms and receipts involved in this process for documentation.

34.6 Purchase Order Adjustments – If the amount requested in the original Purchase Order differs considerably from the actual need, personnel must complete a Purchase Order Adjustment Form. Use original purchase order as reference to complete the adjustment form and follow similar procedures to those outlined above for processing and approval.

35.0 RELATED REFERENCES:

Version:
Effective Date:

Last Reviewed Date:		
TITLE: Inducting New Personnel		
SOP #:	Page: 2 of	Effective Date:

36.0 PURPOSE:

The purpose of the following SOP is to provide instruction and ensure consistency in the application of established processes for orienting new employees.

37.0 SCOPE & APPLICABILITY:

This SOP applies to all new employees and their corresponding Project Coordinators and Office Manager/Coordinator.

38.0 RESPONSIBILITIES:

39.0 DEFINITIONS:

39.1 Statement of Work

39.2 Grant Proposal

39.3 Outcomes (also referred to as "Deliverables")

40.0 FORMS & MATERIALS:

41.0 PROCEDURES:

41.1 Formal Job Acceptance – The Office Manager/Coordinator will call selected job candidates via the number provided by the applicant on the application form. During this call, the candidate will receive a job offer. Upon acceptance, they will receive direction to obtain Police and Court clearances, as well as to provide results of a Tuberculosis test. These items should be brought to UOG’s Human Resources Department to finalize the hiring process. Once the candidate meets these criteria in good order, the Office Manager/Coordinator will call with a start date for the new employee, who will then report to Human Resources on or before this date to sign the remaining paperwork, including the official job offer letter.

41.2 Start Date Reception – After visiting the Human Resources Department, new employees should be greeted by the project’s Office Manager/Coordinator on the first day they report to duty. The Office Manager/ Coordinator should offer a tour of the immediate facilities, confirm that necessary paperwork has been submitted to the Human Resources Department, and introduce them the project’s lead personnel, particularly the Project Coordinator.

- 41.3 Personnel Introductions – The Project Coordinator and Extension Associate(s) should take the new employee around CNAS rooms 228, 230, and any other offices where relevant personnel are stationed, such as the Graduate Studies, and introduce them to their colleagues. During this time, the Project Coordinator should inform the new employee of their colleagues' names, titles, roles, experiences, current responsibilities, and other information relevant to the project's operations.
- 41.4 Facilities Tour – New employees should receive a tour of main work areas and related facilities. Important areas to point out include the photo copier, supply shelf, conference room, kitchenette, coffee/water station, mail boxes, standard forms compartment, bathrooms, computer/work station, and holding place for the key to Room 230. Eventually, it will also be important for new employees to know where to find UOG's Accounting and Procurement Offices, the Dean of CNAS/Cooperative Extension Service, and the Senior Vice President of Graduate Studies – all located on-campus –as well as the Project Liaison's Office at the Governor's Complex.
- 41.5 Research Overview – The Project Coordinator and/or Extension Associate(s) should provide a history of the research project, an overview of its goals and projected outcomes, an explanation of selected research methods, a summary of progress made to-date, an outline of outstanding tasks, and an understanding of the new-employee's role and expectations within the context of the study. For reference and review, new employees should receive copies of the grant proposal, statement of work, research graphics and promotional materials, village monographs, summary of research analysis and findings, and a link to the data portal.

42.0 RELATED REFERENCES:

Version:
Effective Date:
Last Reviewed Date:

Part II. KMC Data Access

Users can contact the KMC by web (email or online), phone, post, or in-person. All questions and comments regarding data issues or requests for personal assistance should be directed to the designated POC described above.

TITLE: Accessing KMC by Web		
SOP #:	Page: 1 of	Effective Date:

43.0 PURPOSE:

The purpose of this SOP is to provide guidance when editing existing content and carrying out the general maintenance of the KGI Portal. The portal is housed under the University of Guam external website operating under the content management system, Drupal. This procedure instructs the user how to access the KMC. The KMC offers a web-based application that delivers Guam generated information and datasets to the end-user. The KGI Portal uses the UOG IT infrastructure and follows all policies, procedures and conventions for maintaining UOG web sites and services. This includes related web content, privacy, security, access, and maintenance.

44.0 SCOPE & APPLICABILITY:

This SOP applies to those who possess the authority to facilitate regular portal operations to include: format upkeep and adjustment, adding data product materials, preservation of shared information channels, and posting updates of KGI activities.

45.0 RESPONSIBILITIES:

This SOP will ensure that the knowledge-based system operating as the University of Guam's KGI Portal delivers continuous improved information access and sharing to the public.

46.0 DEFINITIONS:

- 46.1 Website Administrator: The Administrator role has full site access and is the only role which can create/ delete pages, change layouts and fully administer the website.
- 46.2 Web Content Manager: The Web Content Manager will be designated by the Program Leader, and will have access to edit content within all assigned pages to the Knowledge@Guam Initiative. This role also moderates all edits made by Web Content Creators.

46.3 Web Content Creators: The Web Content Creator will be designated by the Web Content Manager, and will have base level roles with access to edit the assigned pages within the KGI Portal. These edits can only be published by the Web Content Manager after their approval.

46.4 Media: Images and documents uploaded to the KGI Portal.

47.0 FORMS & MATERIALS:

47.1 Helpdesk Request Form

48.0 PROCEDURES:

48.1 External Portal Access – Users can access the online data portal via an internet-connected device, such as a computer or smartphone. In a web browser, enter www.uog.edu/kgi into the address bar or by navigating with UOG's domain to the Cooperative Extension Service's subpages, then to Knowledge@Guam.

48.2 Internal Portal Access and Permissions – User access to the Drupal CMS site must be requested from the UOG computer center. Request are to be made through UOG's HelpDesk at helpdesk.uog.edu

48.2.1 Full-time personnel will receive an official UOG email address which is to be used to for all work-related electronic communication with the University. Use of this email address when requesting to obtain access to a designated webpage under the UOG website will expedite the process of receiving Web Content Manager Permissions.

48.2.2 Part-time personnel who are also students of the University may have the option to utilize their student UOG email address to request access to the webpage. Access will be limited to Web Content Creator permissions.

48.3 Drupal CMS Training – A brief one day training session is required for both full-time and part-time personnel who receive permissions to the University of Guam external website. Training dates and times are organized at the UOG Computer Center.

48.3.1 Login Information – The Computer Center personnel facilitating the training session will issue out user names and passwords. The url to login to the drupal site (dev.4) is dev4.uog.edu/user. Input your username and password to gain access to the site.

48.3.2 Navigating the dev4. site – After successfully logging in to the dev site you will now be able to make edits to the KGI portal. The url to navigate to the KGI portal is dev4.uog.edu/knowledge. Once you are there you can choose to edit, view, or moderate a drafted page.

- 48.3.3 **Limitations and Restrictions** – The web content manager and creators will only be able to edit pages within in the designated KGI portal domain. Edits can be made to existing pages that were created by the UOG website administrator.
- 48.3.4 **Web Page Editing Introduction** – The Drupal CMS allows for editing to be done as you would edit a word document in a simplified “UOG HTML” Format. The training facilitator will inform you on how to: add text, media, and embedded videos to your webpages, as well as how to designate heading, subheading, and body text. All formatting options can be chosen from the toolbar located directly above the editing dialog box.
- 48.4 **Web Page Edits** – The UOG site Administrator will create a set layout for the KGI Portal. It is the responsibility of the Web Content Manager and Creators to edit each page to incorporate the desired final formats and content.
- 48.4.1 **Creating Heading Text** – Each page of the KGI Portal will be devoted to a different focus of the KGI; to be distinguished by a heading text. Heading texts can be created by keying in the desired text, highlighting the text, and selecting “Heading 3” in the format selection box located in the toolbar.
- 48.4.2 **Creating Subheading Text** – There is an option to create subheadings within each of the KGI Portal pages. Adding in a subheading before different areas of information on a page helps to avoid reader confusion. Subheading texts can be created by keying in the desired text, highlighting the text, and selecting “Heading 4” in the format selection box located in the toolbar.
- 48.4.3 **Creating Body Text** – After creating headings and subheadings as needed on a page of the KGI Portal, the Content Manager and Creators will be able to add any type of text they desire in the dialog box. Adding in Body Text in the editing window is done just as you would a word document by using the different features provided in the toolbar.
- 48.4.4 **Uploading Media to “My Files”** – While editing a page in the KGI Portal you have the option to load files into the “My Files” folder in your dev4. account. Loading files allows for easier access when embedding them to a page. To do this select the “Add Media” icon with the two mountains in the toolbar. A “Select a File” box will open, you will then click “Choose File”. Locate the desired media from your computer and click open. The file name should appear in the dialog box indicating you have selected the right media file, once you have confirmed this click next.
- 48.4.5 **Labeling Media in “My Files”** – After you have successfully chosen the media file to upload to, “My Files” the “Select a File” window will prompt you to label the media file. There are optional areas to fill on that include: Short

Title, add an expiration date, and add tags to the files, these areas can be left blank. Areas that are required to be filled in will be the Department box and Date Created. Under Department, Select “Knowledge@Guam Initiative”, and indicate the current date for Date Created. Once completed click on “Save”.

- 48.4.6 Embedding Labeled Media from “My Files” – While editing a KGI Portal page you will also have the option to embed media files. Embedding comes after uploading and labeling Media to “My Files”. To Embed the media choose to display as a “Link” in the selection box, under department select “Knowledge@Guam Initiative”, input a Date Created and click “submit” the media will show up on in the dialog box.
 - 48.4.7 Embedding Youtube Videos – To embed Youtube videos onto a page of the KGI Portal the video link is required. Go to Youtube.com and locate the desired youtube video. The link to embed the video is found after you click on the “share” icon, then click the “embed” link. Click on “Show More” just below the original link. Scroll down and under video size select “853 x 480”, and then copy the entire link provided. To paste the link in the edit dialogue box you must first select “HTML” under text format at the bottom of the box. The format of the window will change. Scroll down to the bottom of the dialogue box after all the text and paste the youtube video embedded link. After you have pasted the link switch the text format back to “UOG HTML”. The youtube video will now appear as it will in the published page.
 - 48.4.8 Creating a Link to another address– It is possible to create a link on the KGI Portal to any supporting websites, articles, or documents. To do this locate the link you would like to use and copy the entire url. Once you return to the edit page type the text you would like the link to be displayed as. Once completed highlight the text, click on the “Insert/Edit Link” icon which is the image of a chain link; a tiny window will open. In the “Insert/ Edit Link” window paste your link’s url in the “Link Url” box, Under Target select “Open Link in a New Window” and click Insert. The link will be created once the page is saved.
 - 48.4.9 Format Adjustments- Pages of the KGI Portal can be formatted to be either uniform or unique compared to the rest of the portal. To do this, use the options provided in the toolbar. Actions such as changing the text style, utilizing bullet points or numbering, inserting tables, etc.
- 48.5 Saving Web Page Edits – When editing a page of the KGI Portal there are several options to choose from when saving the changes. The options depend on if you would like to post the edits at that moment or wait for a later time. Options may be limited depending on your user account permissions.

- 48.5.1 Current Draft – When saving page edits that are not ready to be published to the live KGI Portal, select “Draft” under the “Moderation State” box before saving. This option allows you to save the edits and return to them at a later time. This option is open to both the Web Content Managers and Creators.
- 48.5.2 Review for Publishing – The Web Content Creator will be unable to post edits to pages to the live KGI Portal. Instead they must select, “Needs Review” under the “Moderation State” box before saving. Doing so prompts the Web Content Manager to review the edits before it is published to the live page.
- 48.5.3 Publish to Website – Publishing page edits to the live KGI Portal can be performed by the Web Content Manager. To do this select “published” under the “Moderation State” box before saving. Once you click save, the edits you made to the page will be posted to the live KGI Portal under the external UOG website which is open to the public.

49.0 RELATED REFERENCES:

Version:
Effective Date:
Last Reviewed Date:

Part III. KMC Data Quality

TITLE: Applying Data Quality Standards		
SOP #:	Page: 2 of	Effective Date:

50.0 PURPOSE:

The purpose of this SOP is to help maintain the usefulness and reliability of quality data sets generated for the purpose of sponsored research and public issues decision making.

51.0 SCOPE & APPLICABILITY:

KGI applies the Census Bureau’s Statistical Quality Standards to the activities that produce data products based on information released by the Census Bureau, such as the Village Monographs.

52.0 RESPONSIBILITIES:

All KGI staff members must comply with these standards to the extent possible at present. This extends to contractors and other individuals that receive funding through KGI. In particular, this standard applies to the processes involved in planning the KMC’s data program and design.

53.0 DEFINITIONS:

53.1 Data Quality Control Standards – KGI follows the U.S. Census Bureau’s Statistical Quality Standards to initiate quality control systems and standards. Currently, KGI is in the first phase of the Statistical Control Standards implementation cycle (Statistical Quality Standard A-1).

54.0 FORMS & MATERIALS:

55.0 PROCEDURES:

55.1 Adhering to Established Data Standards – As the leading source of quality data about the U.S. population and economy, the Census Bureau has a set of standards to promote the quality of its data products and the processes that develop them. By design, KGI adheres only to the standards that are possible for Guam at this time. This will enable KGI to identify what is needed to fulfill all federal guidelines for quality information.

56.0 RELATED REFERENCES:

56.1 For the Census Bureau's Statistical Quality Standard A-1, see:
<http://www.census.gov/quality/standards/index.html>.

TITLE: Tabulating Statistical Data		
SOP #:	Page: 2 of	Effective Date:

57.0 PURPOSE:

The purpose of this SOP is to guide the tabulation of statistical data from human-readable data formats, such as hard copy records and Portable Document Format (PDF), to XLS format – an Excel-based, machine-readable data format.

58.0 SCOPE & APPLICABILITY:

This SOP applies to all official data conversion under the KMC from human-readable formats to the Excel-based machine-readable data format.

59.0 RESPONSIBILITIES:

All KGI staff members must comply with these standards to the extent possible at present. This extends to contractors and other individuals that receive funding through KGI. In particular, this standard applies to the processes involved in planning the KMC's data program and design.

60.0 DEFINITIONS:

- 60.1 Data Tabulation – a process of systematically arranging data to generate meaningful information about the performance of different indicators.
- 60.2 Human-Readable Format – a representation of information through a medium that people can read and understand easily.
- 60.3 Machine-Readable Format – a representation of information that web browsers or computer systems can read automatically through a standard computer language or coding system.
- 60.4 Excel Workbook – a distinct file containing one or more Worksheets of data.
- 60.5 Excel Worksheet – a subset of a Workbook that separates one body of data from another while maintaining a single point of access to the catalog.
- 60.6 Batch – a predetermined set of tables from official data sources that divide the total database into manageable tasks for multiple staff.

61.0 FORMS & MATERIALS:

61.1 Microsoft Excel software

62.0 PROCEDURES:

62.1 Creating Data Fields Template – A database should be designed using Excel to ensure that it captures all the information that is required of the protocol. It should directly reflect the content of U.S. Census Profiles and other official data sources related to Guam. Before entering numbers into the cells, researchers should set up a template that includes all of the headers, sub-headers, and specific field names of the data to be inputted. In a given worksheet, rows should represent different data fields (e.g., household income, ethnicity), while columns should represent iterations of these field according to different variables of interest (e.g., year, village).

62.2 Worksheet identification – Staff should create sufficient worksheets within the Excel Workbook file to cover each batch of tables. Each batch number should be entered on the corresponding worksheet tabs.

62.3 Entering Statistical Calculations – To input statistical data and calculations, do the following:

62.3.1 Leave the data cells for all “Persons and “Totals” blank.

62.3.2 Once all the supporting data has been inputted, enter the equations as follows: =SUM(...+...).

62.3.3 Then select the first box of all persons and the totals. On the bottom right corner a BOLD + will pop up.

62.3.4 Drag the equation all the way down from top to bottom till you reach the last line of the table.

62.3.5 Type in the numbers on the chart in all other categories. The totals will add up correctly. If the numbers in the total or all persons doesn't match the Census file, re-check your inputs associated with that calculation, as well as the calculation itself for errors.

62.4 Reviewing Statistical Tabulations – After each batch has been inputted into Excel, the inputter should trade their batch with that of another inputter. The person who input the data into Excel should not be the same person who performs the final review of the batch for quality control purposes. Once the reviewer checks each number, field, and calculation, and highlights any errors, they should send the checked version to the Project Coordinator for finalization and compilation.

63.0 RELATED REFERENCES:

Version:		
Effective Date:		
Last Reviewed Date:		
TITLE:		
SOP #:	Page: 2 of	Effective Date:

64.0 PURPOSE:

The purpose of this SOP is to guide the conduct of focus group sessions by the research team.

65.0 SCOPE & APPLICABILITY:

This SOP applies to all research staff and participants during focus group sessions.

66.0 RESPONSIBILITIES:

It is the responsibility of the Principal Investigator and Project Coordinator to designate research responsibilities among the team during the dry run. Staff should have a clear understanding of their roles and responsibilities while conducting focus group sessions.

67.0 DEFINITIONS:

N/A

68.0 FORMS & MATERIALS:

- 68.1 Participant Registration Form
- 68.2 Research Packets
- 68.3 Consent Forms
- 68.4 Name Tags
- 68.5 Easel Pads and Stands
- 68.6 Digital Voice Recorders
- 68.7 Laptop Computer
- 68.8 Projector
- 68.9 Writing Supplies
- 68.10 Ranking Decals
- 68.11 Transcription Guidelines

69.0 PROCEDURES:

- 69.1 Greeting and Registering Participants – At least one member of the research team should be designated as the registrar of participation and documentation. This person should be located near the venue’s entryway at a registration table. They should greet each person as they enter, instruct them to sign in, provide them with

name tags and research packets, and answer any questions they may have about the session.

69.2 Obtaining Informed Consent – When an investigation project has actively recruited participants, (e.g. for interviews or user testing), researchers should ensure that each participant signs and returns a consent form and is given an information sheet. This should be done during the registration process.

69.3 Documenting Research Proceedings – Focus group sessions should be recorded in four main ways: easel notations, audio recordings, written responses, and photographs.

69.3.1 Easel notations should capture the main points conveyed by participants' oral responses to guide conversations and ensure accurate interpretation of comments. Easels are also used for ranking priority issues among participants.

69.3.2 Audio recordings should begin at the start of the presentation, pause during breaks, and note the time, date, and context of the session. For best results, recorders should be placed in the middle of the group within a few feet of respondents, and be adjusted if needed.

69.3.3 Written responses should be encouraged by facilitators throughout the sessions, and captured in the space provided in the printed questionnaire.

69.3.4 As soon as the session finishes, the research team should collect all written responses from participants, including surveys and evaluations, and label them with the group type and date; copy audio recordings onto at least one additional hard drive/memory disk; take photographs of easel notation pages and gather them together once captured; and scan all written responses into a digital format.

69.3.5 In the days following, the Project Coordinator should divide the audio recordings into sections for transcription by staff. These transcriptions should follow the Transcription Guidelines provided.

69.4 Explaining Research Intent and Ground Rules – The opening remarks should introduce participants to the research objective, project history, and accompanying staff members. This must include an explanation of the voluntary, anonymous, and confidential nature of the study. The facilitator should describe the purpose of the in depth interview, organization of the session, approach being used, quality assurance and documentation formats, and expected outcomes of the overall study.

70.0 RELATED REFERENCES:

Version:

Effective Date:
Last Reviewed Date:

Part IV. KMC Data Analysis

TITLE: Analyzing KMC Data with the CCF		
SOP #:	Page: 2 of	Effective Date:

71.0 PURPOSE:

This framework serves as the guide for developing village baseline indicators and monographs. Each POC and WG member will refer to the CCF for all KMC-generated information.

72.0 SCOPE & APPLICABILITY:

Community-based data provides an opportunity for citizens to access timely, accurate, and relevant information to understand the various public issues that shape their villages. KMC adopts the Community Capitals Framework (CCF) developed Cornelia and Jan Flora (2008).

73.0 RESPONSIBILITIES:

This section provides for the support mechanism and processes to support the desired KMS network among the KGI workgroup. This system seeks to address how best to capture and share the ideal mix of community-centric information that is occurring on a periodic basis.

74.0 DEFINITIONS:

75.0 PROCEDURES:

75.1 Using the Community Capitals Framework – The following relates to understanding community public issues, development of village profiles, general studies, community-based studies, community-asset maps, assessment of community needs. Enabling organizations and their data users and creators to address their common data and information interests, challenges and responsibilities require a platform for communicating and addressing their Knowledge management needs.

75.2 Understanding “Livable Communities” – Common features in community development- Managing Change: Clues to Community Survival.

76.0 FORMS & MATERIALS:

77.0 RELATED REFERENCES:

77.1 Source: Luther, V., & Wall, M. (1988). *20 clues to rural community survival: A community case study project*. Lincoln, NE: Heartland Center for Leadership Development.ive community spirit.

Version:
Effective Date:
Last Reviewed Date:

TITLE: Generating Program Information		
SOP #:	Page: 2 of	Effective Date:

78.0 PURPOSE:

This section provides for the guidelines and supporting procedures on updating, compiling community-based information and to allow both data creators and data users to obtain information.

79.0 SCOPE & APPLICABILITY:

80.0 RESPONSIBILITIES:

81.0 DEFINITIONS:

82.0 FORMS & MATERIALS:

83.0 PROCEDURES:

83.1 KGI-Generated Data – Following a community-based Information System, the KMC develops Village Profiles and Baseline Indicators to measure variations in place-based quality of life over time.

83.1.1 Developing Village Baseline Indicators – These will serve as the beta community reference that reflect the CCF references and intended to serve as a comparative reference across the 19 villages. The beta VI’s initially will be developed or sourced from readily available government or recognized data sets, or generated from surveys. VI’s groupings will follow the CCF and the recommended livable communities’ reference.

83.1.2 Developing Village Monographs – The Key Indicators Survey (KIS) is designed to help meet the monitoring and evaluation needs of programs involved in population and health activities in developing countries, especially to produce data for small areas (regions, districts, catchment areas) that may be targeted by an individual project, although they can be used in nationally representative surveys as well. The KIS tool includes questionnaires, interviewer’s manuals, guidelines for sampling and a tabulation plan.

83.1.3 Disseminating Village Monographs

84.0 RELATED REFERENCES:

Version:
Effective Date:

Last Reviewed Date:

TITLE: Discovering Public Information on Guam		
SOP #:	Page: 2 of	Effective Date:

85.0 PURPOSE:

The purpose of this SOP is to guide the discovery and analysis of public information on Guam.

86.0 SCOPE & APPLICABILITY:

87.0 RESPONSIBILITIES:

88.0 DEFINITIONS:

88.1 Authority – Any department, agency, bureau, commission, or other unit within the federal or local government of Guam that is established under the law to oversee different aspects of society. Together, these authorities form a system that creates and enforces public policies and builds and maintains relations with the public.

88.2 Requester – Someone who asks a public Authority for information about the public.

89.0 FORMS & MATERIALS:

90.0 PROCEDURES:

90.1 Rights to Access Public Information – The Freedom of Information Act (FOIA) and Open Government Law give the people of Guam the right to access any recorded information held by a public Authority. Some information may not be given because it is exempt, for example, because it would unfairly reveal personal details about somebody else.

90.2 Types of Information Covered by Law – Access rights cover recorded information, including:

- 90.2.1 Information held on computers
- 90.2.2 Emails and printed or handwritten documents
- 90.2.3 Images, video and audio recordings.

90.3 Determining What Information Is or Should Be Available – Public information sources can be discovered using several methods, including:

- 90.3.1 Finding out the mission of an Authority, whether by calling them or looking on their website. Missions indicate the types of services provided by Authorities, as well as the information they may keep.

- 90.3.2 Visiting the Law Library or the Bureau of Statistics and Plans to see what Authorities have published. If the Requester finds publications on related topics, but not the specific information they're looking for, then it is likely the publishing Authority has this information. Authorities are required to make certain information available to the public by a preset date, such as "Citizen Centric Reports."
- 90.3.3 Following local media (e.g., newspapers, radio stations) provide information leads. Following current events could help determine what Authorities are working on or responding to in the community at a given time, which they must have information on to resolve.
- 90.3.4 Browsing government budgets and legislation are helpful as well. Both require extensive research, public hearings, and other information to justify where tax money goes and why laws are passed. Authorities must provide annual reports to the Governor to justify expenses, and these are open to the public.
- 90.3.5 Contacting Mayors' Offices can determine where to find information that concerns a particular area of Guam. They should know which Authorities are working on certain issues in their community.
- 90.3.6 Noting the fields of information on the forms that Authorities collect from customers to receive services. This may require visiting Authorities, though some have online forms.
- 90.4 Tips for Requesting Information – A request for information can be in the form of a question, rather than a request for specific documents. Requesters should look for the information desired on the Authority's website before contacting the Authority. If unsuccessful, Requesters should:
- 90.4.1 Contact the Authority before submitting a formal FOIA request in case the desired information is already available, though not online.
- 90.4.2 Ask to speak with the "Public Information Officer" or equivalent.
- a. If they don't know of such a person, ask to speak with their supervisor or whoever is in charge of fulfilling FOIA requests.
- 90.4.3 Identify the information they want as clearly as possible. Authorities don't have to answer the question if it would require creating new information or giving an opinion that is not already recorded.
- 90.5 Tips for Preparing FOIA Requests – Some Authorities provide instructions for submitting a FOIA request on their website, including ways to submit it and who to direct the inquiry to. If provided, Requesters should follow the Authority's instructions. If not, Requesters should:

- 90.5.1 Submit a written request that describes in as much detail as possible the information they want and the format they want it in (likely limited to hard copy, email, or in-house inspection).
- 90.5.2 Include their name, address, and telephone number, and explicitly mention the Freedom of Information Act.
- 90.5.3 Send the letter to the mailing address of the Authority, and include "ATTN: FOIA Request" in the subject line.

90.6 Further Considerations –

91.0 RELATED REFERENCES:

Version:
Effective Date:
Last Reviewed Date:

92.0 PURPOSE:

This section provides the standard procedures, methodologies, and approach to guide the areas of custom data and survey research process made through the KMC. This includes development of proposals to address special data collection needs related but not limited to the CCF.

93.0 SCOPE & APPLICABILITY:

The KMC survey center will serve as the technical assistance arm of the KGI for entities that lack the capacity to develop surveys, conduct focus groups, process data sets.

94.0 RESPONSIBILITIES:

95.0 DEFINITIONS:

96.0 PROCEDURES:

96.1 KMC Data Asset Map – A data asset map identifies the data users and data creators, who may have technical skills and other statistical expertise or training that may be useful for the KGI and KMC programs

96.2 Requests for KMC Products – Access to KGI-KMC data will be provided through KGI-KMC.

96.2.1 KMC data products will be created from a variety of sources not limited to existing GovGuam statistical systems, open source, private sector cooperators, and local/federal.

96.2.2 Source of the request:
 GovGuam
 Federal Agency
 Private Sector
 Other Cooperators

96.3 Custom Data and Survey Research Process – Establishing the guidelines for official KMC data sets include the following areas:

- 96.3.1 Collecting KMC Data
- 96.3.2 Reporting KMC Data
- 96.3.3 Providing Feedback to KMC Stakeholders

- 96.3.4 Security of KGI Knowledge system, data and programs
- 96.3.5 Backup and hardcopies

96.4 Establishing KMC priority and timelines – This section aligns with the KMC data request process and serves as guidelines for the KMC to follow were appropriate and may be amended as necessary by the KMC core support group and or authorized KMC workgroup member.

- 96.4.1 KMC priority 1-Time sensitive
- 96.4.2 KMC priority 2- By specified date
- 96.4.3 KMC priority 3- Not time sensitive

96.5 Data Sharing Agreements – A Data Sharing Agreements (DSAs) and Memorandum of Understanding (MOUs) Intragovernmental Agreements Memoranda of Agreement (MOA)/Memoranda of Understanding (MOU)

96.5.1 The KGI-KMC should be included in the coordination for review to ensure that the proposed use and/or disclosure of data comply with applicable GovGuam and UOG requirements. In cases where a study is supported through a collaborative research, the KGI-POC and CW workgroup will review generated reports and datasets for recommendation to the KMC databank. The KMC-POC workgroup will defer to existing policies, regulations and other related data support requirements.

97.0 FORMS & MATERIALS:

98.0 RELATED REFERENCES:

Version:
Effective Date:
Last Reviewed Date:

TITLE: Establishing KMC Contracts		
SOP #:	Page: 2 of	Effective Date:

Non-proprietary Research

All KGI-KMC generated data, products, reports and results of surveys will be made available to all KGI-KMC workgroup members, cooperating organizations to use, prepare related reports, distribute, display for the purposes of promoting the KGI overall goals and objectives.

Proprietary Research

The KMC may consider working on proprietary research projects. Such work will undergo the KGI-KMC workgroup review and recommendations with final approval by the University of Guam. Technical information resulting from such projects will be guided by the terms of agreement and limited to the approved listing of those authorized to have access or use the results and/or data sets.

Version:
Effective Date:
Last Reviewed Date:

APPENDIX E



DATA MODERNIZATION CONFERENCE REPORT



Guam Data Modernization Conference

June 11, 2014

Project Background

As a project of the Governor's Office, the Knowledge@Guam Initiative (K@GI) works to increase access to reliable information on Guam. K@GI's mission is to establish the first digitized Knowledge Management Center on Guam, serving as a centralized mechanism for community members to find and retrieve localized data. This resource will enable the people of Guam to better contribute to the range of decision-making processes that impact the island community.

To approach this endeavor, KGI has adopted the Community Capitals Framework as a research-based tool for analyzing how communities function (Flora and Flora 2006). K@GI has adapted the Framework to include eight thematic areas, referred to as "community capitals," that produce a vibrant community when combined effectively. The capitals include Built, Social, Natural, Digital, Political, Human, Cultural, and Financial. In this context of the project, a "capital" is a resource inherent to a given community that can increase or deplete depending on its management. Community capitals can be re-invested into creating new resources over time.

Overview of Preliminary Findings

During April and May of 2014, the University of Guam's Knowledge@Guam Initiative (KGI) conducted a series of 12 Focus Group sessions that engaged a total of 92 participants (44 male, 48 female). Participants ranged in age from under 19 to 60+, educational attainment from some high school to Master's Degrees, place of birth from Guam to the Philippines to Washington D.C., and income level from less than \$9,999 to \$50,000+.

The purpose of the Focus Groups was to bring together a sample of local residents and professionals to examine Guam's current data realities, discuss informational priorities, and consider where to begin the process of developing effective knowledge management systems on Guam. For consistency, each session followed the same research-based approach to discourse analysis called "Appreciative Inquiry." Using this methodology, facilitators guided participants through a series of prompts and discussions to elicit priorities among stakeholders regarding the features, traditions, values, and practices of their communities or organizations in which they want to preserve, as well as those not already in place that they wish to establish.

Part I: Village Focus Groups

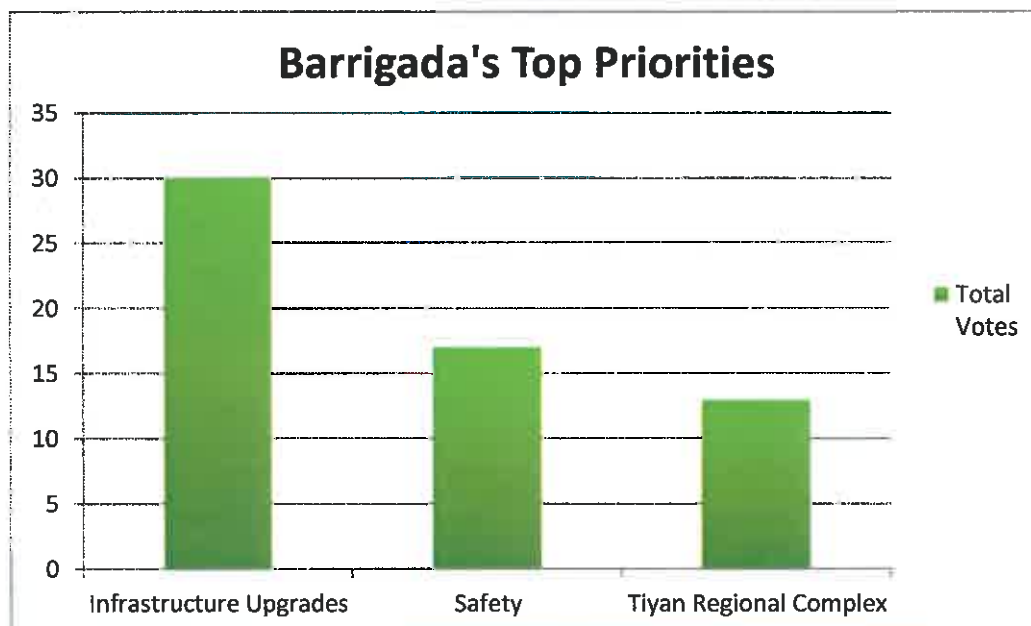
KGI held separate Focus Groups for the project's three target villages of Barrigada, Hagatña, and Mangilao. With help from the respective Mayor's Offices, KGI recruited 49 residents to represent the data interests, perspectives, and concerns of their communities. Preliminary analysis of the conversations indicates that the most pressing data needs from the village perspective revolve around Social, Built, and Natural capital. Common across village Focus Groups was a strong desire for better information, planning, and investment in the context of safety and infrastructure (particularly sewer systems, roads, sidewalks, and water supply).

Knowledge@Barrigada

The Village of Barrigada helped KGI kick-off the Focus Group series with 23 community members participating in discussions. The community demonstrated cohesion around preserving certain qualities, values, and traditions that already exist in the village, particularly in terms of its sports leagues, athletic tournaments, close families ties, strong leadership, and cultural dances and festivals.

To expand upon the village's strengths, participants suggested developing a more efficient mass transit system, redefining village boundaries, installing toll booths and more working fire hydrants, growing a village garden, opening a learning center enforcing building maintenance, renovating the local theatre, and building flood prevention and drainage systems. From all of these suggestions, participants from Barrigada identified their top three wishes for the village as 1) infrastructure updates, 2) safety, and 3) developing the Tiyan campus to become a regional complex for education, events, and recreation.

Figure 1: Barrigada's Top Priorities



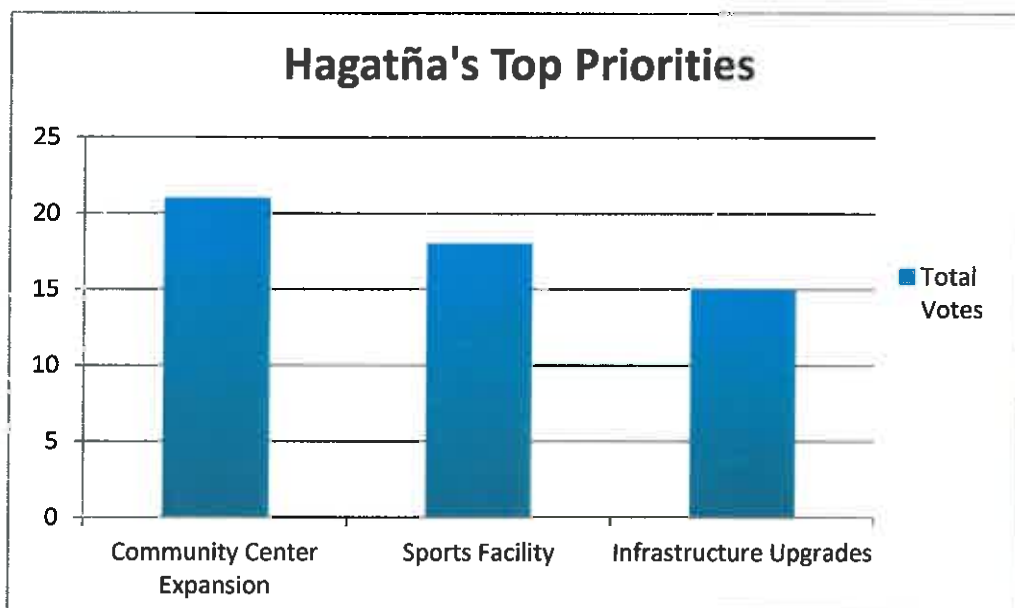
Moving forward, how should KGI, Barrigada, and the island as a whole begin measuring whether the village is addressing these priorities? What activity, effort, resource, or investment would indicate to the community that there have been improvements made to infrastructure, safety, and access to recreational and leaning facilities? Who would be involved in this process? These some of the questions the community should consider before acting on a given issue.

Knowledge@Hagatña

As the capital of Guam, the Village of Hagatña provided a distinct perspective during the Focus Group discussions. Without a relatively small residential population, though large professional and governmental presence, KGI invited residents from the neighboring village of Agana Heights to represent the broader residential cluster area. Participants expressed a desire to preserve the traditions of Liberation Day Parade and Santa Marian Kamalen, status as the home of the Legislature and forthcoming museum, position as the center of island-wide events, and recognition as the village with the first shopping center on Guam.

To capitalize on Hagatña’s centralized location and established government and business community, participants suggested improving public parks, implementing electronic signage, establishing a tourist information center, burying utility lines, removing eye sores, creating a dog park, constructing walking bridges and bike lanes, and improving the transportation and trash disposal. Participants from Hagatña identified their top three wishes for the village as 1) renovate and enlarge the community center, 2) create a sports facility, and 3) upgrade infrastructure.

Figure 2: Hagatña’s Top Priorities

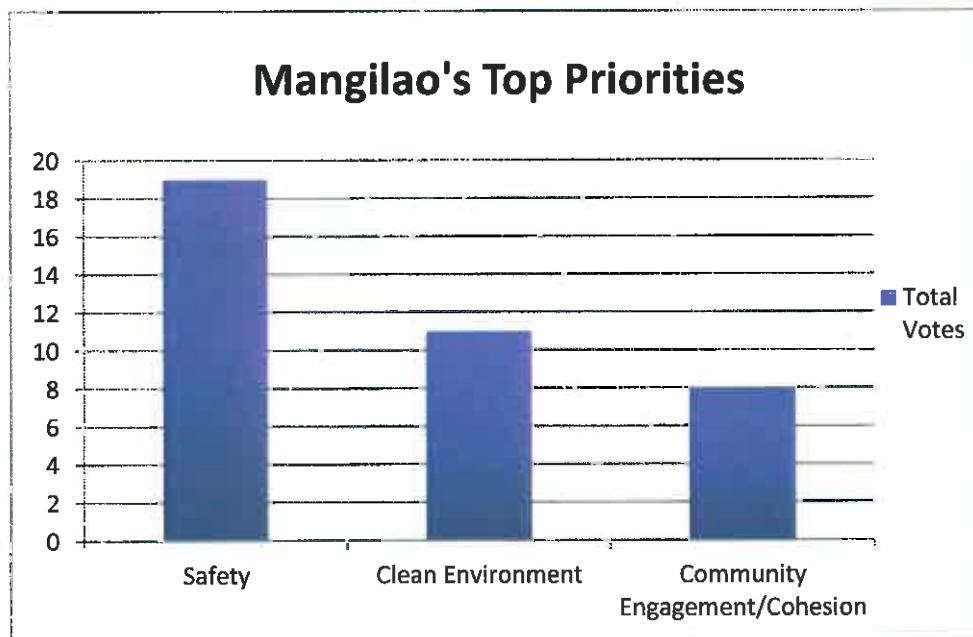


Knowledge@Mangilao

Focus Group participants from Mangilao expressed both pride and want for their village. Through the dialogues, community members reflected upon several fond experiences and traditions with which they would like to retain. These included fishing in Pago Bay, spending time at the Thursday night market, running 5ks, attending the University of Guam's Charter Day event, coconut husking, celebrating Chamorro Month, educational activities and facilities provided by UOG and Guam Community College, going to cock fights, renovating the Santa Teresita Church, and constructing new sports facilities and fields.

To build on these strengths, participants offered various recommendations, including creating a dog pound and homeless shelter, developing youth programs, setting aside emergency funds, implementing a manam'ko transportation program, establishing a neighborhood watch, investing in a police outpost, developing a community garden, building bike lanes and sidewalks, offering informational activities for parents and children, improving water pressure, and synchronizing traffic lights. Unique to Mangilao was the request for greater community cohesion and engagement and a cleaner environment. Participants from Mangilao ranked their top three wishes for the village as 1) peace and safety, 2) clean environment, and 3) community engagement/cohesion.

Figure 3: Mangilao's Top Priorities



Part II. GovGuam and NGO Focus Groups

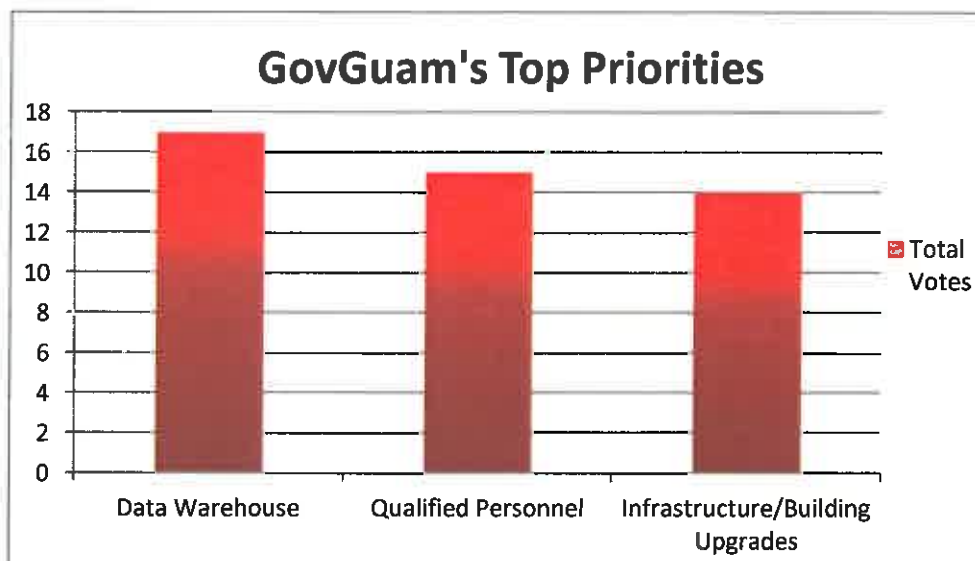
To balance the village-based perspective, KGI conducted two additional Focus Groups, one with GovGuam representatives, the other with members of non-governmental organizations (NGO) and private entities. The GovGuam Focus Group engaged 20 participants from 10 key agencies: Economic Development Authority, Department of Labor, Department of Public Health, Department of Administration, Bureau of Statistics and Plans, Guam Legislature, Power Authority, Port Authority, Waterworks, and Housing and Urban Renewal Authority. Representing NGOs were 23 participants from AmeriCorps, Tatuha, Guam Animals in Need, Humatac Community Foundation, Guam Preservation Trust, and Amot Taotao Tano Farm.

Knowledge@GovGuam

Initial study of the GovGuam Focus Group discussions revealed differing data-related needs and priorities than those of the villages. GovGuam participants generally aspired for greater investment in Digital, Human and Built capital. Aspects and practices of their agencies in which participants wished to maintain included the passion of employees, birthday lunches, training and professional development opportunities, staff retreats, workforce wellness programs, Chamorro Month celebrations, employee recognition, and holiday festivities.

Building on these strong suits, GovGuam participants offered several recommendations, such as capacity for database administration, reliable IT infrastructure and qualified personnel, additional staff, automated/paperless systems, standard operating procedures (SOP) for data collection, succession planning, inter-operability between entities/software, knowledge transfer policies and protocols, on-site graphic designers and urban planners, computer software training, infrastructure and building improvements, state of the art equipment (not leased), and an integrated resource base. The top priority for GovGuam was building the government's technological capacity by digitizing data and storing it in reliable facilities ("data warehouses"). Second was recruiting more qualified personnel, followed by infrastructure/building upgrades.

Figure 4: GovGuam's Top Priorities

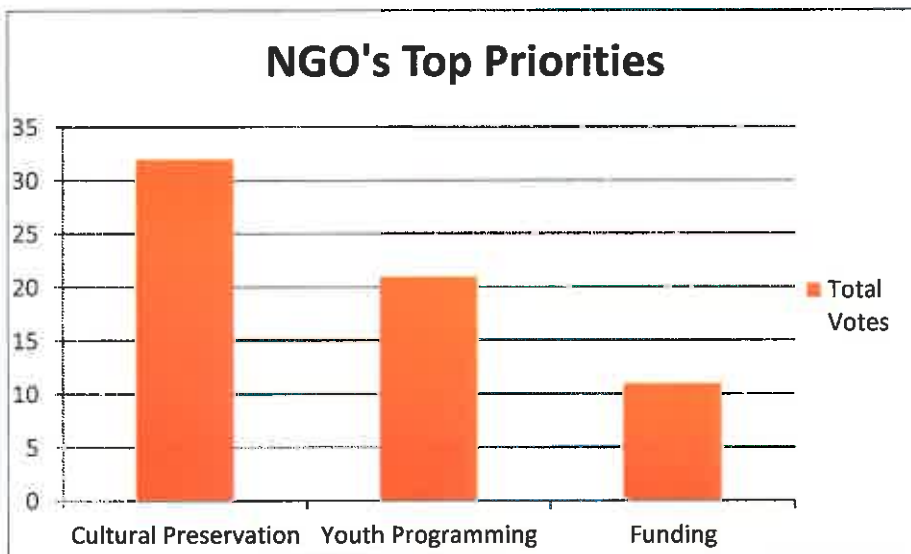


Knowledge@NGOs

Preliminary review of Focus Group discussions among non-governmental organizations (NGOs) and private entities indicated a desire to preserve the Chamorro language and culture, coming together each week at Chamorro Village, local art making and cuisine, familial support, hospitality, historical sites, village fiestas, working with the Guam Homeless Collation, coral reefs, the Green Army, strategic planning processes, implementing new software systems, personal networks and relationships, spirit of volunteering, Discovery Day event, traditional medicine and healing practices, wood carving, mayoral involvement in the community, and the policy of “adopting one (animal) until there’s none.”

To enhance these valuable customs and characteristics, NGO Focus Group participants suggested creating innovative transportation systems, preserving cultural education, building quality infrastructure, community-supported farming and agriculture, limitless services, more outreach, providing appropriate services for demographics, expanding the “Rainbows” program to every school, increasing access to youth programs and facilities, securing more funding, collaborating with businesses, limiting bureaucracy, developing a village database, linking education and advocacy, respect for the environment and each other, and finding loving homes for all domestic animals. Participants from NGOs ranked their top three wishes for the village as 1) cultural preservation, 2) youth programming, and 3) funding opportunities.

Figure 5: NGO's Top Priorities



APPENDIX F



SURVEY OF SURVEY'S QUESTIONNAIRE

Government of Guam
Data Management Systems Survey

- 1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?

Note: Data Inventories list and describe all datasets used in the agency's internal operations as well as those produced through contracts and cooperative agreements.

- a. Yes
- b. No

- 2) Does your agency maintain a Public Data Listing that accounts for all data that can be made publicly available across the agency's programs and units?

Note: Typically, Public Data Listings are a subset of the agency's Data Inventory that lists and describes all datasets that *are or could be* made available to the public.

- a. Yes
- b. No

- 3) If you answered "Yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.

Note: Skip to Question 4 if you responded "No" to both of the previous questions.

- a. Standard data vocabulary
- b. Standard data types
- c. Standard data formats
- d. Standard data labels
- e. Standard data access levels
- f. None of the above

- 4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.
- a. Communicating the strategic value of agency data to internal stakeholders and the public
 - b. Fulfilling Freedom of Information Act (FOIA) requests
 - c. Providing technical assistance for data use and responding to complaints about adherence to data requirements
 - d. Engaging innovators in the private and nonprofit sectors to encourage and facilitate the use of agency data to build applications and services
 - e. Working with different programs and units to adopt best practices in data management and integrating these practices across the agency
 - f. Working with the agency's relevant officials to ensure that privacy and confidentiality are fully protected in relation to data storage and public release
 - g. None of the above

- 5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.

Note: Skip to Question 6 if you responded "None of the above" to the previous question.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

- 6) Does your agency have any of the following data-related policies in place? Please select all that apply.
- a. Data records retention/archiving policy
 - b. Data update/maintenance schedule
 - c. Internal audit/review policy

- d. Public comment/review policy
- e. Data request policy
- f. Requested data release schedule
- g. Online data reporting/publishing policy
- h. None of the above

7) How would you describe the level of resources dedicated to your agency's data management system?

- a. Very good
- b. Good
- c. Acceptable
- d. Poor
- e. Very poor

8) Does your agency maintain a data sharing agreement with other GovGuam agencies?

- a. Yes
- b. No

9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.

Note: Skip to Question 10 if you responded "No" to the previous question.

- a. _____
- b. _____
- c. _____

10) Please identify the top three (3) datasets your agency uses to fulfill data requests.

- a. _____
- b. _____
- c. _____

11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.

- a. Revolving fund
- b. Relevant training for existing staff
- c. Additional data management/IT specialists on-staff
- d. Data management strategy/plan
- e. Data management policies/standards
- f. Enforcement mechanisms for data management policies/standards
- g. New data technologies/systems
- h. Clearly defined data management roles and responsibilities
- i. Implementation guidance for government-wide mandates
- j. Inter-agency data systems integration/interoperability

APPENDIX G



PRELIMINARY SURVEY OF SURVEY RESPONSES



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Esther Taitague, Bureau of Statistics and Plans (12/31/14 at 2:10pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	A. Yes
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	B. No
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	F. None of the above
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	Monica Guerrero Director's Office
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	A. Data records retention/archiving policy B. Data update/maintenance schedule C. Internal audit/review policy D. Public comment/review policy E. Data request policy F. Requested data release schedule G. Online data reporting/publishing policy
7) How would you describe the level of resources dedicated to your agency's data management system?	A. Very Good
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	B. No
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	N/A
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	F. Enforcement mechanisms for data management policies/standards I. Implementation guidance for government-wide mandates J. Inter-agency data systems integration/interoperability



Monica Guerrero, Bureau of Statistics and Plans (12/31/14 at 1:20pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	A. Yes
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	B. No
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	C. Standard data formats, d. Standard data labels
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	A. Communicating the strategic value of agency data to internal stakeholders and the public F. Working with the agency's relevant officials to ensure that privacy and confidentiality are fully protected in relation to data storage and public release
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	B. Data update/maintenance schedule, f. Requested data release schedule
7) How would you describe the level of resources dedicated to your agency's data management system?	B. Good
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	B. No
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	Census Data, Annual Statistical Yearbook, Compact Impact
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	E. Data management policies/standards H. Clearly defined data management roles and responsibilities J. Inter-agency data systems integration/interoperability



Doris Aguon, Department of Labor-Serve Guam Commission (12/31/14 at 1:22pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	B. No
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	B. No
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	F. None of the above
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	A. Communicating the strategic value of agency data to internal stakeholders and the public
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	Executive Director
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	A. Data records retention/archiving policy C. Internal audit/review policy
7) How would you describe the level of resources dedicated to your agency's data management system?	E. Very Poor
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	B. No
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	Internal and Manual
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	A. Revolving fund C. Additional data management/IT specialists on-staff F. Enforcement mechanisms for data management policies/standards



Judy Iriarte (Darrel Wilkerson), Department of Labor (12/31/14 at 2:07pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	A. Yes
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	B. No
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	B. Standard Data Types
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	Executive Director Doris Aguon
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	B. Data update/maintenance schedule C. Internal audit/review policy D. Public comment/review policy E. Data request policy F. Requested data release schedule G. Online data reporting/publishing policy
7) How would you describe the level of resources dedicated to your agency's data management system?	B. Good
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	A. Yes
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	Department of Labor
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	N/A
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	C. Additional data management/IT specialists on-staff I. Implementation guidance for government-wide mandates J. Inter-agency data systems integration/interoperability



Bertha Tajeron, Department of Public Health (12/31/14 at 2:02pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	A. Yes
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	A. Yes
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	F. None of the Above
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	Director's Office, Director's Office, Director's Specific, Director's office in collaboration with the DOA office of technology, Director's office in collaboration with DOA office of technology, Department Wide.
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	A. Data records retention/archiving policy B. Data update/maintenance schedule C. Internal audit/review policy D. Public comment/review policy E. Data request policy F. Requested data release schedule G. Online data reporting/publishing policy
7) How would you describe the level of resources dedicated to your agency's data management system?	B. Good
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	B. No
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	Immunization Data, Demographics, Disease
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	D. Data management strategy/plan F. Enforcement mechanisms for data management policies/standards I. Implementation guidance for government-wide mandates



Cynthia Naval, Department of Public Health (12/31/14 at 1:35pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	B. No
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	B. No
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	B. Fulfilling Freedom of Information Act (FOIA) requests C. Providing technical assistance for data use and responding to complaints about adherence to data requirements
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	Management Analyst III, Planner IV
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	E. Data request policy
7) How would you describe the level of resources dedicated to your agency's data management system?	D. Poor
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	B. No
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	Prescription drug monitoring program, sanitary permit, health certificate
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	D. Data management strategy/plan



Enrique Torres, Department of Public Health (12/31/14 at 2:04pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	B. No
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	A. Yes
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	F. None of the Above
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	Director's Office, Director's Office, Director's Specific, Director's office in collaboration with the DOA office of technology, Director's office in collaboration with DOA office of technology, Department Wide.
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	A. Data records retention/archiving policy B. Data update/maintenance schedule C. Internal audit/review policy
7) How would you describe the level of resources dedicated to your agency's data management system?	C. Acceptable
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	A. Yes
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	N/A
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	D. Data management strategy/plan E. Data management policies/standards I. Implementation guidance for government-wide mandates



Hermina Certeza, Guam Legislature (12/31/14 at 1:26pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	G. None of the above
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	H. None of the above
7) How would you describe the level of resources dedicated to your agency's data management system?	
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	



Matt Santos, Guam Legislature (12/31/14 at 1:57pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	A. Yes
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	A. Yes
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	F. None of the Above
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	"Ricky Hernandez collective effort"
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	A. Data records retention/archiving policy C. Internal audit/review policy
7) How would you describe the level of resources dedicated to your agency's data management system?	A. Very good
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	B. No
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	Microsoft 360
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	G. New data technologies/systems I. Implementation guidance for government-wide mandates J. Inter-agency data systems integration/interoperability



Edward Cruz, Guam Power Authority (12/31/14 at 1:14pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	A. Yes
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	B. No
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	A. Standard Data Vocabulary
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	F. Working with the agency's relevant officials to ensure that privacy and confidentiality are fully protected in relation to data storage and public release
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	N/A
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	H. None of the above
7) How would you describe the level of resources dedicated to your agency's data management system?	C. Acceptable
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	A. Yes
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	"Department of Administration, Department of Revenue and Tax, Deloitte & Touche"
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	"Financial Statements, Procurement, Public Announcements"
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	e. Data management policies/standards F. Enforcement mechanisms for data management policies/standards H. Clearly defined data management roles and responsibilities



Heidi Ballendorf, Guam Waterworks Authority (12/31/14 at 1:16pm)	
Question	Response
1) Does your agency maintain a Data Inventory that accounts for all data created or collected across the agency's programs and units?	A. Yes
2) Does your agency maintain a public data listing that accounts for all data that can be made publicly available across the agency's programs and units?	B. No
3) If you answered "yes" to either of the previous questions, which of the following systems does your agency use to categorize datasets? Please select all that apply.	F. None of the above
4) Which of the following roles and responsibilities does your agency designate points of contact for in relation to data management? Please select all that apply.	A. Communicating the strategic value of agency data to internal stakeholders and the public, B. Fulfilling Freedom of Information Act (FOIA) requests E. Working with different programs and units to adopt best practices in data management and integrating these practices across the agency F. Working with the agency's relevant officials to ensure that privacy and confidentiality are fully protected in relation to data storage and public release
5) If you selected any item in the previous question (other than "g. None of the above"), please identify the title of the person who is designated to each position, respectively.	Information Technician
6) Does your agency have any of the following data-related policies in place? Please select all that apply.	A. Data records retention/archiving policy B. Data update/maintenance schedule C. Internal audit/review policy D. Public comment/review policy G. Online data reporting/publishing policy
7) How would you describe the level of resources dedicated to your agency's data management system?	C. Acceptable
8) Does your agency maintain a data sharing agreement with other GovGuam agencies?	B. No
9) If you answered "Yes" to the previous question, please list the top three (3) agencies that your agency works with in terms of data sharing.	"Governor's Office, Department of Administration, Revenue & Taxation"
10) Please identify the top three (3) datasets your agency uses to fulfill data requests.	I don't know
11) Which of the following would help your agency meet the records management and Freedom of Information Act's reporting requirements for your agency? Please select your top three (3) answers.	E. Data management policies/standards F. Enforcement mechanisms for data management policies/standards I. Implementation guidance for government-wide



	mandates
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Results Summary							
Question #1							
A. Yes - 7			B. No-3		N/A - 1		
Question #2							
A. Yes - 4			B. No- 6		N/A - 1		
Question #3							
A. Standard Data Vocabulary - 1		B. Standard Data Types - 1		C. Standard Data Formats -	D. Standard Data Labels - 1	E. Standard Data Access Levels - 0	F. None of the Above - 8
Question #4 – Select All That Apply							
A. 3	B. 1	C. 1	D. 0	E. 1	F. 3	G. 6	
Question #5:							
Information Technician	Executive Director	Management Analyst III	Planner IV	Ricky Hernandez Collective Effort	Director's Office	Department of Administration	Office of Technology
Question #6: Select All That Apply							
A.Data Records and Retention/ Archiving Policy - 6	B.Data Update/ Maintenance Schedule - 6	C.Internal Audit/ Review Policy - 7	D.Public Comment/ Review Policy - 4	E.Data Request Policy - 4	F.Requested Data Release Schedule - 4	G.Online data reporting and publishing Policy - 4	H.None of the Above -2
Question #7:							
A. Very Good - 2		B. Good - 3	C. Acceptable - 3	D. Poor - 1	E. Very Poor - 1	N/A -1	
Question #8							
A. Yes - 3			B. No - 7		N/A - 1		
Question #9 If Yes to question 8							
Department of	Rev and Tax	Deloitte and Touche	Governor's Office	Department of Labor			



Administration										
Question #10										
Financial Statements	Procurement	Public Announcements	Census Data	Annual Statistical Yearbook	Compact Impact	Internal and Manual				
Sanitary Permits	Health Certificate	Microsoft 360	Immunization Data	Demographics	Disease	Prescription Drug Monitoring Program				
Question #11 – Select your top 3 answers										
A. 1	B. 0	C. 2	D. 2	E. 4	F. 4	G. 1	H. 2	I. 6	J. 4	