

The Coming Food Crisis: A Moment for Organizational Change at a Global Level

Opinion

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Author Details

Hubbart JA*

Davis College of Agriculture Natural Resources and Design, West Virginia University, USA

***Corresponding author**

Jason A. Hubbart, Professor Dr. of Physical Hydrology, Davis College of Agriculture Natural Resources and Design, Division of Forestry and Natural Resources, 340 Percival Hall, Morgantown, WV 26506, West Virginia University, WV, USA

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Abstract

A profound transformation in global agricultural production and sustainability must be accomplished by global leadership to avert a food crisis by 2050. Not only is there projected to be a need to feed more than two-billion additional people by then, but also the need to do so using sustainable agricultural design, amidst ongoing climate change and technological advancements that must compensate for adverse and extreme conditions. This opinion piece is presented to increase awareness of the organizational change method, the challenge of truth, and how successful navigation of both could help leaders solve the looming global food crisis. Conceivably, a change initiative to advance global agricultural production systems would include a unified leadership developing a global sense of urgency capable of convincing a global population of the need for change, including the buy-in for sacrifices that may be necessary to achieve long-term sustainable agriculture.

Keywords: Food crisis; Agriculture; Sustainable development; Sustainable agriculture; Organizational change; Buy-in; Leadership, Change leadership

Opinion

The coming mid-century global food crisis is one of the most challenging and complex issues in human history. Assuming the world's population surpasses the projected 9.1 billion by 2050, annual cereal production may need to increase by 3 billion metric tons, and annual meat (protein) production may need to increase by over 200 million metric tons [1]. While estimations such as these may not foresee the many implications of transitions of various clean energies, or global geographic food preferences, or data quality, meeting this coming challenge is of global priority and policy makers need these types of projections to make best policy planning decisions.

In 1987, the World Commission on Environment and Development report *Our Common Future* included the phrase *sustainable development* to better embed the critical role of agriculture in feeding current and future human populations in policy decision making [2]. The report defined sustainable development as development that meets current needs without compromising the needs of future generations, implying that at that time, goals of sustainable agricultural were not being met. There are many additional challenges for meeting long-term, increased, food production requirements [1]. These include (but

are not limited to) continental, regional and local anthropogenic climate anomalies [3-5] that are already affecting agricultural crop production in many geographic locations [5,6] by means of the disruption and intensification of the hydrologic cycle [9], including floods, droughts, and disruption of culturally accepted water supply regimes [7]. Considering future food production, and the greater quantities of food needed amidst a rapidly changing climate there are needs for great technological advancements in plant (cereals, fiber) and animal (protein) production efficiencies [8,9]. These immense challenges will require a global effort that includes a united leadership determined to meet the challenges of the future. This opinion piece aims to increase awareness of the organizational change method and the need to embrace truth in the organizational change process. Both could help leaders meet the coming global food crisis.

Organizational change is a process in which an organization alters minor to major structural components including, but not limited to, culture, technology, or infrastructure to reach a new level of success, most often production quantity and/or quality, and efficiencies. The process of organizational change usually involves at least three major phases including, preparation, implementation, and follow-through [10] (Figure 1). At the global scale, this process would translate to a



globally concerted effort to prepare humans for agricultural challenges of the future, implement those plans, and following-through with those plans in perpetuity. This may seem like a monumental undertaking considering the global scope of any united organizational change effort. However, the process of organizational change has been studied

for decades [11], and there are established tools available to assist with a deliberate approach. For example, while there are many models, Kotter [12] identified eight steps to change initiatives that provide useful guidance for successful change initiatives (Figure 1).

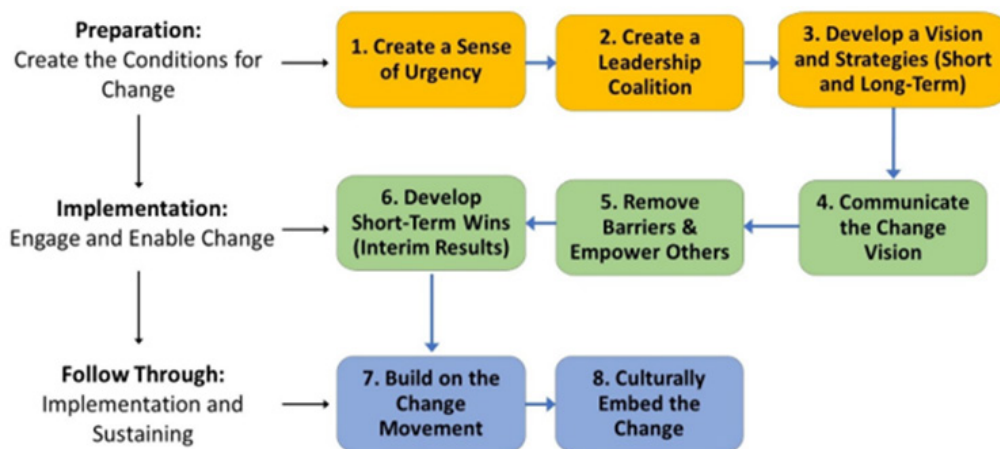


Figure 1: The three phases of organizational change: Preparation, Implementation, and Follow Through (left). (right) Eight phase integrated steps for organizational change, revised and recreated from [12].

A change initiative global in proportion requires strong and unified national and international leadership teams. The distinction between managers and leaders is important. Management is intended to make a system (or, organization) work. The goal of management is to help accomplish what is already known. In contrast, leadership builds on existing systems, or organizations, and transforms old ones. Leadership develops a pathway towards new, possibly undiscovered territory, and is critical to advance a complex, increasingly globally integrated agricultural system [12-15]. Leaders are thus, by definition, agents of change [16]. These distinctions are important in the current context because humans have never navigated a population-agriculture-climate challenge such as the present at any time in history. To successfully navigate this new terrain will require skilled, deliberate, dedicated, and unified change leadership.

Perhaps one of the, if not the, greatest challenges in any organizational change effort is the acceptance of truth. Avoidance of truth, or truth telling in the business world is common and can take many forms. For example, employees may avoid certain information reaching a supervisor for fear of delivering bad news. A department may avoid sharing information that may put them in a negative light relative to other departments. However, in any organization, acceptance of inconvenient truths is critically important and must be accomplished in order to obtain buy-in [17] at every stage of an organizational change effort, but in particular, during the preparation phase (Figure 1). Considered differently, lacking deficiencies, change would be unnecessary. But making a change, whether that change is personal (employee level) or at the organization level, requires acceptance that there is a deficiency (e.g., a behavioral or procedural failure). It is only when that failure is accepted that true change can occur. This process is difficult and requires a great deal of careful navigation and empathy on the part of leadership, because accepting the truth(s) prompting organizational change can be akin to the common phases of grief. Phases of grief can include denial, anger, bargaining, depression, and finally acceptance ([18,19], and references therein) (Figure 1). Thus, truth in the current context may include that

- a. Current agricultural practices are unsustainable and environmentally harmful,
- b. People may need to reduce consumption,
- c. Some luxuries may not be obtainable by developing nations because those resources may no longer be obtainable.

Truth may also pertain to the dire consequences of not changing the global agricultural modus operandi.

Resistance to acceptance of truth and, therefore, a lack of buy-in may also be based on engrained cultures of habit or inertia (“the way it has always been done”). Resistance may also be attributable to fear of the unknown (potential for unexpected outcomes), absence of the skills (training) employees may need after the change, threats to the current and dominant cultural power base (current managers and leaders), values and beliefs, conformity to norms, and inability to imagine alternatives [11,20]. Fortunately, when a change movement is initiated with an honest and objective effort to determine the truth of a situation, the most pragmatic and progressive decisions often become self-evident, and how to best navigate resistance becomes clear. The role of leadership is critically important in this context because one of the most important factors in change initiatives is the extent to which leadership is willing to fully commit from the beginning in honest, open, truthful, and empathetic conversation. Ultimately, dealing with the truth of a potentially dire situation (productivity, efficiencies, climate change, food and water crises, etc.) requires an honest assessment of employee and/or organizational behavior. It follows that the need to accept what may be painful truths and gain buy-in at all organizational levels (citizens to nations) is perhaps the greatest challenge to address relative to the coming global food crisis [21,22]. Ultimately, without the hard introspective work necessary to accept truth and garner buy-in, meeting future global food needs in a sustainable way may be extremely difficult.

In closing, to meet the food requirements of a global human population of more than 9 billion by 2050, global leadership must reach consensus, create a unified sense of urgency, and do the hard work to gain the buy-in of a global population to accept and act upon difficult truths. Global leadership and citizenry must be willing to fully embrace a pathway to long-term sustainable development to address the coming global food crisis. The well-documented tools of organizational change can greatly improve strategies, processes, quality and outcomes of that effort.

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Conflicts of Interest

The author declares no conflict of interest.

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