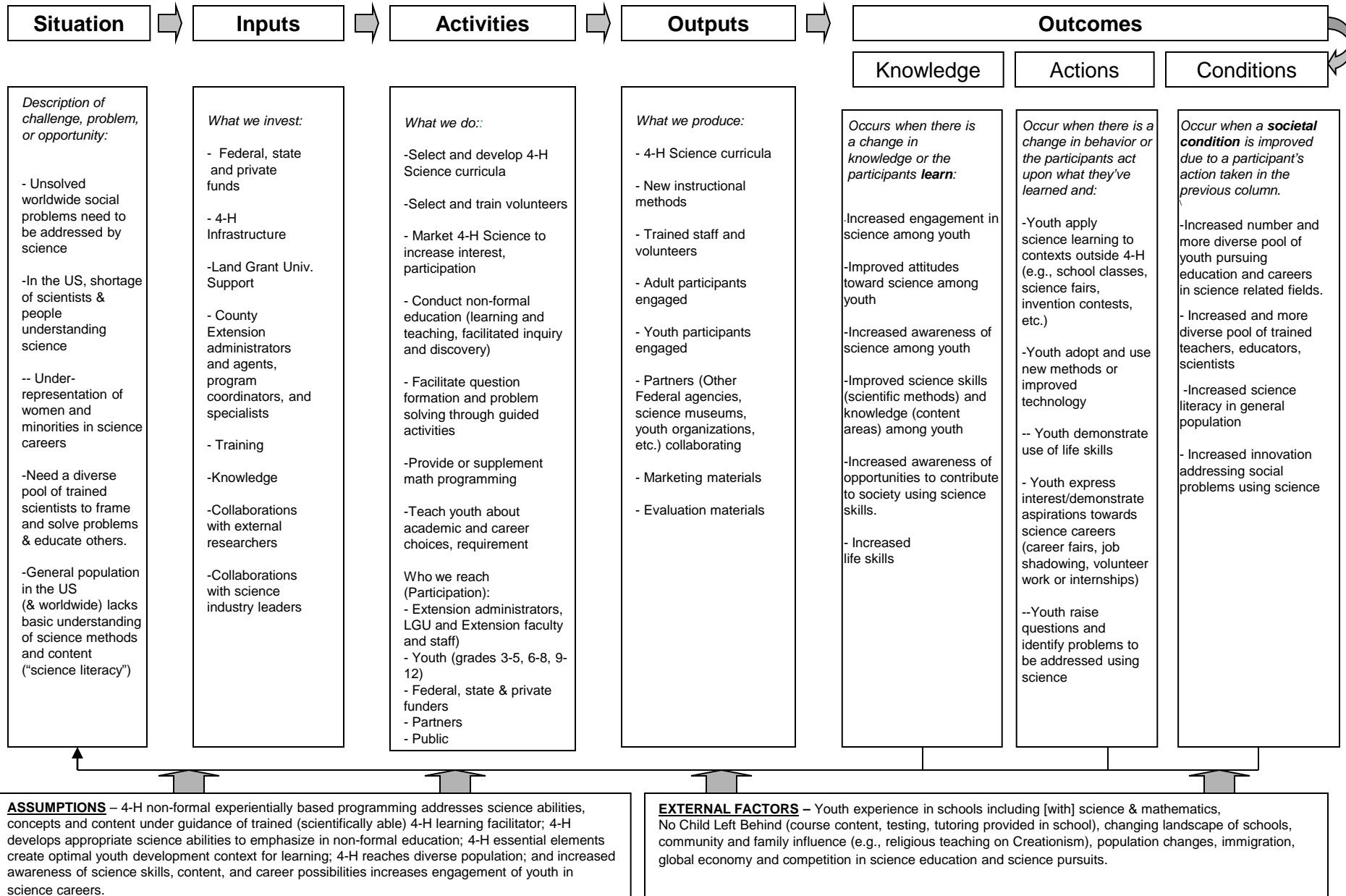


# 4-H Science Logic Model



*Description of challenge, problem, or opportunity:*

- Unsolved worldwide social problems need to be addressed by science
- In the US, shortage of scientists & people understanding science
- Under-representation of women and minorities in science careers
- Need a diverse pool of trained scientists to frame and solve problems & educate others.
- General population in the US (& worldwide) lacks basic understanding of science methods and content ("science literacy")

*What we invest:*

- Federal, state and private funds
- 4-H Infrastructure
- Land Grant Univ. Support
- County Extension administrators and agents, program coordinators, and specialists
- Training
- Knowledge
- Collaborations with external researchers
- Collaborations with science industry leaders

*What we do::*

- Select and develop 4-H Science curricula
- Select and train volunteers
- Market 4-H Science to increase interest, participation
- Conduct non-formal education (learning and teaching, facilitated inquiry and discovery)
- Facilitate question formation and problem solving through guided activities
- Provide or supplement math programming
- Teach youth about academic and career choices, requirement

*Who we reach (Participation):*

- Extension administrators, LGU and Extension faculty and staff)
- Youth (grades 3-5, 6-8, 9-12)
- Federal, state & private funders
- Partners
- Public

*What we produce:*

- 4-H Science curricula
- New instructional methods
- Trained staff and volunteers
- Adult participants engaged
- Youth participants engaged
- Partners (Other Federal agencies, science museums, youth organizations, etc.) collaborating
- Marketing materials
- Evaluation materials

*Occurs when there is a change in knowledge or the participants learn:*

- Increased engagement in science among youth
- Improved attitudes toward science among youth
- Increased awareness of science among youth
- Improved science skills (scientific methods) and knowledge (content areas) among youth
- Increased awareness of opportunities to contribute to society using science skills.
- Increased life skills

*Occur when there is a change in behavior or the participants act upon what they've learned and:*

- Youth apply science learning to contexts outside 4-H (e.g., school classes, science fairs, invention contests, etc.)
- Youth adopt and use new methods or improved technology
- Youth demonstrate use of life skills
- Youth express interest/demonstrate aspirations towards science careers (career fairs, job shadowing, volunteer work or internships)
- Youth raise questions and identify problems to be addressed using science

*Occur when a societal condition is improved due to a participant's action taken in the previous column.*

- Increased number and more diverse pool of youth pursuing education and careers in science related fields.
- Increased and more diverse pool of trained teachers, educators, scientists
- Increased science literacy in general population
- Increased innovation addressing social problems using science