**K-12 Outreach through the Indiana Council for Economic Education**

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**Summary .** The K-12 component of this project will focus on developing on 5 modules – each focused on an economic concept and area.  The proposed modules here are designed to bridge on the challenges on teaching economic topics to K-12 students. We frame these modules in the context of global challenges posed by the agriculture-environment-health trilemma. The focus of the unit will be driven by a “big question” or “grand challenge” and how the concept is illustrated/applied by exploring that question/challenge with an economic lens. Each module will be compound by a short video, a set of related analytical exercises including numerical examples and qualitative analyses, and a list of some related readings.

Videos will be designed to be concise, accessible and engaging. These will be used by high school teachers in their instruction. The format will enable teachers to integrate them into face to face or remote (online) methods of instruction. After the first video is produced and shared, we will ask teachers for feedback and this will be incorporated into the videos produced after. Together with each video, we will propose some related readings (e.g.: peer reviewed papers, media articles, book chapters, etc.) oriented to expand the students’ knowledge on the topic. We will also include a set of four to six questions with some numerical exercises and qualitative questions designed to evaluate the students’ understanding of the material.

**Timeline and design process through the period August – April** We estimate 4 weeks per video

1. Identify topics, concepts and challenges.
   1. Align with high school academic standards
2. Proposed topics
3. Trade-offs/Opportunity cost\* - in production now.
   1. Food waste, production
4. Externalities
   1. Possible content links - pollution and regulation, role of government, tax policy
5. Income elasticity (AP topic)
   1. Demand for food, inferior / normal goods
   2. Engel’s Law
   3. Bennett’s Law
6. Labor productivity
   1. Climate change impact, trade, GDP, economic growth, labor mobility (rural to urban/international migration)
7. Investment
   1. R&D impact on yields, impact on prices (food)
8. International trade
   1. Fundamentals: why we trade? gains and losses from trade.
   2. What do we trade? Illustrate with examples of long-run trends in international food trade.
   3. Implications of more integrated vs less integrated global markets in food production (prices, use of resources, policy implications, etc).
9. Storyboard sequence of images / script.
   1. General framework for videos
      1. What economics is about – explains / reviews the fundamental ideas / principles of the concept to be covered
      2. Expands and applies an example of the concept to INFEWS related topic
      3. Explainer – why it matters – includes data references, illustrated with graphs / visuals
      4. Real world examples / solutions / actions
      5. For more information (deeper dives)
10. Review content, video and graphs for grade level appropriate vocabulary.
    1. Revise and scaffold descriptions as necessary
11. Record video and audio of presenter
12. Produce final video with Camtasia software.
13. Final review
14. Post videos and teacher’s guide
    1. Short background explainer
    2. Highlights an activity for students to apply what they learned from the video
    3. Propose some related readings (e.g.: peer reviewed papers, media articles, book chapters, etc.)
15. Solicit feedback and repeat for next videos.