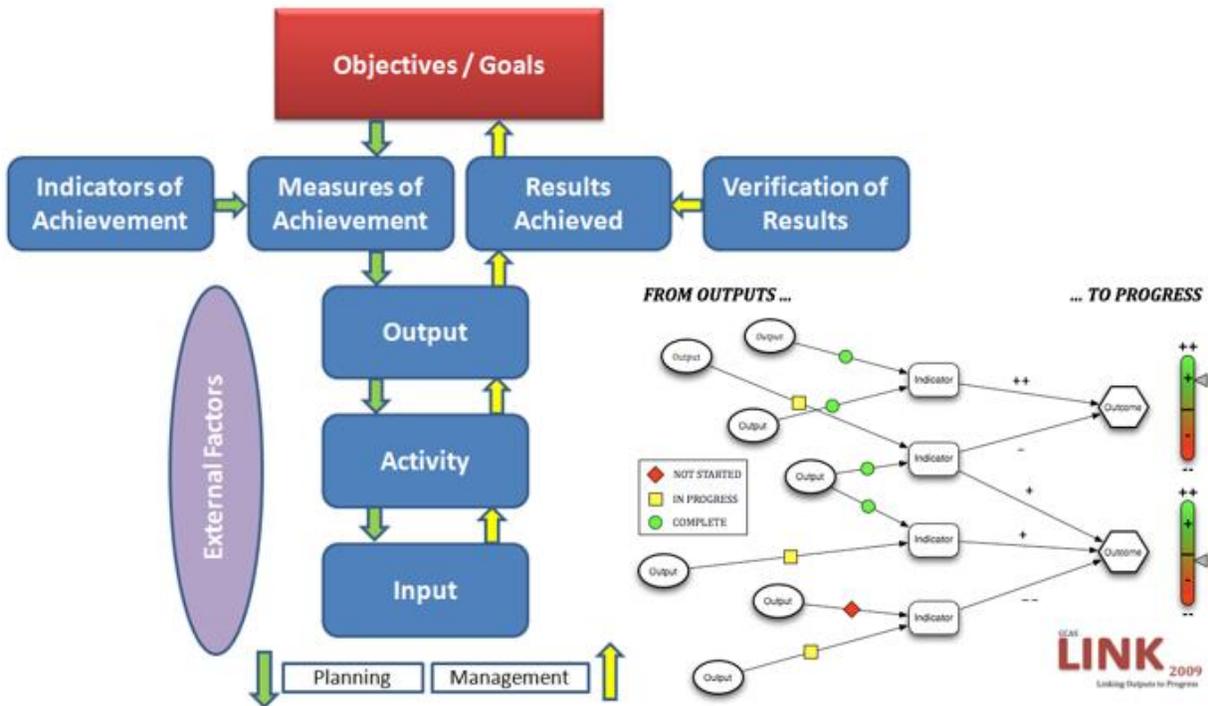


## **LINK:** Linking Project Task Outputs to Program Objectives and Long Range Impact



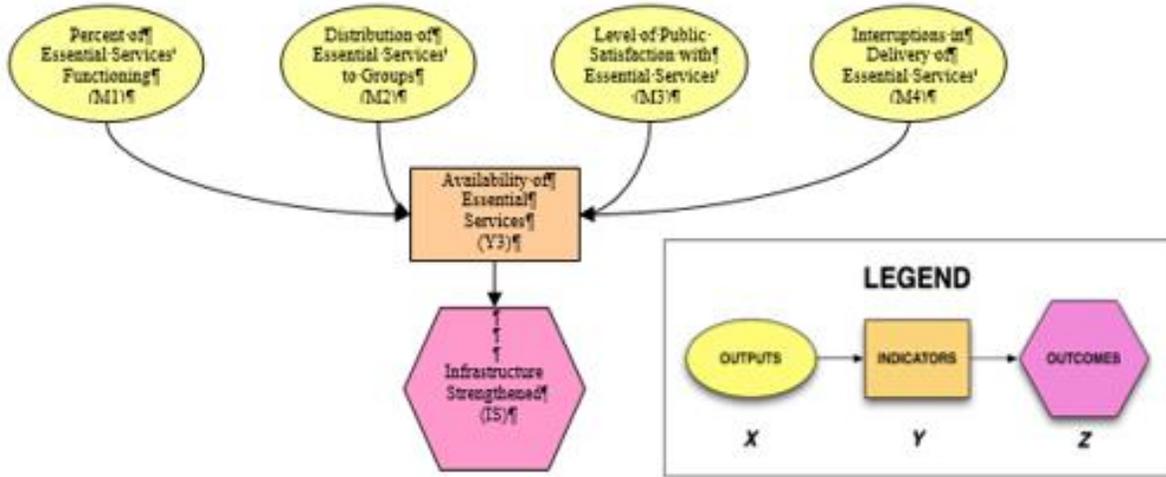
Under Army Corps of Engineers contract, GCAS developed techniques for linking the cause and effect relationships between the outputs of tasks in a project to the long range outcomes and impact of the overall effort. The linking is accomplished by using Influence Diagram techniques (upper right diagram) in conjunction with a Kelllogg Logic Model structure (upper left diagram).

The specific application for demonstrating this advanced AI software was the stabilization and reconstruction of Afghanistan. The software linked the *output* of stabilization and reconstruction (peace-building) projects/activities/tasks, determined by the Statement of Work for a given reconstruction contract award, to desired overall mission *outcomes/impacts* being monitored by the stakeholders such as Congress. A framework for establishing linkages from *Indicators* to *Outcomes*, from *Outcomes* to goals and from goals to mission sector objectives was established. In this case eight desired mission outcomes were defined by congress with a list of characteristic indicators for each outcome, and a linking list of project output measures to each indicator. For example, one of the Outcomes under “**Institutional Performance**” was “**Infrastructure Strengthened**” with multiple indicators, including “**What is the level of availability of essential services?**” with four project output measures:

1. Percent of essential services (e.g. water, sewage, telephone, trash removal, public transportation) functioning compared with pre-conflict levels. (By identity group and region)
2. Distribution of essential services to identity groups relative to their percentage of the total population.
3. Level of public satisfaction with essential service delivery (By identity group and region)

4. Prevalence, duration, and extent of interruptions in delivery of essential services. (By identity group and region)

The hierarchical mapping for this outcome is shown below.



Of course, multiple indicators are combined to achieve the desired outcome. The mapping for the entire Afghanistan reconstruction effort is shown below.

