

WHAT IS RESEARCH?

Research, as defined by the Office of Management and Budget (OMB), refers to “systematic and creative activities undertaken to increase the knowledge base, including understanding of humankind, culture, environment, and society, and the application of this knowledge base to devise new interventions.”

Typically, this means the research process is hypothesis-driven, testable, and independently replicable. In general, under this definition, research includes:

- Experiments
- Observational studies
- Implementation research, including pilot studies
- Qualitative studies
- Population-based surveys that provide data for global results monitoring, small area variation analyses and cross-national comparisons and analyses
- Product development activities, including market research and acceptability studies
- Some impact evaluations

THREE KINDS OF RESEARCH

USAID categorizes research in three ways: basic, applied, and development research. USAID mostly funds applied and/or development research, but all three kinds are important for measuring the performance of USAID’s research and development (R&D) investments toward its development priorities.

Basic Research (BSR) is systematic study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward processes or products in mind.

Examples include:

- Creating new methods for the classification of immunoglobulin sequences.
- Searching for alternative means of computation, such as quantum computation and quantum information theory.
- Investigating the genetics of plant species in order to identify natural controls for disease or pest resistance.

Research generally does not include:

- Routine product safety and/or quality monitoring and testing, and other types of quality assurance and improvement activities
- Performance evaluations
- Routine program/project monitoring
- Descriptive geographic mapping and earth observations
- Assessments done for the purpose of program/project design or that contribute to strategy development
- Training activities for scientific and technical personnel
- Scientific conferences

Applied Research (APR) is systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met. Applied research is undertaken either to determine possible uses for the findings of basic research or to determine new methods or ways of achieving specific and predetermined objectives. The results of applied research are intended primarily to be valid for possible applications to products, operations, methods, or systems. Examples include:

- Research to distinguish between antibodies for various diseases.
- A clinical trial to determine efficacy and effectiveness in priority health areas.
- Planting experimental crops with altered spacing and alignment to reduce the spread of disease while ensuring optimum arrangement for maximum yield.
- Selecting for traits associated with water-use efficiency in greenhouse studies to develop drought-tolerant wheat and rice varieties.

Development Research (DVR) is the systematic application of knowledge or understanding, directed toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements. Examples include:

- Creating a tool for gene editing by using knowledge of how enzymes edit DNA.
- Research to guide the introduction and uptake of proven interventions.
- Designing a portable, fluorescence-based technology to detect and mitigate aflatoxin contamination in maize.
- Studying how hermetic triple bags used for chemical-free storage of cowpea can be used to store other crops.