COMMUNITY-DRIVEN TOOLS
for Data Collection and Decision Making

THE PISA
ACTION
GUIDE

Pact

COMMUNITY-DRIVEN TOOLS
for Data Collection and Decision Making:

THE PISA
ACTION
GUIDE

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The PISA Action Guide

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Acknowledgements

What is PISA?

PARTICIPATORY INFORMATION SYSTEMS APPRAISAL (PISA) REPRESENTS A SHIFT in our predominant way of thinking about information for economic and social development. Developed in Mongolia over a four-year period by Pact, PISA adapts a well developed family of Participatory Rural Appraisal (PRA) tools for today's information-intensive economy, where new Information and Communication Technologies (ICT) are increasingly promoted as tools for poverty alleviation and sustainable human development.

The PISA approach systematically introduces and explains the concepts and strategies needed to make well informed, data-based decisions while empowering key stakeholders in the process. Recognizing the need for rapid information exchange in an information-intensive world, the PISA process establishes a lasting *information channel* in the heart of the very community a program seeks to support. In this sense it goes beyond the family of PRA approaches and methods designed to enable, in the words of Robert Chambers, "rural people to share, enhance, and analyze their knowledge of life and conditions…". With PISA:

- The data collection process is led by community members who act as information catalysts and have strong ties to the project or research question. This enhances ownership of the project objectives and creates a sustainable information source over the life of the project.

- Local facilitators and key project stakeholders are actively involved in data instrument design, collection, reporting and analysis. Diagrams, maps, and quantifiable surveys are presented in a manner that is readily understood by community members since they themselves have created them.

- Data collection methods are tailored for literate and pre-literate, urban and rural communities alike. A variety of techniques appropriate to the target community—such as primary and secondary information sources, semi-structured focus groups, and participatory mapping and modeling tools—support effective assessment and decision making. Although often associated with market research activities, it is not uncommon to see surveys featuring "free lists" in some instances during the data collection phase.

- The choice of technology is always driven by local context, taking into consideration available resources, infrastructure, and skills.

- Communities gain greater access to and control over the process of understanding their own environment. PISA shows that there is no "outside"; that both the community and the cause of its problems are part of a single system.

What is PISA?

A New World of Information Navigation

Most development programs today can no longer be characterized simply as low-tech and local, or high-tech and global in nature. We are forced to operate along a continuum of local-to-global on an almost daily basis, constantly seeking to understand complex exchanges of activity, knowledge and value.

The information channels that are at the heart of PISA are similar to what news agencies refer to as "stringers" – freelance journalists who report on specific topics or stories and feed their reports to larger information networks. In PISA, we refer to the stringers who make up these sustainable information channels as "navigators". There is much to learn from the way leading news agencies string together information sources in almost real-time. Pact's methodology for participatory information systems appraisal engages the project's key stakeholders in the data collection process like stringers working for a news agency. The PISA approach establishes a sustainable information network of indigenous stringers, trained in the use of tools and techniques that encourage local participation in information collection and analysis.

PISA navigators can guide project decision makers and stakeholders alike. They help parties find each other, ask the right questions, analyze the systems that influence them, offset biases inherent in any program, and regularly feed mission-critical information to improve program performance. As with PRA participants, PISA navigators are not just respondents. They are players, performers and analysts.

Initiate a Web search on CNN weather from around the world and you will discover reports on 43 locations in Mongolia alone, each updated daily by a human network of local "stringers" reporting back to the world. Now imagine the power of this kind of information channel working to support your project objectives in HIV/AIDS prevention and care, natural resource management, economic development, health or education initiatives.

Never in history has the need for sustainable, embedded information channels been greater at every level of development work. Even rugged Gobi goat herders, who subsist on the little that nature provides them in the empty Gobi desert, know that information is vital to improving their lives. Through PISA, Gobi herders, small businessman, journalists, and students have become their own "leading experts", providing highly valuable information to project constituents, while simultaneously drawing new learning from the bits and pieces of information reported individually and processed collectively.

Experiential and Theoretical Sources for PISA

The Action Guide's approach to information collection and analysis draws on over thirty years of theory and practice gathered across Asia, Africa, Latin America, Europe and

Diagram A: Experiential and Theoretical Sources for PISA
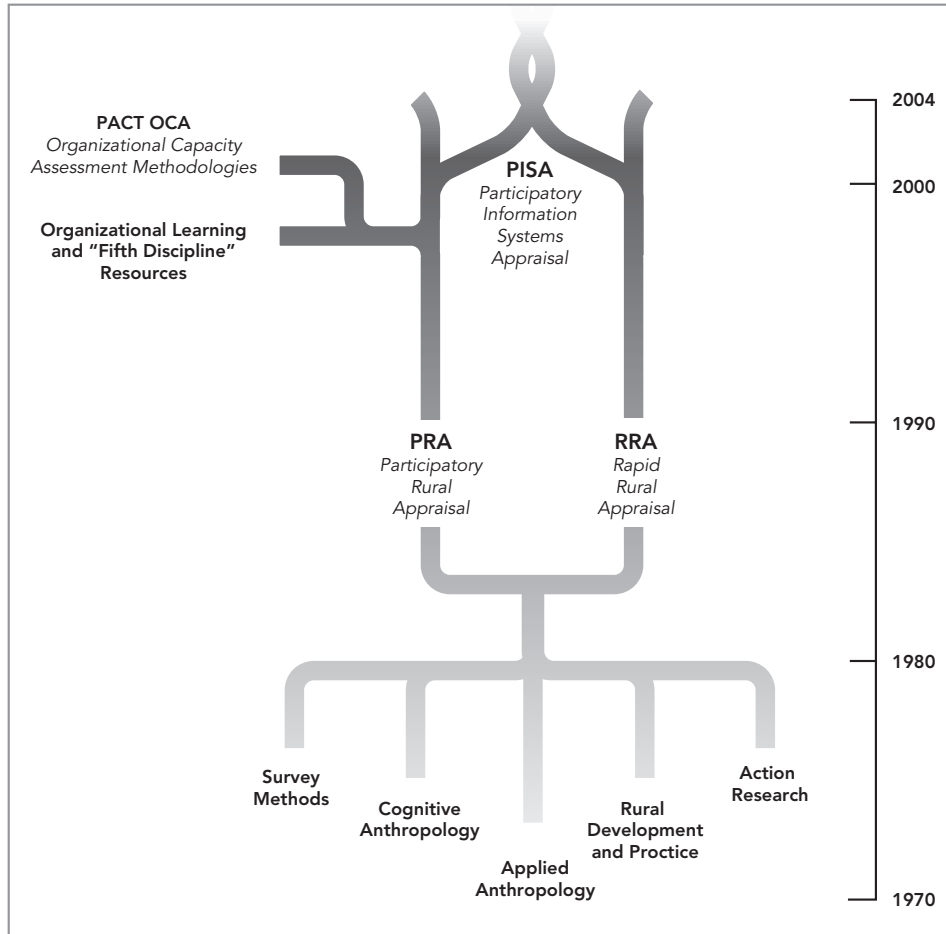
Adapted from Sam Kaner's *Facilitator's Guide to Participatory Decision-Making*, 1996.

North America (Diagram: Experiential and Theoretical Sources of PISA). The framework was initially developed in June 1999 when Pact hosted two meetings in Mongolia's Gobi desert. During a two-day workshop, participants co-designed a survey, learned sampling, survey and interview skills, and practiced their new trade. Willing participants were then commissioned to spend the next month gathering information. A regional information network of project "navigators" was born.

The experiential and theoretical sources of PISA include:

- *Rural development, theory and practice* – a field that seeks to better understand the social issues, processes and characteristics of non-urban areas, and work more effectively within that context.

What is PISA?

- *Cognitive and applied anthropology* – the study of human behavior and ways in which communities "organize" and process information based on their own culture-specific categories.

- *Participatory Rural Appraisal and participatory development techniques* – a family of participatory approaches that focuses on local knowledge and the principle that local people are capable of doing their own appraisal, analysis, and planning.

- *Action research* – an approach which integrates both action and reflection, and promotes collaboration between researchers and those impacted by the research question being addressed. Communities are not objects of research, but rather active participants in the inquiry process.

- *Organizational Learning and "Fifth Discipline" Resources* –Authors and researchers, including Peter Senge, who have promoted systems thinking – a perspective that helps practitioners navigate the complexities of development practice by promoting a focus on the whole, the recognition of patterns and linkages, and strong interrelationships and interactions.

Systems Thinking and PISA

Has anyone ever told you to step back far enough to see the forest from the trees?

In our work as international development practitioners we are surrounded by "trees". These "trees" take the shape of grass-roots organizations, local government agencies, networks, radio stations, journalists and individual community members, to name just a few. They come in many shapes and sizes, but when combined they all contribute to the complexity that characterizes the work we do.

With the growing complexity of the world that we work in, from political and economic turmoil, to health crises and the pressures of contract officers and timelines, we tend to see only trees and, quite often, feel overwhelmed by them. A common reaction is to focus on a few of these trees, perhaps those which are most familiar, or those we assume are the most important.

One of the leading benefits of PISA is that it can help development practitioners avoid getting lost in the trees. It can illuminate and clarify the complexity of a situation, allowing us to see, and engage, with the main actors in the system we are working to change. Instead of isolating smaller and smaller parts of the system being studied, PISA focuses on the whole, recognizing patterns, linkages, and interrelationships, and learning how to improve those interrelationships and interactions. It helps us to recognize patterns of change rather than static "snapshots."

- *Pact's Organizational Capacity Assessment Methodology* – a participant-driven self-assessment methodology that both explores divergent thinking and brings the group to consensus for decision making and improvement planning.

Purpose of the PISA Action Guide

The PISA Action Guide is for all people and organizations grappling with the complexities of an information-intensive project environment but determined to pursue community-driven strategies and tools. Our aim is to provide a framework for discussion and dialogue supported by a four-step process for implementing your own community-driven information collection initiatives. The Action Guide is supported by practical experience and learning from the application of PISA in Mongolia. The Guide is designed for:

- Non-Governmental Organizations (NGOs) designing and implementing multi-year programs across all sectors of development. The process described in the Action Guide can be applied to support economic development, HIV/AIDS prevention, education, natural resource management and health initiatives worldwide.

- Trainers and facilitators interested in promoting processes that are carried out *in* and *with* key project stakeholders and driven by local knowledge, values and needs.

- Donor institutions interested in investing in practices that promote information networks for social and economic development, building inclusive community-led forms of information collection, monitoring, assessment and decision making.

The Action Guide is organized into four sections:

- **Section 1: Team Preparation** helps you get started with PISA and includes tools to clarify team roles and responsibilities, and identify key project constituencies who will eventually become your PISA "navigators".

- **Section 2: Participatory Data Collection** introduces you to the four-step data collection process and includes thirteen tools for application in your own PISA program.

- **Section 3: Data Analysis and Action Planning** describes how to bring together PISA navigators for in-depth data analysis, priority setting, and action planning.

- **Section 4: Team Learning and Follow-up** suggests ways to capitalize on lessons learned, and to evaluate how the PISA process has increased or improved information flows.

What is PISA?

Applying PISA in Mongolia

Establishing a full understanding of development challenges and problems can be a demanding task for development practitioners. This is because the environment in which development takes place is both complex – involving a variety of different influences and relationships – and dynamic – impacted by often rapid change.

The PISA approach helps practitioners navigate the complexities of development practice by promoting a focus on the whole, the recognition of patterns and linkages, and strong interrelationships and interactions. The use of PISA in Pact's project in Mongolia (Regional Business News (RBN)1) provides a "full view" of rural business information exchange, enabling entities within the system to develop and implement more effective strategies and interventions. The following diagram presents the various components of the Mongolia program, highlighting the key institutions, networks and entities that are part of the overall system, and the relationships they have with one another.

As the diagram below illustrates, the RBN generates business content to support economic development. This business info is shared with the target population – the 1.2 million inhabitants of the Gobi region – via radio, the Web, print media, and television. To maximize impact, Pact works through two "PISA navigator" communities to identify and assess information needs that enable RBN products and outputs to be tailored to the needs of the target population.

The first PISA navigator community is the Mongolian Information Network (MIN), a network of media workers who conduct business surveys, gather price information and business success stories, disseminate business content, advertise the RBN, and broadcast radio programs. The media workers also play a critical role in obtaining feedback from the target population that is used by the RBN to refine its business news products.

The second PISA navigator community is made up of six Regional Offices that belong to the Gobi Economic Growth Initiative. These offices regularly gather data on the target population's level of satisfaction with RBN products and compile monthly reports for the RBN team to review.

In addition to the PISA navigators, the diagram also shows other entities that have a notable influence on the system: the initiative's donor, the United States Agency for International Development (USAID); and the Mongolian government. USAID provides programmatic orientation and financial resources to carry out the project while the Mongolian government supports rural business development.

PISA in Mongolia

USAID

Programmatic Orientation & Resources

Regional Business News PACT

Information Content

Radio
Website
Magazine
TV

Regional Office 1
Regional Office 4
Regional Office 2
Regional Office 5
Regional Office 3
Regional Office 6

Monthly Report (Findings)

Navigator Community 2

Target Population

Rural business including herders (1-1.2 million people)

Mongolian Government

Support other areas of business development

Market Watchers
Price Data

Final Survey (Findings) skills among MIN members

Local Journalist
Success Stories

MIN

Media advocacy Syndication of infomation for Social and Economic Development Provision of Media

Marketing Agents
Sell RBN Ad

Radio Station
Rebroadcast Programs

Navigator Community 1

System Boundaries

PISA Navigators

Entities

Direct Input

Indirect Input

Process Interactions

Output

Channels of Distribution

Feedback

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THE PISA ACTION GUIDE:

Team Preparation

High-performing teams are essential to the success of PISA. But a well functioning team is not likely to emerge without the appropriate guidance. During the team preparation phase of PISA, a coordinating group is formed that articulates the context in which PISA will be implemented and creates a solid foundation for high quality implementation. Specifically, this group is responsible for detailed project planning and the identification of navigators capable of effectively gathering, analyzing, sharing and acting upon data of greatest importance to stakeholders. Team preparation is the first step toward establishing a vibrant network of navigators.

Steps for Preparing a Team for PISA

Team preparation addresses two key agents of a successful PISA initiative: a project *content* focus – identification of highest value information needs – and a project *process* focus– coordination of all actors involved in PISA, including project leaders, PISA navigators and other key stakeholders. But how do you ensure that these elements are balanced? The following steps are designed to help guide you through the Team Preparation phase:

STEP 1 ▸ **Develop a common understanding of the goals, purpose, and scope of the PISA.**

Through the team preparation process, the coordinating group has an opportunity to develop a common understanding of the background, overarching goals, and scope of PISA activities. Prior to launching any other phases of PISA, it is critical that the coordinating group reach consensus on:

- *The overall purpose of the initiative* – This includes discussion and ultimately validation of the research question to be explored through PISA. (Tips for selecting tools to *answer* the research question are discussed in the Data Collection section of this Action Guide).

- *The desired outcomes of the initiative* – Coordinating group members share their expectations and, through facilitated discussion, develop a common set of desired outcomes that guide planning and implementation.

- *The required products of the initiative* – This includes brainstorming the various types of products that will be necessary to develop for the PISA initiative to be successfully implemented.

In addition to these tasks, it is important for coordinating group members to discuss the larger context or "system" in which this data collection and analysis is taking place. Once the group has clarity on all of these issues, it can proceed to the next step.

STEP 2 ▸ **Conduct a stakeholder analysis**

Team preparation requires the identification of navigators willing to invest time and energy in

Team Preparation

the PISA process. Because the approach focuses on empowering people and communities – and not simply on the pure extraction of data – broad community participation is required.

To create a strong and fully representative team of navigators, PISA utilizes a stakeholder analysis process that assists in identifying and assessing the domain of individuals or groups capable of affecting or influencing project activities. By identifying project stakeholders and assessing their interests, the coordinating group can determine project viability and develop strategies to minimize any obstacles to successful implementation that may exist. Stakeholder analysis is also useful for determining what levels of participation are most appropriate for various stakeholders in different phases of PISA.

After navigators have been identified for participation, it is important to spend time engaging in outreach with them. Individuals' willingness to actively engage in the PISA process depends, to a degree, on how well they have been informed about the process in advance. Thus, when identifying potential participants in PISA, it is important to convey what they can expect from the process and what would be expected of them.

STEP 3 ▸ Clarify roles and responsibilities and adopt team norms.

Once the overall scope of work for the PISA has been agreed upon, the coordinating group then turns its attention to *process*, identifying the most appropriate systems and strategies for successfully completing the scope of work, and articulating what can be done to promote productive collaboration and teamwork. Emphasis is placed on building relationships and establishing a team identity that can be sustained throughout the life of the project. Process-oriented activities include:

- *Definition of roles and responsibilities* – This clarification is essential for the successful implementation of PISA. During team preparation, coordinating group members share expectations about their potential contributions to PISA, how these contributions interrelate, and how they support the overall objectives of PISA.

- *Identification of team norms for interaction* – Because the coordinating group may be comprised of individuals from different geographic locations, and with a wide range of skills, motivations, etc., it is critical that team preparation include discussion of how to foster teamwork in the midst of this diversity. Team preparation includes facilitated discussions that address what participants can do to ensure they are working together productively, and the clear articulation of norms that serve as a guide throughout all phases of PISA.

- *Reaffirmation of team member commitment to the process* – A clear and openly stated (or possibly even written) commitment by team members is important for the success of later PISA phases. The coordinating group should see team preparation as the time during which lingering questions can be addressed and commitments secured.

STEP 4 ▸ Identify key project milestones and develop work plan

Once roles and processes have been clearly articulated, the coordinating group begins the important work of planning. For each phase of PISA – from team preparation to team follow up and learning – the group identifies key tasks or activities that need to be accomplished and determines an appropriate sequence for those activities. The members of the coordinating group also determine how best to organize themselves to ensure that all assignments are completed in a timely and effective manner.

These plans are useful for highlighting project milestones and further clarifying team member roles and responsibilities. They are also useful for management purposes, supporting decision making and project adjustment in later phases.

STEP 5 ▸ Prepare for the Participatory Tool Design Workshop

Once participants are identified, the coordinating group will begin preparation for the Participatory Tool Design Workshop. The workshop is a structured three-day workshop that brings together all navigators for dialogue, planning, and skill building related to PISA data collection and analysis. (For more details on the workshop, go to p.17). Requirements for workshop preparation include:

- Conducting formal outreach to participants that clarifies the purpose of the workshop and generates enthusiasm for participation;

- Developing a workshop design (or adapting the sample agenda provided in this Action Guide);

- Discussing any potential obstacles to achieving workshop objectives and how they might be overcome;

- Determining each member's role in the workshop (e.g., facilitation, managing logistics, etc.); and

- Ensuring that appropriate resources – financial, human and informational – are readily available.

The finalization of tool design workshop details marks the end of the team preparation phase of PISA. Prior to moving on to the next phase – data collection and analysis – you should consider the following:

- Is your research question clear?

- Have the right people been selected as navigators?

- Is your work plan realistic and operational?

- Are you satisfied with the workshop design?

Team
Preparation

An investment of time in this phase has high return, helping to highlight potential challenges that could be faced later in the process and ensuring smooth implementation throughout the life of the project.

Team Preparation Tools

The tools described below serve as a guide for the stakeholder analysis and planning activities that make up the Team Preparation phase. These tools should be adapted to fit the context of your constituency.

Stakeholder Analysis Matrix

Objectives ▸   This matrix is helpful in identifying key project stakeholders and determining the interests, potential level of influence, and necessary levels of participation of specific stakeholder groups.

Materials ▸   Large copy of the matrix posted on wall or other flat surface

Time ▸   2-4 hours

Procedures ▸

1. Using the matrix format below, participants brainstorm all of the people, groups, organizations and institutions that will affect or be affected by the project and list them in the column labeled "stakeholder group".
2. Once the list has been completed, discuss all of the possible interests that each entity has in the project and list them in the second column. (If a stakeholder has multiple interests, be sure to list them all).
3. Next, discuss the potential level of impact a stakeholder may have on the program. Mark "high", "medium", or "low" in the third column.
4. For each stakeholder group, discuss strategies for mobilizing support and minimizing opposition and record them in column four. (For this discussion, consider how to approach each group, what information they might require, etc.)
5. The final step in the process is to determine what type of role – based on stakeholder interests and potential impact – each stakeholder might play in PISA. In some cases, stakeholders may only be peripherally involved in PISA; in others, they may be playing an integral role in facilitation or data gathering. Record responses in column five.

STAKEHOLDER ANALYSIS MATRIX

Stakeholder Group	Stakeholder Interest(s) in Project	Potential impact on Project (mark high, medium or low)	Potential strategies for obtaining support or reducing obstacles	Type of participation in PISA (data gathering, data analysis, facilitation, etc.)

Planning Matrix

Objectives ▶ This matrix is useful for documenting important PISA milestones and tracking their progress throughout the project. It can be used to identify key PISA action steps, start and end dates for each step, and information on who is responsible for implementing the step.

Materials ▶ Large version of matrix posted on wall or other flat surface; cards or blank sheets of paper; markers.

Time ▶ 3 hours

Procedures ▶
1. The facilitator of this session prepares a large-scale version of the matrix, including ONLY columns for "Activity", "Person Responsible", and "Team Preparation" on a wall in the meeting space (see below). Columns with the month labels will be completed by navigators during the Tool Design Workshop.
2. Using a combination of large group and small group work, the facilitator leads the group through a brainstorming process to identify the key activities that need to be accomplished for the Team Preparation phase of PISA.
3. All activities are written on cards or sheets of paper and plotted in the Team Preparation columns of the matrix according to date and phase. (For each card, be sure to identify which individual is responsible for managing the described task.)

PLANNING MATRIX

Activity	Persons(s) Responsible	Team Preparation (Phases 1-4)	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6

Data Collection

DATA COLLECTION AND ANALYSIS METHODS FOR PISA VARY along a continuum. At one end of this continuum are structured, quantitative methods that fit diverse experiences into predetermined response categories, making data easier to summarize and compare. At the other end of the continuum are more open-ended, qualitative methods that rely on iterative small and large group discussions and analytical "activities" such as participatory mapping.

Regardless of the chosen method, PISA data collection is ruled by four guiding principles:

1. *Learning from, with and by local people.* Data collection should build local capacity to define, analyze, and solve problems. By living with and learning from the results of their own decisions, local community members become powerful agents of positive change, and not simply the passive subjects of the decisions made by program managers or development practitioners.

2. *Systems thinking.* PISA data collection promotes the idea of "collective knowing". Data collection is oriented towards looking at the interrelatedness of forces, and seeing them all as part of a common process. The focus is on patterns of interrelationships among key components of the system.

3. *Triangulation.* Data collection methods must neutralize biases by diversifying perspectives and continuously cross-checking information using different tools and classes of informants.

4. *Critical self-awareness.* A PISA practitioner can sometimes be a trainer, convener, facilitator, *and an informant* all at the same time. It is therefore very important during data collection for participants to be aware of their roles in the complex system in which they operate (e.g., women, men, diverse professions, specialists).

Choosing a Data Collection Method

There is growing acceptance of the need for integrating different approaches to data collection. Tightly constructed surveys may be better suited to rapid analysis and comparability, but qualitative methods allow in-depth study of selected issues, cases or events and can provide critical insights. How then to choose your data collection method? Follow this four-step process:

STEP 1 ▸ **Keep Your Objectives Foremost in Mind**

Successful data collection is always driven by a clear statement of: (1) objectives that the program or project hopes to achieve; (2) a hypothesis or research question(s) that PISA will either test or attempt to answer; (3) a brief explanation of the rationale for testing or answering the question(s); and a description of (4) the impact indicators and (5) data

Data
Collection

collection methods you intend to use. These seemingly simple rules are often forgotten in the chaos of real life project implementation. When you follow this five-step sequence, you will be surprised how you progressively refine what information you *really* need to have. Choosing the most effective tools for getting the information then becomes much easier.

Some may be tempted to skip the task of writing down a hypothesis or research question and a brief rationale statement. However, this is as fundamental to the data collection process as a rudder is to a boat. Without it, you are likely to speed through unknown waters missing key information and insights, or get stuck sailing in circles, engaging with the same key informants and steering toward their individual biases.

The PISA Data Collection Matrix provided below will help you launch your data collection process. In some instances you may be able to complete the first four columns of the matrix

PISA Data Collection Matrix

This example illustrates research questions and data collection methods for one objective. You can add as many objectives as necessary in subsequent rows.

Objective	Illustrative Research Questions	Rationale	Impact Indicators	Data Collection Methods
Strengthen the organizational capacity of NGO networks leading multisectoral HIV/AIDS prevention and care activities.	How can partnering purposefully be used as a strategy to build active community involvement in HIV/AIDS prevention activities? What are the most effective operating modalities and structures for minimizing tension between networks and their members?	Partnering has emerged as the dominant modality for community based organizations, but little is still known about the costs, benefits and best methods of engagement or the mechanisms through which partnering leads to the creation of new social capital. Experience has shown that many membership groups often end up competing with their members for new business and continuation funding. Tensions around this issue threaten the long-term sustainability and viability of many NGO networks.	Number of high performing networks and partnerships	Historical Scan Analytical Window Survey exploring following dimensions of partnerships/ member networks: (1) Provide learning opportunity; (2) gain access to new resources; (3) provide technical advances; (4) leverage partner skills; (5) improve neighborhood relations; (6) achieve project targets; (7) correct weaknesses in our operations; (8) meet financial targets. 3-3-3 brainstorm Evaluation Wheel Informant interviews and small focus groups

Adapted from a program evaluation toolkit developed by Beryl Levinger.

by consulting existing program or project documents, project proposals or evaluation plans. You may also find that existing documents are incomplete. When this is the case, work with your PISA team to clearly articulate your objectives, hypothesis, rationale and impact indicators. Either way, *leave the Data Collection Methods column blank until you finish your PISA data collection diamond sketch* described in the next step.

STEP 2 ▸ **Choose the Most Appropriate Methods Using the PISA Data Collection Diamond**

Once you have clarified your desired objectives it is time to choose your data collection tools from a large menu of options. Thirteen data collection tools of various types are included in the PISA Action Guide. All of them have been tested in a variety of rural and urban settings. You should feel free to adapt them in any way, shape or form that best meets your needs or local context. Many more can be found and adapted for PISA from a sampling of Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA) tools.

In order to make sense of the many tools available, we have adapted Sam Kaner's "Diamond of Participatory Decision-Making" into a prism for viewing the entire PISA data collection process[1]. The PISA Data Collection Diamond shows the underlying forces that influence data collection and decision making, allowing you to make more intelligent choices about appropriate methods.

Diagram B describes a hypothetical data collection process. Each circle represents one idea. Each line of circles and arrows represents one person's line of thought as it develops. As diagrammed, everyone appears to be in harmony.

Unfortunately, this picture oversimplifies the reality of the data collection process. In real-life data collection, participants may lose track of the central themes, get attached

Diagram B: Over-Simplified Data Collection Process
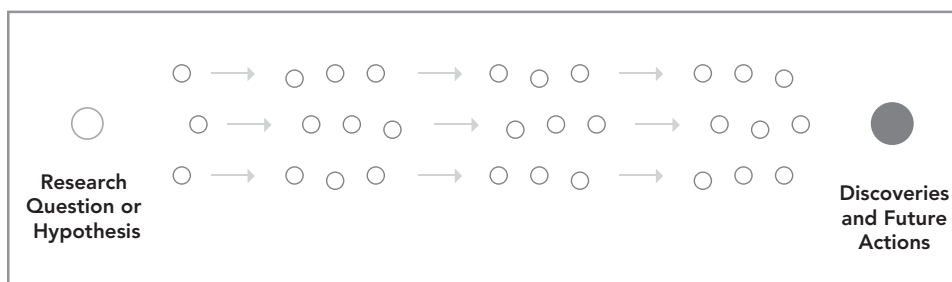
Adapted from Sam Kaner's *Facilitator's Guide to Participatory Decision-Making*, 1996.

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[1] Sam Kaner's *Facilitator's Guide to Participatory Decision-Making* is an excellent resource for facilitators interested in the art of participation.

Categories of R/PRA tools:

Analysis of secondary materials
Maps
Reports
Project papers
*Government planning
  documents*

Participant observation
Watching
Doing

Semi-structured interviews
Large/small group
Individual
Key informant

Diagrams
Maps
Calendars
Venn Diagrams
Transects
Flow charts
Trend lines

Ranking techniques
Open response surveys
Bean quantification
Matrices
Wealth/preference rankings

Photo Activities
Aerial photos
Still photos
*Videos*

Data
Collection

to their own ideas, and carry biases born of their own experiences and positions. People need to express their own viewpoints. In fact, highly convergent thinking can be a sign that you need to try harder to expose and offset lurking biases, seek diversity and embrace anomalies. You can do this by seeing data collection as a system to be visually experienced and understood via the PISA Data Collection Diamond.

Diagram C, the PISA Data Collection Diamond, describes the process that a group goes through to identify a topic for inquiry, and to understand—and ultimately create consensus around a future action. It begins with the hypothesis or research question(s) from column two of the PISA Data Collection Matrix.

In the early rounds of data collection the information gathered and discussed usually covers familiar ideas and opinions. It is common to attempt a premature conclusion at this early stage before reaching truly diverse observations and ideas. The PISA team is responsible for breaking the narrow band of familiar opinions and exploring a wider range of ideas.

As the process continues, a variety of data collection techniques promotes *divergent thinking*, which is characterized by free and open discussion, idea generation, and diverse points of view. At this stage you will often encounter competing perspectives. The struggle to understand a wide range of diverse or opposing ideas is often unpleasant but necessary. This is where participants apply their systems thinking skills to create a shared understanding of interconnected forces that shape their reality.

Diagram C: The PISA Data Collection Diamond
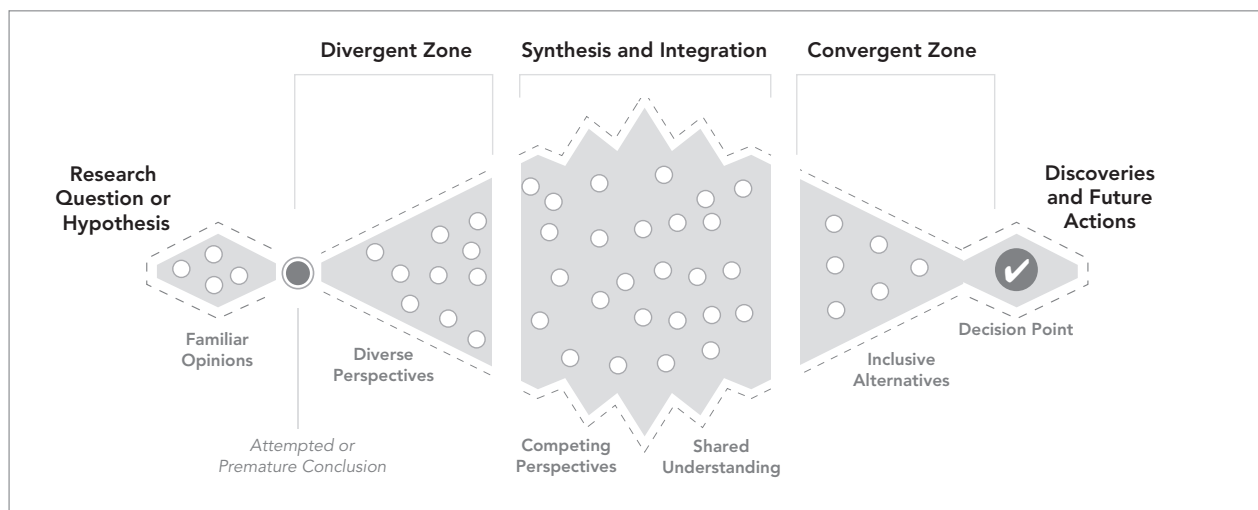
Adapted from Sam Kaner's *Facilitator's Guide to Participatory Decision-Making*, 1996.

From complexity, synthesis and integration of ideas comes "collective knowing" and inclusive alternatives. Participants analyzing the data are now applying convergent thinking, which is characterized by evaluating alternatives, summarizing key points, sorting ideas into categories and arriving at a general conclusion.

As the process moves into the convergent zone, the practice of decision making and action planning begins. Section 3, Data Analysis and Action Planning, deals specifically with this convergent zone and provides the tools to create strong, sustainable commitments.

Sketching a Data Collection Game Plan
In PISA we take a systems orientation to choosing data collection methods and strongly advocate sketching an idealized data collection process before final selection of specific methods. For example, you should:

a. Identify your key constituency and sketch a Data Collection Diamond for each target group you will engage with throughout the PISA process.

b. Review the tools at the end of this section and select the most appropriate data collection method for each phase.

c. Plan for contingencies.

d. Return to the PISA Data Collection Matrix and fill in the last column with your selection of data collection methods.

As you become more proficient at sketching the *Diamond,* you will quickly appreciate these simple data collection "game plans" and will also note that along with the Data Collection Matrix the *Diamonds* are an important part of the PISA documentation process.

STEP 3 ‣ **From Drawing Board to Participatory Tool Design Workshop**

With a clear statement of your objectives and information needs (the Data Collection Matrix) and a comprehensive game plan for data collection in hand (Data Collection Diamonds) it is time to convene a Participatory Tool Design Workshop with your PISA "navigators". It is important that, during the course of the workshop, navigators form deep ties to the project or research question. This will enhance ownership of the project objectives and create a sustainable information source over the life of the project.

The objectives of the workshop are to:

• Validate your selection of data collection methods through participant input;

• Revisit and reaffirm your key target groups;

Data Collection

- Refine data collection methods with input from the PISA navigators;

- Train your front line data collectors in all of the methods and documentation requirements;

- Exchange current information about PISA that is essential to startup;

- Get consensus on project goals and activities;

- Build team, and agree on roles and responsibilities of all participants;

- Agree on standard operating procedures/team norms;

- Discuss and develop strategies for the most important issues that will affect the project; and

- Develop a six-month activity plan (using the Planning Matrix tool from Team Preparation) for the project.

To get started, follow the general activities outlined in the sample agenda below, but feel free to adapt the agenda to your local context.

DAY 1 — Participatory Tool Design Workshop

Morning	
Activity	**Description**
Review workshop objectives, agenda, and participant expectations • (9:00-9:20)	Clarify what will take place during the planning days
Warm-up • (9:20-9:30)	Share what excites team members/navigators the most about PISA
Sharing project info • (9:30-12:30)	Establish a common level of understanding about the overall project and how it fits into the PISA process
LUNCH (12:30-1:30)	
Afternoon	
Activity	**Description**
Discussion of key project issues • (1:30-4:00)	Revisit issues/questions raised in previous discussion and develop strategies for addressing them
Identify Team Norms • (4:00-5:30)	Share expectations of project management and develop working set of team norms/standard operating procedures

DAY 2

Morning	
Activity	**Description**
Review of Day 1 work and Day 2 agenda (9:00-9:30)	Highlight progress from Day 1 and clarify what will take place during 2nd day
Introduction to the Data Collection Matrix • (9:30-10:30)	Introduce framework and how data collection methods link to project objectives
PISA Data Collection Diamond Sketching and tool selection/ validation • (10:45-12:30)	Introduction to the concepts behind the PISA Diamond. Demonstration of data collection methods followed by large group discussion
LUNCH (12:30-1:30)	
Afternoon	
Activity	**Description**
Skills development in data collection methods • (1:30-5:30)	Summary of PISA data collection tools and targeted training in the relevant data collection methods of choice. Small group practice of methods followed by group feedback. Validation of the PISA program against the data collection guiding principles

DAY 3

Morning	
Activity	**Description**
Review of Day 2 work and Day 3 agenda • (9:00-9:30)	
Roles and responsibilities discussion • (9:30-11:30)	Activity to identify the roles/responsibilities that need to be filled by PISA navigators for successful project implementation
Begin filling in planning matrix • (11:30-12:30)	Activity to document important PISA milestones
LUNCH (12:30-1:30)	

Data
Collection

Afternoon	
Activity	**Description**
Planning matrix (continued) • (1:30-3:30)	
Discussion on the kinds of support/ resources navigators will need to perform their functions • (3:30-4:30)	This is a chance for participants to identify the administrative and technical support partners they will need for their work.
Next Steps (4:30-5:15)	
Closing (5:15-5:30)	

STEP 4 ▸ **Check the PISA Program Against the Four Data Collection Guiding Principles.**

During the second day of the Participatory Tool Design Workshop review your data collection program to ensure that it is consistent with the guiding principles. Consider the following questions in a large group:

1. *Learning from, with and by local people.* Does your data collection program build local capacity to define, analyze and solve problems?

2. *Systems thinking.* Do the data collection methods you have chosen promote the idea of "collective knowing" and promote analysis of the patterns of interrelationships among key components of the system?

3. *Triangulation.* Have you neutralized biases by diversifying perspectives and by planning for continuous cross-checking of information using different tools and classes of informants?

4. *Critical self-awareness.* Have PISA team members and navigators sufficiently explored their multifaceted roles as trainers, conveners, facilitators, *and as potential informants in the PISA process?*

Data Collection Tools
Consult your PISA Tool Selection Matrix and PISA Special Considerations Matrix (see samples on next page) to select the most appropriate tools to break through familiar opinions, generate diverse perspectives, reframe competing perspectives, create shared understanding and inclusive alternatives, and bring closure in the form of a sustainable commitment to future action.

Data
Collection

PISA Tool Selection Matrix

	Focus Group	3-4-3	Bulls eye	Evaluation Wheel	Analytical Window	Historical Scan	Group Brainstorm	Gallery Walk	Buzz Group	Head-lines	Voting Beans	Org Interviews	Community Info Mapping
Topic Setting		•	•			•	•		•	•			
Attempted or premature conclusions	•			•	•	•		•	•		•		
Divergent Zone	•	•	•			•	•		•				
Data IntEgration Zone	•	•	•	•	•	•	•	•			•	•	•
Convergent Zone			•	•	•		•				•		•
Closure Zone			•	•	•		•				•		

• indicates tools that are most effective for various process-stages of data collection.

Special Considerations Matrix

	Focus Group	3-4-3	Bulls eye	Evaluation Wheel	Analytical Window	Historical Scan	Group Brainstorm	Gallery Walk	Buzz Group	Head-lines	Voting Beans	Org Interviews	Community Info Mapping
Small Group	•		•	•	•	•	•	•	•	•	•	•	•
Large Group				•		•	•		•	•	•		
Marginalized Group		•	•			•	•						
Time Constraints		•	•					•	•	•	•		
Language/ Communication Constraints			•	•		•		•			•		•

• indicates tools that are most appropriate to use in special circumstances, such as small group work or occasions with significant time-constraints.

Data
Collection

Card and Chart – Group Brainstorm Method

Objectives ▶ Group brainstorming uses the collective knowledge of the group to identify themes and develop a "common vocabulary" around a particular topic or issue. It encourages full participation by starting with individual input and moving to large group discussion and consensus.

Materials ▶ Sticky sheet (rip-stop nylon coated with 3M artist mount spray), large index cards, and markers (enough for facilitator and one out of three or four participants)

Time ▶ 2 – 3 hours… don't rush it! Allow breaks as necessary, and/or leave it for a time and come back.

Procedures ▶

1. Set the context by highlighting the main task and clearly stating what the end product of the group brainstorm will be. Post the brainstorm question in a highly visible place. Be sure to set the tone for full participation and outline a timeframe for the session.

2. Restate the brainstorm question and give a few examples to stimulate thinking. Give individuals a few moments to organize their thoughts, then ask them to rapidly write down their responses on an individual basis. Ask participants to star their three most important ideas.

3. Participants get into small groups (three or four participants per group is optimal). Have groups identify 5-7 ideas and write each idea on a 5 x 7 index card. Ask each of the groups to give you 3 cards. Read each card as you place it on the board (in no particular order). Make sure that each card has no more than one idea per card and is written in clear, large letters.

4. As each card is placed on the board, ask if the intent of the card is clear to everyone. If not, allow the group responsible for the card to clarify. Do not allow debate or discussion at this time – there are no right or wrong suggestions. And do not group the cards or put them in rows – place them on the board in a random pattern.

5. Repeat steps 3 and 4 two or three times. You should have no more than 20 cards and no less than 8 cards on the board before moving to the "organize" activity.

6. Perform the silent grouping process: Without talking, participants will step up to the board and arrange the cards in like clusters. Be considerate of others in allowing all participants an opportunity to step close to the board – this exercise is designed to allow those who are not particularly assertive about speaking to participate in a different way. It also allows for a quick way to get the elements initially grouped – participants will have plenty of opportunity to move the elements around over the course of the tool design process. Stop the group when they slow down significantly in their moving of cards or when they start moving the same cards back and forth.

7. Apply a neutral symbol (geometric figure, simple drawing, etc.) to each cluster to allow for a way to refer to the clusters without forcing naming.

8. Review cards in each cluster out loud. Ask the group if any cards should be moved. Do not move any card until you have group consensus.

9. Invite participants to add more cards to the clusters. Continue to move cards from cluster to cluster as agreed upon by the group.

Card and Chart —Group Brainstorm Method *(continued)*

Procedures ▶

10. Put clusters in columns and change symbols to names to represent the core areas demonstrated by each column. Explain that these core areas will be the primary areas examined by their chosen data collection methods. Ask the group if these are all discrete areas, or if some should be split or expanded..

11. Finalize naming of columns and location of all cards. Ask the group to rethink the column titles. Is each name appropriate? Do all of the cards fit under the core area in which they are currently placed? Are there new areas that should be added? Are there any core areas with one or more cards that should be expanded?

12. Group Reflection: Review the group work. Read the titles of the clusters, and confirm that the group has reached consensus on clusters. Discuss the product, asking participants, "What were our breakthroughs?"

Comments ▶

- This method is useful for groups with dominant and/or less vocal members because it creates space for full participation by gathering individual ideas first, then discussing them as a group.
- The brainstorm is valuable for all aspects of group process, including techniques that support both divergent and convergent thinking.
- This method allows for shared facilitation if desired.

Data
Collection

Card and Chart — Historical Scan	
Objectives ▸	This method supports action planning and conceptualization by identifying patterns from the past and how that learning can be applied to the future.
Materials ▸	Post-it flip charts or sticky sheet (i.e., rip stop nylon coated with 3M artist mount spray), large index cards, and markers(enough for facilitator and one out of three or four participants)
Time ▸	Approx. 1 hour
Group Size ▸	Minimum of eight people
Procedures ▸	1. Place cards with years written on them in a row across the top of the sheet. 2. Ask participants to form groups of 3 or 4 and write events from local history on the cards (one event per card). 3. Collect the cards, read them, clarify items, and place them under the appropriate year/time frame on the sheet. 4. Summarize/review the results briefly. 5. Add new cards as appropriate based on discussion/ideas of participants. 6. Look for patterns and periods of change. Label the patterns above the years with new cards. 7. Ask for projections about the future and, from those, develop headings for the next couple of years. 8. Review the timeline.
Comments ▸	• This method relies heavily on the shared knowledge of the group, bringing out a rich history greater than the knowledge of any one individual. • The historical scan can help frame future steps for strategic planning. • In rural areas, it may be done visually with drawings. Patterns may be found in the pictures as well. • This activity takes participants from divergence to some convergence, but not a final outcome. It is a means of exploring possibilities and determining interim future actions. • This is a good "context setter" and is ideal for use in the early stage of a workshop.

Bulls Eye

Objectives ▶ This activity serves a number of purposes, including the ranking and identification of priorities; the quick gathering of data about a particular issue; and the identification of how much group stratification exists.

Materials ▶ Beans, rocks, paper and markers, sand or dirt

Time ▶ 15 minutes

Group Size ▶ Less than 30

Procedures ▶
1. If using bean or rock method: have a bunch of beans, rocks, etc.
   If using paper: draw a bull's eye on large piece of paper with markers.
2. Paper: Ask participants to place a dot relative to the center (center being strongest) to show how strongly they feel about the question posed.
   Beans: ask participants to take the number of beans that indicates how strongly they feel from a central large pile. (More beans = stronger feeling)
3. Identify clusters of similar responses.
4. Interview participants in each cluster. Discuss with them their reasons for ranking the way that they did.
5. Capture main themes and move forward with discussion.

Comments ▶
- This exercise is good for a divergent phase of group process. It can be used as a "curtain raiser" (starting idea) or to refocus group.
- This is a good technique for collecting survey data from people at all education levels.
- This activity facilitates full participation because it encourages each individual to respond to the topic question.
- It is good for identifying convergence, but not creating it.
- If under time constraints, this exercise is very useful. It takes very little time to set up and facilitate.

Data Collection

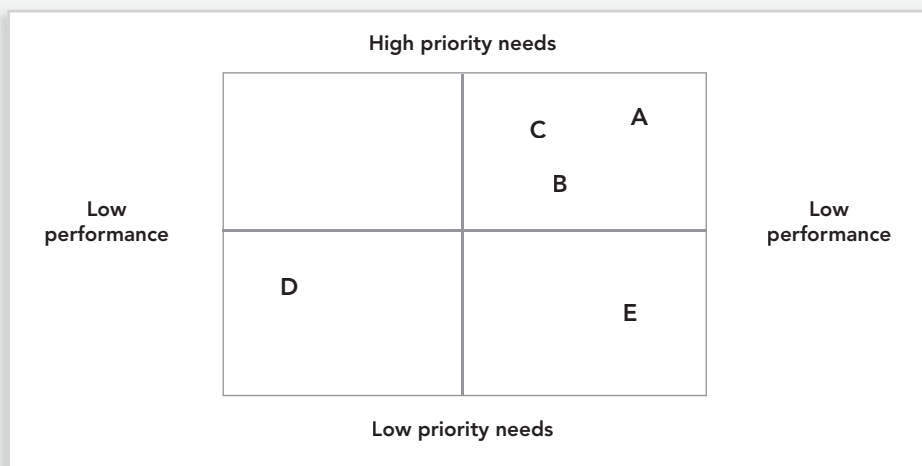| Analytical "Windows"	
Objectives ▸	This exercise facilitates the visualization of different ideas and, consequently, gives validity to previously under-appreciated ideas. It is very useful for promoting analytical thinking and decision making.
Materials ▸	Writing medium and writing implements
Time ▸	Up to 1 hour (Don't rush this process.)
Group Size ▸	This technique may work with up to 30 people or large groups broken down into smaller ones.
Procedures ▸	1. Draw a four-quadrant chart (shaped as a +) on the board/flip chart. 2. Set parameters and label each end of each axis (e.g., little-known --- widely known on horizontal axis and highly accurate --- not accurate on the vertical axis). See sample at bottom of page. 3. Pose a question and place the responses in one of the four quadrants based on participant opinions. Draw and label dots in the appropriate locations for each answer given. 4. Review responses in each quadrant / zone 5. Draw conclusions from the map
Comments ▸	• This method is useful in moving a group toward decision making because it focuses on convergent rather than divergent thinking. • You can change the dimensions of the tool to match the data you want to uncover – what you want to explore. (e.g., high agreement/low agreement, high performance/low performance, priority needs/non-priority needs, etc.) • The effectiveness of this method may be limited in situations with conflict or over-dominant voices, or when sufficient amounts of objective data are not available.

Example ▸

High priority needs

```
                  |
                  |   C      A
         Low      |      B            Low
      performance |_____  performance
                  |
              D   |
                  |      E
                  |
```

Low priority needs

Evaluation Wheels

Objectives ▸ This tool facilitates the visualization of different ideas and themes, demonstrates differentiation in evaluative criteria (or lack thereof), and moves the group toward convergence.

Materials ▸ Writing medium and writing implements

Time ▸ Approx. 1 hour

Procedures ▸
1. Formulate the focus question.
2. Identify 3 – 5 categories/units to explore. (Ex. …)
3. Draw a circle with a dot in the center and place the categories/units around the perimeter in one color. (Complete steps 1 through 3 in advance, if possible.)
4. Ask the focus question, gather representative responses for each category, and write those responses immediately inside the circle adjacent to the broader answer they apply to (maximum four).
5. Evaluate each of the examples by starting at the dot in the center. Slowly move the marker toward the perimeter (maximum performance), asking participants to stop you where they feel it is appropriate representation of their opinions.
6. Connect the dots creating a radar diagram.
7. Analyze and look at differentiation across the categories

Comments ▸
- This exercise provides rigor and tends to be less subjective than the bull's eye diagram because dots are determined through consensus instead of individual responses.
- This tool can help a group identify some concrete examples of subcategories of the topic being discussed.
- This technique can be used to bring closure – it can be seen as a "soft conclusion" because it does not bring about any future action.

Data
Collection

3–4–3	
Objectives ▸	This tool rapidly generates data and promotes inclusive participation. It is also serves as an instructional aid for discussion.
Materials ▸	Blank matrix with 4 rows and 3 columns
Time ▸	10-20 minutes (time pressure can help generation of ideas)
Group Size ▸	Less than 40
Procedures ▸	1. Pass out the matrix 2. Pose a focus question. 3. Instruct the group to write short responses to the questions in the top row of the matrix. 4. Instruct participants to pass the matrix to the person on their right (or left). 5. Instruct the group to respond to the same question (or a new one) on the second row, reflecting on what the previous person wrote in the top row (no repeats allowed). 6. Instruct participants to pass the matrix to their neighbor (in the same direction as before). 7. Repeat the process until you have exhausted your questions (limit number to 4 for maximum effect). 8. Ask the group to read out loud responses to individual questions from the matrix they currently have in hand. 9. Capture the main themes. 10. Lead group into discussion.
Comments ▸	• The number of rows and columns is determined by the facilitator to meet the needs of the group. • This exercise promotes both efficiency and full participation as everyone works individually and simultaneously. • When introducing the activity, don't warn participants they will be passing the matrix around (because it might inhibit them). • Asking the same question twice makes people think more deeply. • This tool is excellent for topic setting and divergent idea generation.

Buzz Groups

Objectives ▶ Buzz Groups are used as a primer to energize a large group discussion. This exercise helps build consensus and is a good alternative to using small groups.

Materials ▶ None required

Time ▶ 2-5 minutes

Group Size ▶ No size limit

Procedures ▶
1. Pose a topic or focus question for discussion.
2. Ask participants to stand up.
3. Ask them to turn to their neighbor(s) and discuss the topic.
4. After a predetermined amount of time, call people back to the group.
5. Continue with the group discussion.

Comments ▶
- This exercise is a great way to break stalemates or identify new ideas.
- It gives participants a break from discussion and/or tensions that may have arisen without necessarily departing from the topic of discussion.
- This can be used in conjunction with methods like Gallery Walk and within other methods such as Card and Chart.

Gallery Walk

Objectives ▶ This exercise seeks to silently build consensus and identify themes within a group. It allows individual participation and is best used in conjunction with other methods (such as Card and Chart, Voting Beans, Walk Around, etc.)

Materials ▶ Materials are those already being used in the principal activity

Time ▶ 2-5 minutes

Group Size ▶ No size limit

Procedures ▶
1. Pose a topic or focus question for discussion.
2. Ask participants to stand up.
3. Have participants silently position cards, beans, etc. (again, depending on the principal activity) based on their personal opinions about the information that has already been gathered.

Comments ▶
- This tool is effective for breaking stalemates or identifying new ideas.
- This tool is a good for triangulating against biases.

Data
Collection

Voting Beans

Objectives ▸ This method helps to gauge agreement and learning in a group with quiet participants and is a good supplement to intense conversation.

Materials ▸ Beans, peanuts, etc. (i.e., locally available small items/snacks)

Time ▸ A few minutes

Group Size ▸ Moderate (8-15 people)

Procedures ▸
1. Give each participant a pile of beans, etc.
2. Ask participants to use their beans to signal their agreement, disagreement, or indecision/learning mode as follows:
   - Hands over beans = learning mode
   - Hands down, no beans pushed out = disagreement with the conversation
   - Hands down with beans pushed out = agreement with the conversation (the more beans pushed out, the more agreement is implied)
3. Ask follow up questions of participants individually about their bean placements as appropriate.
4. Observe general bean trends and direct conversation accordingly.

Comments ▸
- This exercise is great for getting the input of quieter members of the group.
- This can be used in groups with low literacy levels.

Walk-Around

Objectives ▸	This action discussion method helps people assess where they stand on a particular issue and is useful for identifying major themes, trends and needs.
Materials ▸	Flip chart paper; writing implements; pebbles, beans or other small items (30-40)
Time ▸	10 – 25 minutes
Group Size ▸	Moderate (8 to 15 people)
Procedures ▸	1. Write issues/topics on flip chart paper – one item per sheet.
	2. Place each sheet separately on the floor or place them in separate corners/areas of the room/ space.
	3. Place a bowl with a pre-measured number of beans in the center of the room.
	4. Ask participants to silently (without speaking) place beans on the sheets according to which items are most important, vulnerable, challenging etc.
	5. Observe interactions (especially conflicts) and placements as participants work.
	6. Stop the group where they stand when appropriate and discuss their actions.
	7. Ask what is going on between members in a conflict, then open the discussion of the issue up to the larger group.
Comments ▸	• This tool is good for creating familiarity with a topic.

Data
Collection

Organizational Interviews

Objectives ▸	A structured but adaptable and open-ended approach to collecting data about information needs of organizations and institutions.
Materials ▸	One copy of the interview guide for each interview
Time ▸	Each interview takes about 30 minutes
Group Size ▸	Representatives of the organization for each interview
Procedures ▸	1. The guide should be used to gather information from one or more representatives from an organization. Interviews are best conducted one-on-one or in small groups. 2. Allow the interviewee space to make his/her own connections and provide additional information when necessary.
Comments ▸	It is not necessary to meet with the director of the organization. The interviewee should be an individual who works at the organization and knows about its operations and needs.

Question Guide for Organizational Interviews

Name of Person Interviewed: _____

Date of Interview: _____

Name of Organization: _____

Type: _____

Mission/Objective: _____

Principle activities: _____

Number of Members/Employees: _____

1. What are the typical types of information used by the organization? Which are the most important?

2. What are the sources of this information?

3. What are the means used to get the information? (Telephone, fax, letters, etc.)

4. What is the cost? (Annual or monthly expenses, if possible.)

5. Are they satisfied with the information they receive in terms of its quality, quantity, and timeliness?

6. What factors limit the quantity, quality, or timeliness of the information they currently receive?

7. What kinds of information would they like more of? Why?

8. What are the principal types of information communicated by the organization – internally and externally? Which are the most important?

9. To whom is this information communicated?

10. What are the means used to communicate the information?

11. What is the cost? (Annual or monthly expenses, if possible.)

12. Are they satisfied with their ability to communicate information in terms of quality, quantity, and timeliness?

13. What factors limit the quantity, quality or timeliness of the information they communicate?

14. Do they currently use computers? For what purpose(s)?

15. Do they currently use e-mail? For what purpose(s)? How many messages per week do they received or send?

16. Do they currently use the Internet? For what purpose(s)?

Data Collection

Community Information Mapping and Discussion	

Objectives ▶ Identify information flows and related information within a community and between a community and other external influences. This activity can yield data about information flows, producers, transmitters and consumers of information, and other characteristics about the use of information in the community.

Materials ▶ Markers, large sheets of paper, pens, a large table, multi-colored stickers

Time ▶ 2 hours

Group Size ▶ No less than 5 and no more than 12. Preferably with a balance in gender and backgrounds.

Procedures ▶

1. Give a brief introduction to the project and the individuals involved.
2. Give the group an opportunity to explain what 'information' means to them. The purpose of this exercise is to see how people understand this terminology, as well as give the group time to generate some thoughts on the topic. Ask what information means. What information is important? Was information more important 10 years ago than it is today? How did information flow ten years ago? Etc.
3. Ask the participants to make a map of the community. Explain that this map will be used to understand how information flows within the community. If there are more than 6 participants, break them into two groups and have two maps made. Give the groups enough time to draw the map, but encourage them to make simple drawings.
4. Ask the groups to draw arrows showing how information flows within the community. The arrows can be one or two way arrows. Be careful not to suggest too many ideas while explaining the activity.
5. On the maps, indicate additional characteristics related to the information flows according to one of the following approaches. With two groups, both option A and option B can be used, one by each group.
   A. Have the groups take the pens and write on each arrow:
      - Media used (e.g., radio, TV, word-of-mouth)
      - Frequency of information (e.g., once a week, every day)
      - Content of information (e.g., laws, news, politics, personal)
   B. Have the groups place stickers on the various organizations and buildings to indicate whether each one produces, transmits or consumes information. Make sure the participants understand that more than one sticker can be placed on the same item. A brief discussion of which organizations produce, transmit and consume information may provide additional guidance for participants. Stickers can be any color. For example:
      - Green = produces information
      - Yellow = transmits information
      - Red = consumes information

Community Information Mapping and Discussion (continued)

Procedures ▶

6. Have the groups identify key places and institutions outside of their community (e.g., neighboring communities, capital city, government ministries, national or international media) that interact with the community in terms of production, transmission and consumption of information. Place these on the periphery of the map and have participants draw information flows between each place or institution and the community, using the labels or arrows detailed above. (Be careful not to exclude the possibility of information flowing from the community to the external places and institutions).

7. If two maps were made, have each group present and explain their map to the other group. Have the non-presenting group ask questions. Then allow the groups to exchange maps and discuss their differences and similarities. After this, place both maps on the wall and ask questions aimed at clarifying buildings and pathways. Let the discussion continue from here.

8. Next, have people tell one interesting thing that they see in the map(s). Ask people how they would like the map to look five years from now. Ask them what they would change in the map. Present maps of other communities and ask them what differences they see. Continue this discussion.

9. Allow time at the end to fully address any questions or concerns that people might have about the activity and the project.

Data Analysis and Action Planning

The data analysis and action planning phase of PISA creates an opportunity for navigators to actively review assessment results and, based on that review, determine action steps or desired changes to be brought about in the target community. Participatory data analysis and action planning is important in the PISA process because information drives change. Data does not sit idly on a shelf, but is used by participants in practical, relevant ways. This bridging of action planning with data analysis supports evidence-based decision making that is more likely to contribute to constructive, meaningful and broadly supported change.

The three primary steps of this phase are:

STEP 1 ▸ Analysis of the PISA data

As described in the previous section, our data collection process includes methods that not only capture, but also promote, *divergent* opinions and ideas. The data analysis and action planning phase requires that the group move toward *convergent* thinking by taking data, which may appear complex and "chaotic", and creating an environment for collective synthesis.

This process involves:

- Recognizing the systems operating around us, and exploring their relation to program objectives

- Assessing the external validity, reliability and objectivity of the data collected

- Formulating conclusions using available data and the collective knowledge of the PISA navigators

Navigators working in small groups "mine" the data by developing lists of key findings, trends, or patterns. They also begin identifying areas of strength that can be built upon in the future, and challenges that should be addressed through action planning. Navigators are encouraged to take the lead in this analysis so that they develop a sense of empowerment from the data, and control over the action planning, implementation, and monitoring processes.

Clear criteria have been established for assessing the quality of conventional research based on internal and external validity, reliability, and objectivity. However, there is little agreement on criteria for assessing the quality of data derived from participatory methods. Some researchers and practitioners have proposed criteria that include credibility, transferability, dependability, and "confirmability". The table below summarizes these criteria.

Data Analysis & Action Planning

Criteria for Assessing the Quality of PISA Information
(Adapted from work by Jules Pretty)

Conventional criteria	Participatory (PISA) criteria
Internal Validity: Proof of causal relationships.	**Length and depth of engagement:** Discovering what has changed and why, based on sufficient trust and rapport.
External Validity: The degree to which findings can be applied to other contexts or groups.	**Research diary, data collection matrix, data collection diamonds, and peer review:** Making transparent the means by which information was collected as well as its sources.
Reliability: The degree to which the findings can be repeated if the inquiry was replicated in the same or similar situation.	**Cross-checking:** Combining different sources, methods, and PISA navigators.
Objectivity: The extent to which multiple observers can agree on the same conclusion, ensuring that the results are not due to researcher biases.	**Persistent and parallel observation:** Identifying and focusing on key issues using simultaneous, multiple observers.
	Expression of difference: Searching out different views and explanations from a range of stakeholders.
	Impact on navigator's capacities to know and to act: The process of inquiry should be empowering in and of itself, and generate new insights for all concerned.

STEP 2 ▸ Identification of priorities for action and improvement

The art of generating convergent thinking is critical to the "priority setting" activity. Using a priority setting matrix, participants identify priority action areas based on their assessment of the data. Guiding this large group dialogue is a series of decision points that require careful and skilled facilitation so that the group can move toward consensus on its overall priorities. Decision points include identification of the problem situation, assessment of potential negative impacts, an estimation of how "actionable" the problem situation appears, recommended actions for positive change, and the availability of key resources. Consult the PISA Tool Selection Matrix on page 20 for facilitation methods best suited to the "convergent" or "closure" zones of the Data Collection Diamond.

STEP 3 ▸ Development of detailed action plans

Once priorities have been identified, participants go through a structured process of action planning that addresses the following questions:

- What changes will we initiate in response to this data?

- Who will carry out these changes?

• When will these changes take place?

• What resources (financial, informational, or human) will be needed to make this
change happen?

• Who should know about these changes?

PISA's action planning method draws heavily on systems thinking. Because all of a system's parts must be present for the system to effectively serve its purpose, PISA intentionally brings together the "whole system" – a very diverse range of stakeholder groups – for action planning exercises. Encouraging meaningful interaction between groups with unique perspectives and experiences provides a fuller picture of community realities and ultimately contributes to the development of more holistic, realistic, and well thought-out plans.

Action Planning Outcomes in Mongolia

As a result of the PISA in Mongolia, Pact obtained a complete and updated picture of the various information needs, opportunities, obstacles, and resources available in various Gobi communities. Although the project's focus was decidedly on economic growth and development, the Pact team in Mongolia encouraged its navigators to use their data and data analyses in productive and sustainable ways in their communities.

And they did.

Half a dozen colleagues started and managed local Information Centers in soums across the Gobi, and at least three different colleagues launched independent news publications. The former Umnugovi Province Media Center, which was in the process of becoming Gobi Wave Information Center, used the PISA data as a marketing analysis tool, but also as a marketing tool to solicit financial support for their new NGO. At the time of its inception, Gobi Wave was the manifestation of PISA efforts, demonstrating that PISA and Gobi Business News could establish an external information enterprise, indigenous in nature and sustainable in design.

PISA also spawned a rural business journalism training curriculum and workshop. This resulted in the national production and publication/broadcast of more than 75 practical news and feature stories, and in improved capacity of rural journalists across the Gobi. From PISA came a host of stories about managing and using knowledge for growth and change, whether you are a donor, an implementing NGO, a business, a government, or a media outlet.

From PISA also came a rural business-to-business marketing consultancy model in which a rural NGO—a provincial branch of Women for Social Progress—mentored two rural businesses— a hotel and a small grocery—both run by women. As a result, these businesses studied their current and potential markets in terms of customers and competition. One of the business operators was inspired by this activity to pursue a graduate degree in business administration. After the nine-month activity concluded, both business operators said their businesses had more customers and higher profits.

Data Analysis &
Action Planning

As with other phases of PISA, action planning is participant-driven, relying on the collective insights and experiences of the group to inform decision making about priorities and plans. By utilizing simple, intuitive planning tools and encouraging participants to be "champions" of the process, action planning can be repeated in future rounds without the assistance of external facilitators.

Methods for data analysis and action planning

The following tools can be used to facilitate key activities in the data analysis and action planning phase of PISA.

Results Presentation Exercise

Objectives ▸	The results presentation exercise actively engages participants in exploring the preliminary answers to the research question being addressed through PISA. It is a chance to walk through, step-by-step, the various data to ensure that participants are comfortable "mining" the information and generating findings.
Materials ▸	Flip chart paper, markers, tape
Time ▸	1 – 1.5 hours
Procedures ▸	1. Participants form small groups and spend time reviewing and discussing the results of one particular section of the results.

2. Based on their understanding of the data, group members complete this series of statements:
   a. Based on the data related to issue X, we are…
   b. Based on the data related to issue X, we have…
   c. Based on the data related to issue X, we need…
   d. Based on the data related to issue X, we should…

   (The first two statements are structured to elicit positive, appreciative responses about what resources, skills or attitudes the community already has in place to support its efforts in a particular capacity area. The second two statements get participants to begin thinking about ways in which they might improve in a particular area.)
3. All statements are written on flipchart paper for presentation to the larger group.
4. Upon completion of this exercise, participants present their findings to the larger group.

Priority Matrix

Objectives ▶ This tool supports decision making and action planning by providing a framework for identifying challenges and determining which challenges can be most effectively acted upon.

Materials ▶ Large version of priority setting matrix on flipchart; one copy of matrix for each individual

Time ▶ 1 hour

Procedures ▶

1. With the matrix posted on the wall (see below) complete the first column, "problem situations", by having participants scan the results package. (Problem identification can be done individually prior to large group discussion.) You should be able to elicit 3-5 problem situations.
2. In the large group, complete the second column, marking whether each problem identified is having high, medium, or low negative impact on the community/organization/system.
3. Next, complete the third column, asking participants whether or not something can be done to address the problem or mitigate its negative impact.
4. Have the group rapidly generate 1-3 ideas for addressing the problem and write them in the "recommended action" column.
5. Finally, have the group quickly identify strengths that they have that would help address the issue, as well as what they still need. Both should be recorded in the final column labeled "resources".
6. You should have identified at least 2-3 problem areas with high negative impact that can be acted upon.

PRIORITY MATRIX

Problem Situation	Negative Impact			Actionable		Recommended Action	Resources	
	Low	Med	High	Yes	No		Have	Need

Data Analysis &
Action Planning

Action Planning Table

Objectives ▸	Building on the content from the priority matrix, action planning tables are used to elicit more specific details about how challenges will be addressed in the community.
Materials ▸	One copy of action planning matrix per participant; large version written on flipchart paper and posted on wall
Time ▸	90 minutes (up to one hour working, 30 minutes sharing)
Procedures ▸	1. On a large flipchart, explain the components of the table. It may help to give examples for each item to be completed. 2. Have participants break into small groups (these can be self-selected as long as groups are more or less evenly balanced in size) 3. Each group picks a problem with high (or medium) impact that is actionable and completes the Action Planning Table. Each table should include a detailed description of the action to be taken and what success would look like. This should be followed by listing the specific tasks to be completed, timeline for completion, how the task will be done, and who needs to be responsible for the completion of the task.. 4. All groups present their action planning tables. Time should be allotted for questions/comments, discussion and revision.

ACTION PLANNING TABLE

Problem:

Action:		Vision/Success:	
Task	By When	How	Who

Team Learning and Follow-Up

After having finished team preparation, data collection, analysis, and action planning, it is important to take the opportunity to reflect and learn from the experience. This practice enables the PISA team to improve the planning of future activities, polish tools and methods, and ensure that the team maintains focus on its objectives. Thus, the team can gather opinions, suggestions, and feedback based on real experience that will help to inform future processes.

Because PISA is an iterative appraisal, follow-up efforts should be focused not only on achievement of objectives, but on collecting lessons learned so that subsequent rounds can be conducted more efficiently and effectively.

Sharing and discussing findings reinforces knowledge and learning. Thus, it is recommended that the following activities involve not only the project team and PISA navigators but also the community members and other key stakeholders.

The following steps provide guidance throughout the team learning and follow-up phase:

STEP 1 ▸ Review process progress

The objective of this activity is to assess the way the team has conducted the whole information collection process. Evaluate accomplishments in terms of a) *quantity* of information collected, b) *quality* of the information collected, and c) the *effectiveness* of each stage of the PISA process. At the same time, the team should evaluate the resources consumed and the time spent in comparison with initial estimations.

What is the role of feedback in PISA?

Feedback is an ongoing activity that reinforces and strengthens the various phases of the PISA process. It enables participants to remain in touch with project events and outcomes, and to make needed changes and adaptations for continuous improvement. A rigorous feedback component allows you to:

- Test the validity of initial hypotheses or assumptions.
- Determine if population needs are being properly identified and met.
- Ensure accomplishment of goals and objectives.
- Adjust strategy.
- Discover new ways to achieve goals and objectives.
- Identify and explain unexpected results.
- Make rapid changes and improvements; fine tune project tactics.
- Detect potential risks and threats.
- Reinforce team learning.
- Identify lessons learned, best practices, and new needs.

Team Learning
& Follow-Up

STEP 2 ▸ Reflect on aspects to improve

During this activity the team should focus its attention on aspects that require changes, as indicated by previous experiences or results. Based on issues identified in the previous activity, the team should consider planning and implementation modifications, and discuss different alternatives for improvement. In order to select one of the alternatives, the team should assess each of them in terms of criteria such as time, cost, simplicity and accuracy. Needed changes should be prioritized according to potential impact and urgency.

STEP 3 ▸ Identify and share lessons learned

Through this activity the team will reinforce its ability to deal with the different stages of participatory information processes and build capacity among a wider community of PISA practitioners through dissemination of lessons learned. This investment in progressive learning will strengthen the skills of navigators to interpret the data collected through PISA, and to generate meaningful suggestions to strengthen the action planning process.

STEP 4 ▸ Plan new information collection activities

This activity helps to maintain continuity between the most recent information collection process and subsequent iterations. The activities and outcomes of the recent process become data for the next iteration. In this way, lessons learned and best practices can be integrated into future activities. The result will be better data collection methods, more effective planning, and stronger implementation.

Follow-up Activities Matrix – Examples of questions
Note: These are only sample questions.

Follow Up Activities	Team Preparation	Data Collection	Analysis and Action Planning
Review process progress	• Does the group conduct the necessary number of meetings to gather and train navigators? • Have the navigators received a clear idea about the process and their role in the different stages? • Were there external or internal causes that delayed the planned activities?	• Have we accurately identified the information needs of our target population?	• Are we developing appropriate and timely content for our target population?
Reflect on aspects to improve	• Did the tools for team preparation help to build a strong PISA team with a clear set of responsibilities and lasting commitments?	• Does the survey have too many questions? • Are they clear and concise? • Do we need to develop new tools to gather data?	• Are we disseminating the information to the entire target population in a timely and efficient fashion? • Are we responding to the information demands of our target population? Are we producing content in line with the demand?
Identify and share lessons learned	• What are the lessons learned in Team Preparation?	• What are the lessons learned in Data Collection?	• What stakeholders do we invite? • What are the lessons learned in Analysis and Action Planning?
Plan new information collection activities	• What will be the activities under Team Preparation for the next process?	• What will be the activities under Data Collection for the next process?	• What will be the activities under Analysis and Action Planning for the next process?

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About Community-Driven Tools for Data Collection and Decision Making

Participatory Information Systems Appraisal (PISA) represents a shift in our predominant way of thinking about information for economic and social development. Developed in Mongolia over a four-year period by Pact, PISA adapts a well developed family of Participatory Rural Appraisal (PRA) tools for today's information-intensive economy.

The PISA Action Guide systematically introduces and explains the concepts and strategies needed to make well informed, data-based decisions while empowering key stakeholders in the process. Recognizing the need for rapid information exchange in an information-intensive world, the PISA process establishes a lasting information channel in the heart of the very community a program seeks to support.

The Action Guide is for all people and organizations grappling with the complexities of an information-intensive project environment but determined to pursue community-driven strategies and tools. Our aim is to provide a framework for discussion and dialogue supported by four detailed steps for implementing your own community-driven information collection initiatives. The Guide is designed for:

- Non-Governmental Organizations (NGOs) designing and implementing multi-year programs across all sectors of development.

- Trainers and facilitators interested in promoting processes that are carried out in and with key project stakeholders, and driven by local knowledge, values and needs.

- Donor institutions interested in supporting the development of a nonprofit agenda to advance information for development.

About PACT

Pact is a premier, networked global organization helping to strengthen the capacity of local organizations to meet local community needs in Asia, Africa, and Latin America. Our work is firmly rooted in the belief that local communities must be the driving forces in ending poverty and injustice. To achieve this we work in partnership with local organizations in a wide variety of sectors to strengthen their capacity to deliver services and advocate for favorable policies.

Pact's activities include the development of information networks to help communities monitor, assess and prioritize their needs. Pact is committed to supporting a new nonprofit agenda to advance information for development. This means investing in practices that promote information networks for social and economic development, and building inclusive, community-led forms of information collection, monitoring, assessment, and decision making. Innovative practices like PISA are as much about new ideals as they are about new ideas.