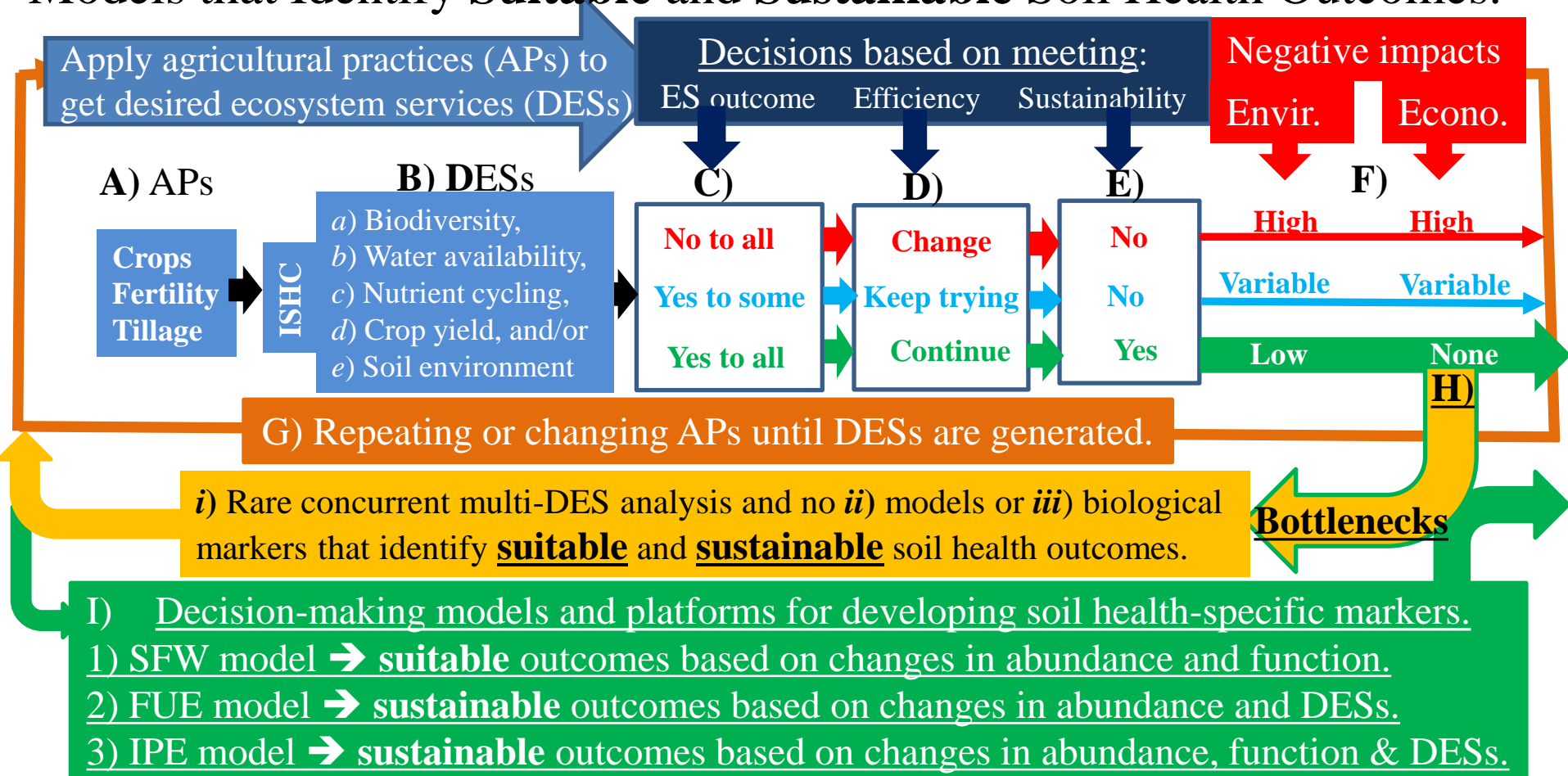


Models that Identify **Suitable** and **Sustainable** Soil Health Outcomes.



Graphic depiction of soil health degradation cycle (A - H) and how the SFW, FUE and IPE models (I) can identify **suitable** and **sustainable** outcomes, reverse the bottlenecks and become integration platforms for step-by-step alignment of DESs and for developing soil health-specific biological markers. APs (A) influence soil health components (ISHC) to generate DESs (B) and management decisions are based on DES outcomes (C) and variable definitions of efficiency (D) and sustainability (F) and without concurrently weighing the environmental and economic impacts (F). When the DES outcome is negative (**red letters and arrows**) or variable (**blue letters and arrows**), the decision often is to change and/or repeat the APs until desirable DES outcomes are achieved (G), or to continue if DES outcomes are desirable (**green letters and arrows**) without considering the bottlenecks (H). Consequently, the cycle of soil health degradation continues. Only when the bottlenecks are overcome is sustainability achieved, but it is rare that multiple DESs are analyzed concurrently in ways that identify **suitable** and **sustainable** soil health outcomes as the SFW, FUE and IPE models do (I).