Research Glossary

- **Analysis:** Transforming raw data into usable information.
- **Attribution:** The extent to which the observed change in outcome is the result of the intervention, having allowed for all other factors which may also affect the outcome[s] of interest. [2]
- **Attrition:** Either the drop out of participants from the treatment group during the intervention, or failure to collect data from a unit in subsequent rounds of a panel data survey. [2]
- **Baseline survey:** A survey to collect data prior to the start of the intervention. [2]
- **Behavioral Science:** Behavioral science combines theories and evidence from economics, psychology, anthropology, and cognitive science to build an understanding of human behaviors and decision-making processes. Insights from behavioral science can be rapidly tested and applied to the design of policies and interventions to ensure they are effectively delivered and adopted in practice.
- **Comparison group:** A group of individuals whose characteristics are similar to those of the treatment groups [or participants] but who do not receive the intervention. See also control group. [2]
- **Confidence level:** The level of certainty that the true value of impact (or any other statistical estimate) will be included within a specified range. [2]
- **Control group:** A special case of the comparison group, in which the evaluator can control the environment and so limit confounding factors. [2]
- **Cost Analysis:** Includes cost efficiency analyses, which measures the cost per output of a particular project or program (e.g., the cost per child treated for malnutrition) and cost effectiveness analysis, which measures the cost per outcome of a particular project or program (e.g., the cost per increase in literacy scores).
- **Evaluation:** The process of collecting and analyzing information to assess a project or program's outcomes and the factors that influenced results.
- **Evidence:** Evidence can be defined as information derived from systematic & deliberate experimentation, observation and/or experience, that can be used to prove or support a specific proposition or claim.
- **Experimental Design:** See Randomized Control Trial. [3]
- **Exploratory Research:** Exploratory (or formative) research focuses on understanding a problem, population, or the processes by which a given intervention works. It helps develop clearer hypotheses or builds our confidence in the experience of a new intervention and its desirability. This may involve user testing to inform quick adaptations to existing content or models.
- **Formative Research:** See exploratory research.
- **Human Centered Design:** Uses qualitative field research to uncover our users' needs, values and existing behaviors as they relate to a specific intervention or product. It engages users in every step

of the process; rapidly prototyping, testing and refining ideas with desirability, scale, impact and cost-efficiency as our core goals.

- **Human Subjects Research:**
  - Human Subject: "a living individual about whom an investigator conducting research obtains data through intervention or interaction with the individual or identifiable private information." [1]
  - Research: "a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. [1]
  - In order to determine whether a project is human subjects research and therefore requires IRB approval, contact the IRC IRB Administrator at humansubjects@rescue.org.
- **Impact:** The effect of an intervention on the outcome for the beneficiary population. Changes in an outcome that are attributable to the intervention.
- **Impact Research:** A systematic study of the change that can be attributed to a particular intervention, such as a project, program or policy. Impact evaluations typically involve the collection of data from an intervention group and with a comparison or control group, at both baseline and endline. [adapted from 3]
- **Implementation Research:** Helps to identify solutions to problems that limit program quality, efficiency and effectiveness, or to determine which alternative service delivery strategy would yield the best outcomes, or to understand the weaknesses and strengths of a particular approach to implementation. It seeks to improve the number and quality of services, program outputs, and outcomes by optimizing program inputs (e.g., personnel, supplies) and processes (e.g., training, supervision, promotion of services). This may involve piloting prior to full-scale implementation and testing.
- **Institutional Review Boards:** An Institutional Review Board (IRB) is an ethics committee responsible for reviewing, monitoring, and approving research involving humans in order to safeguard the rights and welfare of research participants.
  The IRC has its own IRB. The purpose of the IRC Institutional Review Board (IRB) is to protect the rights and welfare of human research subjects enrolled in research conducted by, or under the direction of, the IRC. The IRC IRB functions as the ethical review board for IRC human subjects research.
- **Measurement:** Measurement is a generic term that, in this context, refers to the process of quantifying achievement of outcomes or outputs at the project level. The measurement process includes defining indicators, collecting and analyzing data, and drawing conclusions from the data to inform decision-making.
- **Measurement Research:** Helps to design, adapt and test the reliability, validity, comparability and feasibility of assessment tools.
- **Mixed Methods:** The use of both quantitative and qualitative methods in an evaluation design. [adapted from 2]
- **Monitoring:** The process of regularly and systematically collecting and analyzing information about a project and, when appropriate, using it to make adjustments to the project. Project monitoring data may be used to adjust project implementation, enable internal and external reporting, inform project design and advocacy, and promote accountability to beneficiaries.
- **Needs Assessment:** An assessment conducted to identify the priority needs of the target population in order to design and deliver timely and effective services. Needs assessments take many forms,

but typically involve the systematic collection of the following information: an estimate of how many people are affected; safety risks; priority locations; priority needs according to the target population; gaps in service availability or access; cultural concerns or contextual factors that may influence needs, vulnerability, service delivery, or access; and best methods of service delivery.

- **Operational Research :** Operational research helps to identify solutions to problems that limit program quality, efficiency and effectiveness, or to determine which alternative service delivery strategy would yield the best outcomes. Operational research focuses on factors which are under the control of programs. It seeks to improve the number and quality of services and program outputs and outcomes by optimizing program inputs (e.g., personnel, supplies) and processes [e.g., training, supervision, promotion of services]. Operational research can also determine cost-effective and sustainable ways to build service delivery capacity, test financing alternatives and make advocacy and communication strategies and tools more effective. [adapted from 5]
- **Outcome:** The likely or achieved short-term and medium-term effects of an intervention's outputs; changes that contribute to the project's overall objective or goal.
- **Output :** The products, goods, services, and immediate results produced directly by the project and that are required for achievement of the project's outcomes.
- **Pathway of change:** A pathway represents a sequence of changes that need to occur to achieve an outcome. [3]
- **Power [statistical analysis]:** The ability of a study to detect an impact. [2]
- **Power calculation:** A calculation of the sample required for the impact evaluation, which depends on the minimum effect size and required level of confidence. [2]
- **Principal Investigator:** Lead researcher in a study, responsible for the research design and analysis. At the IRC, this can be an external research partner (often academic) or an IRC research advisor.
- **Process Evaluation:** An assessment conducted during the implementation of a program to determine if the program is likely to reach its objectives by assessing whether or not it is reaching its intended beneficiaries [coverage] and providing the intended services using appropriate means (processes). [3]
- **Program Evaluation:** Evaluation of a set of interventions designed to attain specific global, regional, country, or sector development objectives. A program is a time-bound intervention involving multiple activities that may cut across sectors, themes and/or geographic areas. [3]
- **Quasi-Experimental Design:** A methodology in which research subjects are assigned to treatment and comparison groups typically through some sort of matching strategy that attempts to minimize the differences between the two groups in order to approximate random assignment. [3]
- **Random Assignment:** An intervention design in which members of the eligible population are assigned at random to either the treatment group or the control group (i.e. random assignment). That is, whether someone is in the treatment or control group is solely a matter of chance, and not a function of any of their characteristics [either observed or unobserved]. [2]
- **Randomized Controlled Trial:** A randomized controlled trial (RCT) is an impact evaluation design in which random assignment has been used to allocate the intervention amongst members of the eligible population. Since there should be no correlation between participant characteristics and the outcome, and differences in outcome between the treatment and control can be fully attributed to the intervention, i.e. there is no selection bias. Also called Experimental design. [adapted from 2]

- **Real Time Evaluation:** A real-time evaluation (RTE) is an evaluation in which the primary objective is to provide feedback in a participatory way in real time [i.e. during the evaluation fieldwork] to those executing and managing the humanitarian response. [4]
- **Research:** A systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. [1]
- **Sample:** A subset of the population being studied. In a simple random sample all elements in the frame have an equal probability of being selected, but usually more complex sampling designs are used, requiring the use of sample weights in analysis. From example, a cluster sample is a multi-stage sample design, in which a sample is first drawn of geographical areas (e.g. sub-districts or villages), and then a sample of households, firms, facilities or whatever, drawn from within the selected districts. [adapted from 2]
- **Sampling Frame:** The complete list of the population of interest in the study. This is not necessarily the complete population of the country or area being studied, but is restricted to the eligible population, e.g. families with children under five, or female –headed households. For a facility survey, the sampling frame would be all facilities in the area of study. If a recent sampling frame is not available then one needs to be constructed through a field-based listing. [2]
- **Selection Bias:** Potential biases introduced into a study by the selection of different types of people into treatment and comparison groups. As a result, the outcome differences may potentially be explained as a result of preexisting differences between the groups, rather than the treatment itself. [2]
- **Survey:** The collection of information using a pre-defined sampling strategy, and a survey instrument. A survey may collect data from individuals, households or other units such as firms or schools. [2]
- **Theory of change:** A theory of change is a set of evidence-based causal hypotheses that articulates all the sufficient and necessary steps required to make positive change happen for a specific outcome. For the IRC, a theory of change is a graphic illustration of the pathways to achieve proposed outcomes and is used as a practical tool for designing stronger programs. A theory of change is not a single catalogue of programs, focused on one sector only, or simply inclusive of things we already do.
- **Treatment group:** The group of people, firms, facilities or whatever who receive the intervention. Also called participants. [2]
- **Validity:** The extent to which the data collection strategies and instruments measure what they purport to measure. [2]

DEFINITION SOURCES

[1] See Department of Health and Human Services (DHHS) – Office of Human Research Protections (OHRP)

[2] See 3ie Impact Evaluation Glossary

[3] See USAID Evaluation Glossary

[4] See ALNAP Real-Time Evaluations of Humanitarian Actions

[5] See WHO – Implementation Research and Operational Research