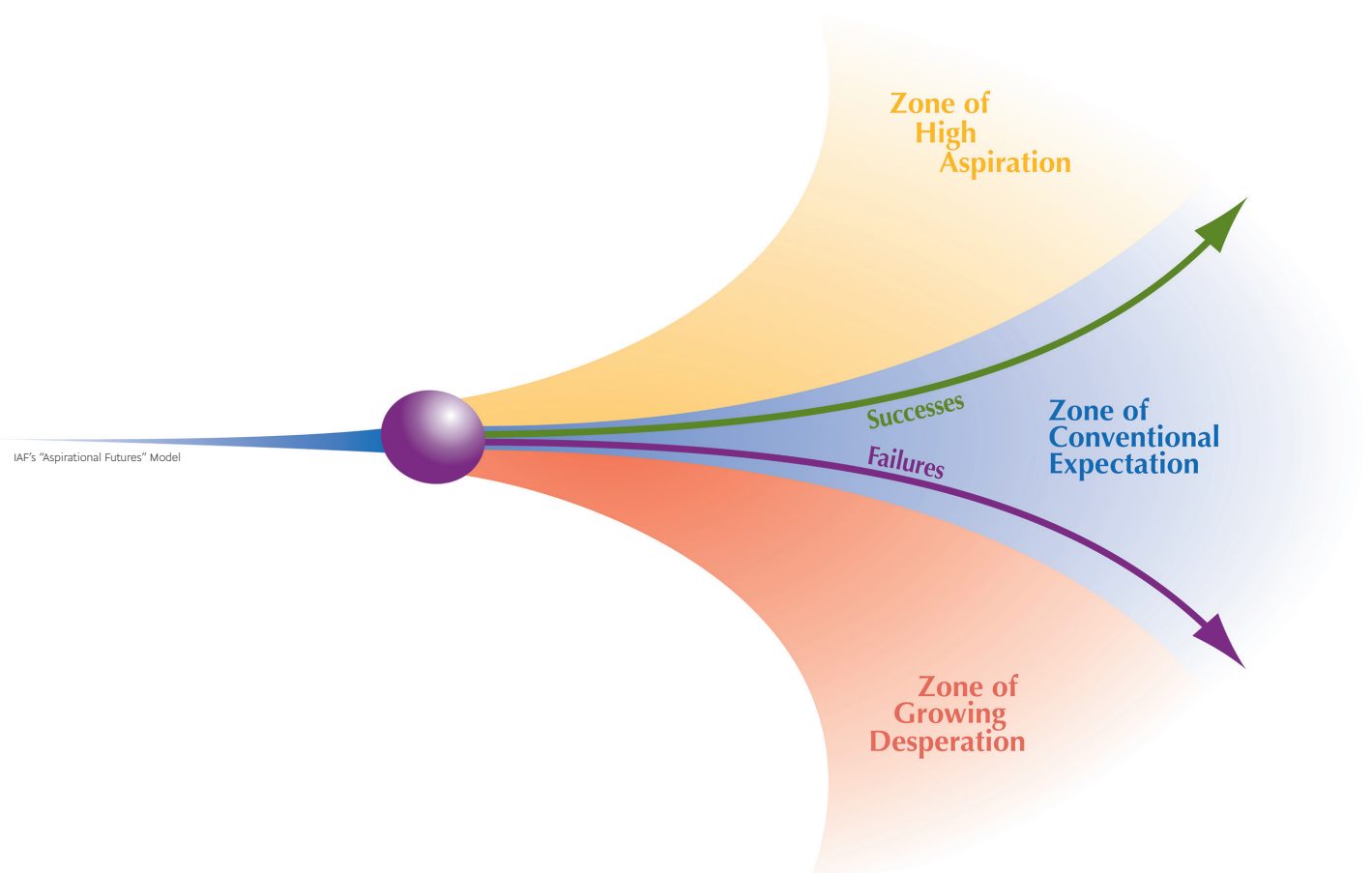


Aspirational Futures

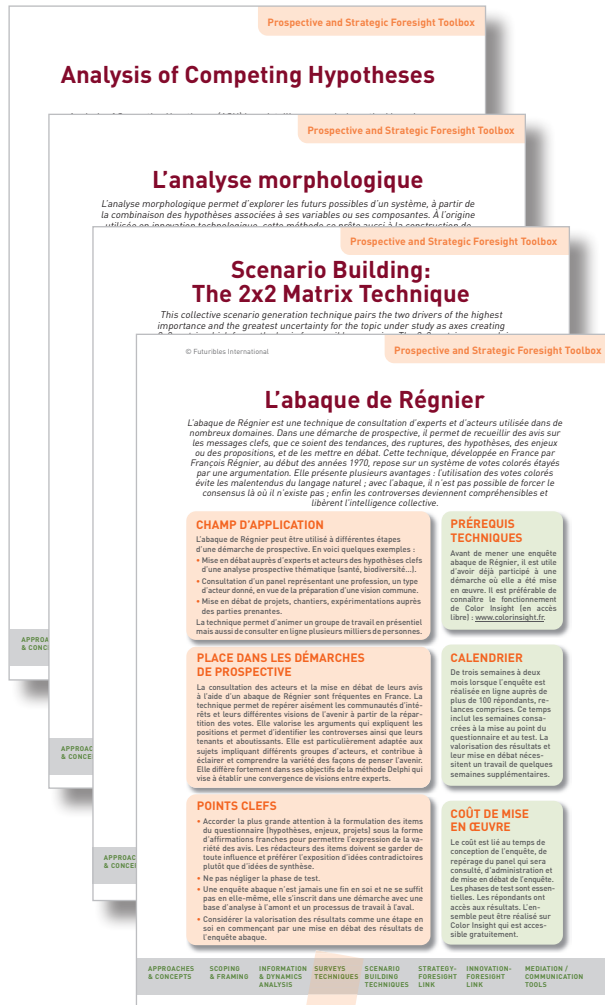
by Marguerite Grandjean



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Prospective and Strategic Foresight Toolbox

Already published sheets



► “L’abaque de Régnier. Un outil d’enquête adapté aux démarches de prospective”, by Nathalie Bassaler

► “Aspirational Futures: Integrating Aspirations and Fears in Collective Futures Building”, by Marguerite Grandjean

► “Causal Layered Analysis: A Four-Level Approach to Alternative Futures” / “L’analyse causale multiniveau. Une méthode à quatre niveaux pour construire des futurs alternatifs”, by Sohail Inayatullah

► “L’outil ‘fiche variable’” / “The Driver Report: Documenting Variables for Foresight Exercises”, by Véronique Lamblin

► “L’analyse morphologique. Une méthode pour construire des scénarios prospectifs” / “Morphological Analysis: A Method for Building Futures Scenarios”, by Véronique Lamblin

► “Scenario Building: The 2x2 Matrix Technique”, by Alun Rhydderch

► “Prediction Markets: How They Can Work in Foresight”, by Émile Servan-Schreiber

► “Analysis of Competing Hypotheses”, by Kristan Wheaton

Futuribles International offers a **toolbox of foresight methods**. This Toolbox can be used for training and as guidelines for the development of a strategic foresight process in interested organizations (which will select the most useful techniques for their own purpose).

Most of the sheets are **freely downloadable** from the Futuribles website:
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Futuribles International is a think-tank on the future. It is dedicated to understanding the major transformations taking place in our world. It incorporates a long-term perspective by stressing the scope for manoeuvre available to the various actors and the possible strategies they may adopt.

Aspirational Futures: Integrating Aspirations and Fears in Collective Futures Building

Aspirational futures is an approach for learning about the future and committing to achieving a preferred future. Most often experienced through the scenario-building process, this method strives to take into account biases, especially participants' fears and aspirations related to the future.

APPLICATIONS SCOPE

Time frame: Mid- to long-term changes in the global environment and within the context of the organization, especially new paradigms, global transformations.

Domain: All fields. The idea is to help stakeholders identify new domains of agency regarding their own future, even when they do not think they have agency.

Number of participants: From 10 to 100.

TECHNICAL REQUIREMENTS

Facilitator's Skills:

Combination of left- and right-brain skills, creative writing for excellent narratives, foresight experience to separate the significant from the anecdotal.

Availability of stakeholders to work in a group.

RELEVANCE AND USE IN FORESIGHT

The aspirational futures method proves useful to kick off touchy discussions, particularly on threats. The method provides a neutral space (often called a "safe space") for exploring fears, challenging situations, and individual aspirations especially in relation to collective aspirations (the organization's aspirations).

This method may be applied to take into account stakeholders' fears and aspirations regarding changes in the organization's environment, particularly when there is a transition in the leadership team or in any other major situation of change. It is also effective in identifying the need for change.

TIME FRAME

Appropriation of aspirations and fears leading to implementation of large-scale changes takes about one year to one year and a half.

In shorter time frames, the scenario and forecasting method is used to provide an understanding of key trends and weak signals about the future.

BASIC CHECKLIST

- Participants are key stakeholders in the issues at hand. They are ideally willing to participate.
- Project objectives state explicitly why an aspirational approach to the future is relevant.
- Balance between so-called right-brain skills (summarizing, seeking meaning) and left-brain skills (analyzing, seeking truth) among the team members.

TOOL IMPLEMENTATION COSTS

In-house Costs: Wages/ hours of any employees involved.

External Costs: 2 consultants (minimum 30 days per project), illustrator/graphic artist.

Prospective and Strategic Foresight Toolbox

February 2017

Aspirational Futures

by Marguerite Grandjean*

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The Prospective and Strategic Foresight Toolbox is a Futuribles International and CAP Prospective project

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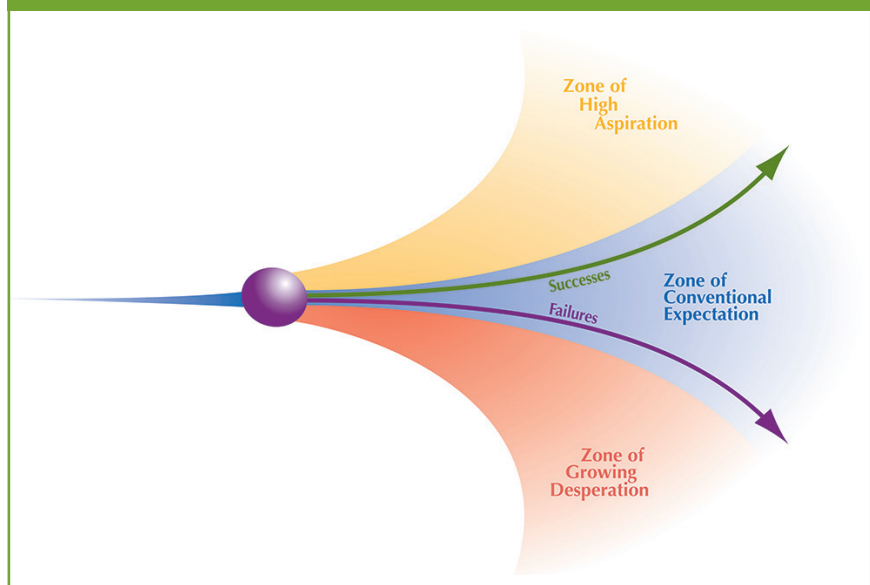
Abstract

Aspirational futures serves as a powerful capacity-building approach that accomplishes three goals: learning about the future, visioning a preferred future, and committing to achieving this preferred future. The key objective of the method is to generate awareness of positive biases (aspirations) and negative biases (fears) about the future. Participants' awareness deepens their interest in achieving a desirable future and consequently their commitment to action. This helps managers or organizers pinpoint and pursue an organization's goals more successfully. As a foresight approach, the method also explores several possible paths that may be considered while looking at the future, with both the organization and the broader context in mind. To this end, the method analyzes trends and emerging signs of change which enable teams and managers to understand what might drive future possibilities.

Aspirational futures was first developed by the Institute for Alternative Futures (IAF), a non-profit advisory group and think-tank based in Washington, DC, in the 1970s. Clement Bezold, IAF's founding chairman, pioneered the approach, drawing on work by Alvin Toffler and Jim Dator. Over the years, current IAF President Jonathan Peck has contributed major psychological notions and theories of change. Other contributors to the approach include Roger Fritz and Robert Olson.

Developing scenarios that explore the expectable, challenging and visionary distinguishes the aspirational futures approach to scenario development. In fact, aspirational futures is most often experienced and best understood through a scenario-building process that includes four scenarios: (i) an expectable scenario that draws on today's best available intelligence (Scenario 1); (ii) a challenging scenario that asks what could go wrong (Scenario 2); and (iii) two aspirational scenarios, Scenarios 3 and 4, that show two different paths and images of what success could look like. Scenario construction is based on a set of methods including environmental scanning, forecast development, and several visioning techniques applied in interviews and workshops. Aspirational futures may also be used to create a vision statement, which expresses an inspiring image for an organization's strategy or operations as a focal point ("North Star"), and follows up with the explicit description of associated audacious goals. ■

**FIGURE 1. THREE ZONES OF THE FUTURE,
AS CONCEPTUALIZED AND DESIGNED
BY THE INSTITUTE FOR ALTERNATIVE FUTURES (IAF)**



Keywords

Aspirational Futures | Vision | Scenario Construction | STEEP | IAF

Description of Aspirational Futures and the Scenario Development Process

Application

Instead of other scenario-building processes, the aspirational futures approach is recommended in the following cases:

- ▶ A team or organization (especially top managers or leaders) commits to considering the long term in their strategic decisions and wishes to assess opportunities and challenges.
- ▶ A trigger for significant change or improvement is needed because (i) external factors are threatening the organization or opening up major opportunities (*e.g.* a new investment), (ii) transition is occurring in the leadership team, (iii) internal factors block the achievement of specific goals.
- ▶ Touchy discussions, particularly on threats, are difficult to get started. The aspirational futures method offers a neutral forum, sometimes called a “safe space”, in which to explore fears, challenging situations, and individual aspirations in relation to the collectivity (the organization). This method also aims to convert the discussion of difficult matters into positive possibilities through the two aspirational scenarios.

Requirements

Aspirational futures projects require calibrating the following resources:

- ▶ **Time:** Time frames vary considerably from one scenario or visioning project to another. Effective aspirational futures projects usually require several months. In fact, an IAF project averages about a year. However, one-time workshops may prove useful; they do require prior preparation for best results.
- ▶ **Participants:** It is essential to identify the people who will be most affected by the explored futures (a specific team, a city or local community, the users of a given public service or commercial offer), as well as those who will have the most impact on future developments (often the top leaders). Usually an aspirational futures project requires one or two project officers from the partner organization. This internal officer or administrator must work regularly, even closely, with the foresight team, to oversee operations, provide input, and coordinate with the organization’s key teams or individuals.
- ▶ **Skills:** It is important to have a blend of left- and right-brain skills within the team that leads the scenario-building process. The following specific abilities are needed:
 - analytical, detail-oriented research;
 - “connective” minds capable of making unexpected links between trends;
 - creative writing ability for excellent narratives;
 - foresight experience and intuition to separate the significant from the anecdotal;
 - capacity to combine objective assessment of trends with subjective understanding of ethics, culture, values, and ethics in decision-making.

For best results, an aspirational futures process should begin only once the following preparations have been completed:

- project is clearly defined, including staff, timeline, and budget;

- project objectives are explicit in stating why an in-depth exploration of the future is needed and on which changes it should have influence;
- teams and leaders most affected by the organization's future or with the most influence in an organization have been identified and, ideally, are ready to participate;
- practitioners and participants know which particular audience will be reading the final product (deliverable) communicated and with what intention.

How Aspirational Futures Works with Scenario Development

In this approach, scenario development usually starts with environmental scanning, a first step that involves futures research about key trends and weak signals that are driving future evolutions in the organization and its environment. Data are collected primarily through expert interviews and literature reviews from varied sources ranging from academia to futures/technological magazines to more futuristic blogs.

Once the research has been collected, the second step, forecast development, follows. Note that in common foresight terminology, forecast most often refers to quantitative modeling. At the Institute for Alternative Futures, however, the term means a projection into the future of specific key forces or emerging drivers found through environmental scanning. These forecasts act as micro-scenarios about one given key force or driver considered in relation to its broader context. Depending on the length and requirements of the aspirational futures project, forecasts may be presented in full storytelling form with narratives or in a matrix summarizing key changing elements or in research summaries. Full blown forecasts may thus only be developed in the expectable zone of the future, as a way to organize the best available intelligence on different future topics. Three or four alternative forecasts may also be developed to show expectable, challenging, and aspirational possibilities for each driver; *i.e.*, the array of anticipated outcomes for that driver over a given period. The forecasts may be published in the final deliverable and also presented to stakeholders during interviews or workshops in order to prepare and develop the scenarios.

STEEP

STEEP commonly serves as a mnemonic referring to the five generic metacategories in which most trends fit: Social, Technological, Economic, Environmental, Political. In some sectors, other categories may be added, *e.g.*, L for Legal or V for Values. The latter category may involve evolutions related to populations' expectations, value shifts, levels of consciousness, and spirituality.

The STEEP acronym ensures facilitators do not omit any of the key forces that should be explored within an organization's environment. ■

On a practical note, the production of fully written alternative forecasts for each driver requires a lot of work, in terms of researching and writing. Although alternative forecasts do feed into the final scenario narratives, they are independent from final scenarios. Moreover, not every forecast and trend will appear in the final narratives.

The third and final step is scenario development itself. The aspirational futures approach requires scenarios to fit into the three zones of the future illustrated in Figure 1. This means that the main differences between the scenarios lie in their desirability levels (negative, positive) as well as in their perceived probability level, with expectable scenarios assumed to be most likely and aspirational scenarios assumed to be less likely. Interestingly enough, a participant's perception of "less likely" may change when aspirational possibilities are explored more deeply

and converted into signposts and strategic objectives. IAF recommends developing four scenarios, with two aspirational scenarios showing two distinct possibilities of success. Indeed, those two aspirational scenarios counter a bias toward pessimism or a lack of imagination that renders it more difficult for participants to imagine success than failure in most organizations.

The significance of these three zones should be considered in terms of how subjective views of the future (checked against plausible research findings) may stimulate participants' commitment to a preferred future and interest in building it. Facilitators should explain the purpose of the three zones, notably in European contexts, where the structure might be seen as a rigid representation of abstract archetypes.

Besides scenario development, visioning, strategic analysis, and leadership development are employed in aspirational futures, as sketched out below.

► **Visioning:** This is the process that leads to a vision statement, an explicit description of the higher contribution that an organization aims to make in the long run. The words selected should reflect a sense of commitment plus a deep feeling and belief in the purpose, meaning, direction, and reasons for existence of an organization. Audacious goals may then be developed as a complement to the vision. This process includes depicting a range of stretch goals, or over-arching aims that require giant steps, in order to make the vision more tangible and likely.

► **Strategic analysis:** A form of exploration that is most often accomplished through scenario workshops during which participants delve deep into the various scenarios developed and anticipate the potential consequences of developments in their own area. Sometimes alternative physical settings are used. Strategic analysis often includes an assessment of the robustness and desirability of different strategies against different scenarios.

► **Leadership development:** This is a sub-process in which techniques based on aspirational futures are applied to develop the capacity to inspire action and to communicate authentically within organizations. Aspirational futures recognizes that subjective dispositions influence commitment and effectiveness in actions; as a result, it may be necessary to spend time exploring participants' representations, biases and feelings toward the organization and its future. Various psychological techniques and theories may be used, *e.g.*, dialogue, guided visualization, appreciative inquiry, spiral dynamics, positive deviance, aspirations model workshops and the Myers-Briggs Type Indicator (MBTI).

Tips and Best Practices

What follows is pragmatic advice adapted or quoted primarily from Clement Bezold's 2010 article "Lessons from Using Scenarios for Strategic Foresight" (please see the bibliography).

► **Take into account differences in individuals' capacities to deal with the uncertainty** associated with foresight, and the visionary aspect of aspirational futures.

Warning: Not everyone is comfortable with foresight! Some might add that foresight can trigger "allergic reactions" depending on individuals' psychological preferences. In fact, practitioners should take preferences into account and make the aspirational futures process transparent to participants so as to encourage learning and capacity development.

According to Swiss psychiatrist Carl G. Jung (quoted in Bezold 2010, p. 1515), "differences in behavior result from people's inborn tendencies to use their mind in different ways, particularly in how they take in information (perceiving) and come to conclusions (judging)." In perceiv-

ing information, one “can focus on the concrete/specific (Sensing — S) or on iNtuition — N.” Jung notes that people may use the judging function “more objectively by Thinking — T, or more subjectively by Feeling — F.”

In the context of foresight, the same article cites Jonathan Peck, IAF President, who “points out that most futurists commonly prefer the ‘intuition’ form of perception (what Jung called instinctive apprehension), while the majority of individuals have an opposite preference ‘sensing’ and take more detailed, fact-based views”. Moreover, in the IAF’s experience, “the model type for leading executives in government and corporations are ‘STJs’. These ‘Sensing, Thinking and Judging’ individuals focus on details, process in their heads rather than their hearts, and can come to conclusions quickly. They often react negatively to the uncertainty that scenarios raise and find exploring the future to be stressful. Alternatively, ‘Intuitive Thinkers,’ or NTs, can deal more comfortably with scenarios that provide a systems view. For ‘iNtuitive Feelers’, or NFs, value and vision work comes most naturally as an approach to the future, while STJs tend to ignore work on values and vision in the organization and can be suspicious of any claim to know what the future holds.”

► Err on the side of boldness

Clem Bezold highlights that “the value of scenarios is greater when more diversity is considered, and generally the future will include more rather than less change.” In the aspirational zone especially, the more audacious the change proposal is, the more optimistic capacity for change it may trigger. In some cases, participants will select one aspect in the aspirational scenarios and set off toward achieving it. In one IAF case, the team (part of the organization’s Board) decided to commit a fairly large budget to deploying a decentralization strategy, which was not identified before the scenarios were developed, and which emerged in the aspirational zone as the most effective way to avoid the organization’s decline and death. It is worth noting that the ability to generate daring aspirational proposals that are both plausible and compelling depends largely on the foresight experience or competence of the practitioners leading the scenario construction process.

► Trust the participants

In the IAF’s experience, teams engaged in an aspirational futures process led by a seasoned facilitator will gradually accept their role and engage in subjective projections into the future. In most instances, they will come to terms with their own subjective conception of the future and converge toward a meaningful vision. Eventually participants who find the process difficult will come around even when futures work unearths significant threats. This was demonstrated in one IAF project in which expectable forecasts based both on research and the documented fears of some of the leaders revealed how the organization was in effect heading toward extinction. Although initial reactions upon discovering these forecasts were strongly negative, the tools for exploring higher aspirations and the options outlined in Scenario 4 led participants to not only recognize the intensity of the threat facing the organization but also trust in their agency and their power to provoke key changes.

► Pay attention to what happens after the process ends

In the case of scenarios, tools exist to monitor how the scenarios are advancing and thus avoid the final report being shelved and never touched again. Two typical follow-up tools are easily tracked signposts related to each scenario and ongoing environmental scanning. Ideally, the organization would have the means to check the evolution of a scenario’s likeliness and desirability plus its implications.

Errors to Avoid

► Do not pretend this method is something else

Aspirational futures remains a unique method not easily related to other scenario development approaches. It addresses the subjective mind, which may frighten or surprise participants, while seeking to engage both head and heart. Nevertheless, the method uses rational thinking and robust research to underpin plausibility. Practitioners should be transparent from the outset about this “double identity”. They should use the appropriate vocabulary and avoid focusing on only one of the two lenses (objective and subjective) of the approach. Otherwise, the risk of disappointment is high.

► Do not avoid in-depth discussions

It is easy to neglect time-consuming discussions considered unusual in government or corporate settings.

Yet, one of the most important elements of aspirational futures is conducting in-depth one-on-one discussions during interviews with the key people concerned in an organization, particularly those with power to impact the future. These interviews are designed not only to collect expertise but also to elicit fears and wishes projected onto the future. To achieve this, dialogues, appreciative inquiries, and visioning exercises remain essential along with the ability of practitioners to facilitate tactfully and appropriately. Of course, collective activities such as workshops at various stages of the process are equally important, and practitioners should rely on appropriate, calibrated discussion techniques during these sessions, too.

Frequently Asked Questions (FAQs)

► Who should initiate and use aspirational futures?

In the words of IAF cofounder, Clement Bezold: “Ideally foresight for an organization is done from the top.” (See Bezold’s 2010 article, the source for this section.) The aspirational futures method is usually applied when there is the need for major change; hence, it is essential to involve the right levels of the organization and its stakeholders. “In a corporation, this would mean working with the CEO or other senior leader. In government agencies, it would be the senior ministry officials, both political appointees and senior career officers. Much foresight is indeed focused on this level.”

In what Clem Bezold calls “leadership from the middle”, middle managers in different departments (R&D, manufacturing, human resources, marketing) within a corporation or public agency may also do foresight activities on a regular basis.

As such, aspirational futures may be useful in government, corporate or civil society settings. Indeed, the process is often used in a similar fashion, although companies tend to dedicate more resources and move more quickly in developing the project and acting on the final report.

► Desirable... for whom?

Participants will resist mentioning a “desirable”, or “preferred”, future on the grounds that one person’s preference or desire may not converge with someone else’s, albeit a member of the same organization. However, in the IAF’s experience, this often occurs when the subjective component is kept at a superficial level; *i.e.*, when the exploration of aspirations and biases fails to reach a deeper meaning in the individuals and how they relate to their organization. In

one rather telling example, IAF conducted an interview with the CEO of a major US professional association. When asked what the organization's key ambition was, the reply focused on specific operational objectives aiming to regain market share, trim unnecessary expenses, and beat the competition. This answer was at odds with the way other team members saw the nonprofit's priorities. Subsequently, more dialogue was led both individually with the CEO and collectively with staff and Board members. Over the months, the process uncovered that all the participants did share one belief. They all believed that the key meaning of their work laid in the organization's mission; in other words, advancing technology for the benefit of humanity. This eventually led to action plans for deep change, which would have been unthinkable beforehand given how opposed some participants' views were.

► How should practitioners communicate scenarios based on aspirational futures?

A few rules of thumb help in communicating scenarios and exploring the future which underpins those scenarios:

- Find a short, catchy title.
- Make sure only one person is in charge of scenario writing, so that the overall style is coherent.
- Make sure this person has excellent creative writing skills.
- Add personal vignettes (“a day in the life of someone in 2030”), images, or videos (made by a professional) customized for each scenario. Based on IAF experience, these audio or visual touches help participants in understanding key points in the scenarios and in “feeling” the scenarios.
- Ensure early in the process that the people concerned with scenario development are indeed involved.

Case Studies: Three IAF Scenario Projects

Public Health 2030: A Scenario Exploration (2014)

IAF in partnership with the Prevention Institute developed for the Kresge Foundation and the Robert Wood Johnson Foundation four scenarios on the future of public health in the United States. This work emerged from previous IAF futures work on American health issues: *Primary Care 2025* (2012) and *Vulnerability 2030* (2011). The future of health and well-being deserves special attention at a time when the actors, budget, and scope of public health in the United States are changing profoundly.

► Project Organization

IAF recruited a small advisory committee of public health leaders, tasked with providing input and guidance on project directions, reviewing draft forecasts and scenarios, and participating in the national Public Health 2030 workshop. Within the Kresge Foundation and the Robert Wood Johnson Foundation, three project officers oversaw the development of the scenarios.

► Environmental Scanning

Besides carrying out research, the IAF team interviewed a broad range of experts in public health and related fields, both individually and within assembled public health groups. Six drivers shaping public health were identified: 1) chronic disease; 2) climate change and environmental threats and impacts; 3) community prevention; 4) economics and public health financing; 5) injury prevention; and 6) technology and information system advances.

Forecast Development

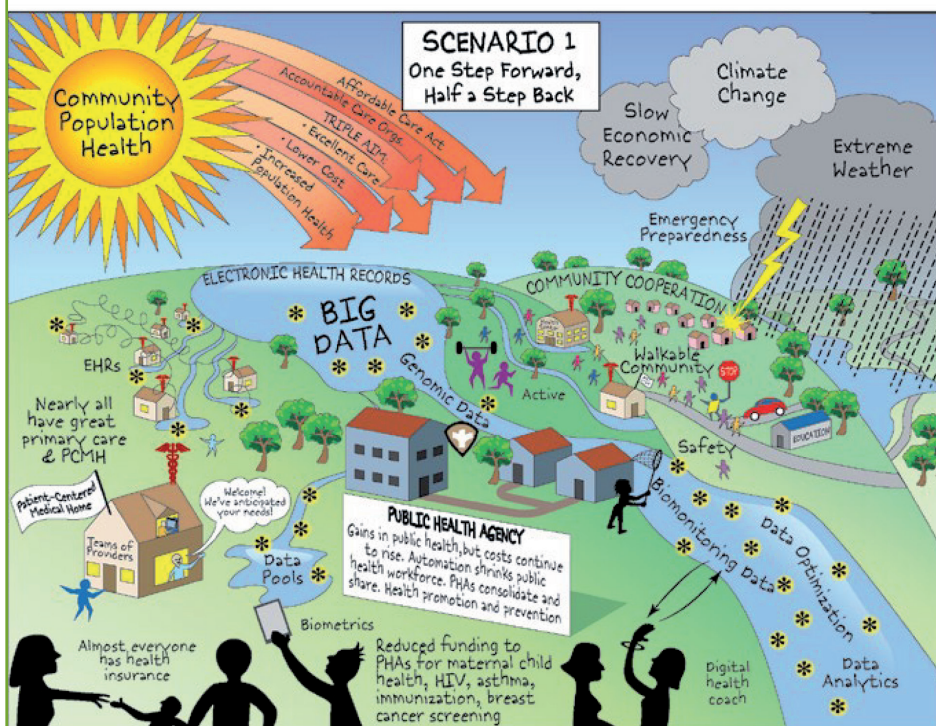
A set of expectable, challenging, and visionary forecasts for each of the drivers was then developed based on the aspirational futures approach. The IAF team fleshed out the forecasts for four drivers while the Prevention Institute crafted the forecasts for two drivers. A range of experts were then interviewed and focus groups were conducted, based on the forecasts developed. These forecasts enabled experts to explore the interaction of the driving forces.

Scenario Development

Using the forecasts, experts' reactions to those forecasts, experts' other forecasts and their implications, IAF developed the four alternative scenarios for public health, as illustrated and summarized below.

Scenario 1: One Step Forward, Half a Step Back

**FIGURE 2. "PUBLIC HEALTH 2030"
ILLUSTRATION OF SCENARIO 1**

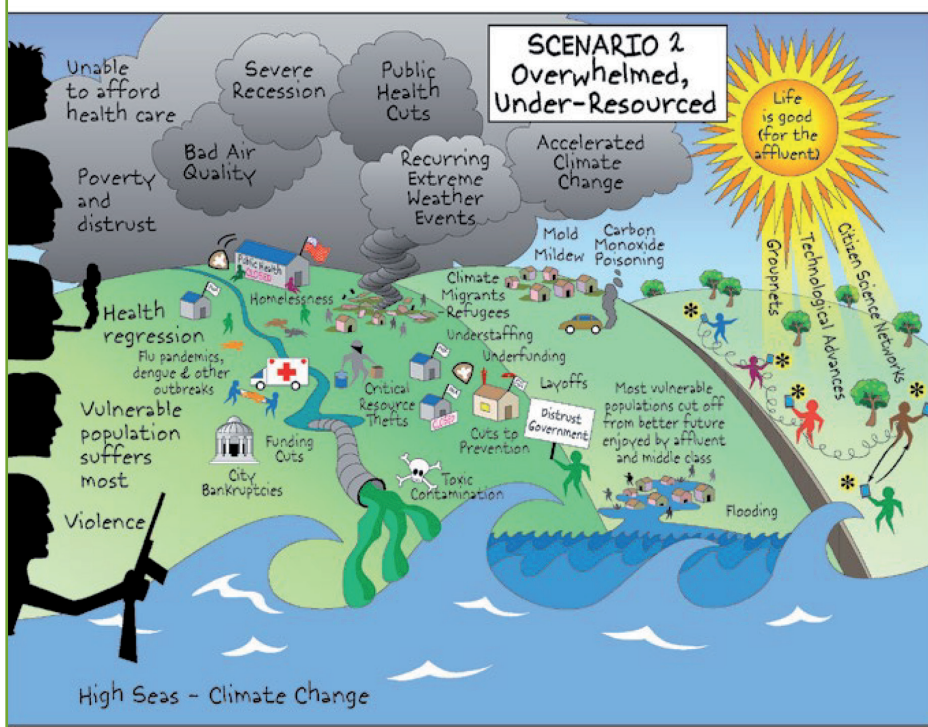


Amidst continued fiscal constraints, public health agencies and health care slowly advance their capabilities. Many use automation and advanced analytics to improve services as well as community and population health. However, climate change challenges continue to grow, and there is little progress in improving the social determinants of health. Great variations in technological capabilities, funding, and approaches to prevention, combined with a continuous rise in health care costs, significantly limit public health gains.

Source: IAF, *Public Health 2030: A Scenario Exploration*, 2014. © Visual Insight

- Scenario 2: Overwhelmed, Under-Resourced

**FIGURE 3. "PUBLIC HEALTH 2030"
ILLUSTRATION OF SCENARIO 2**

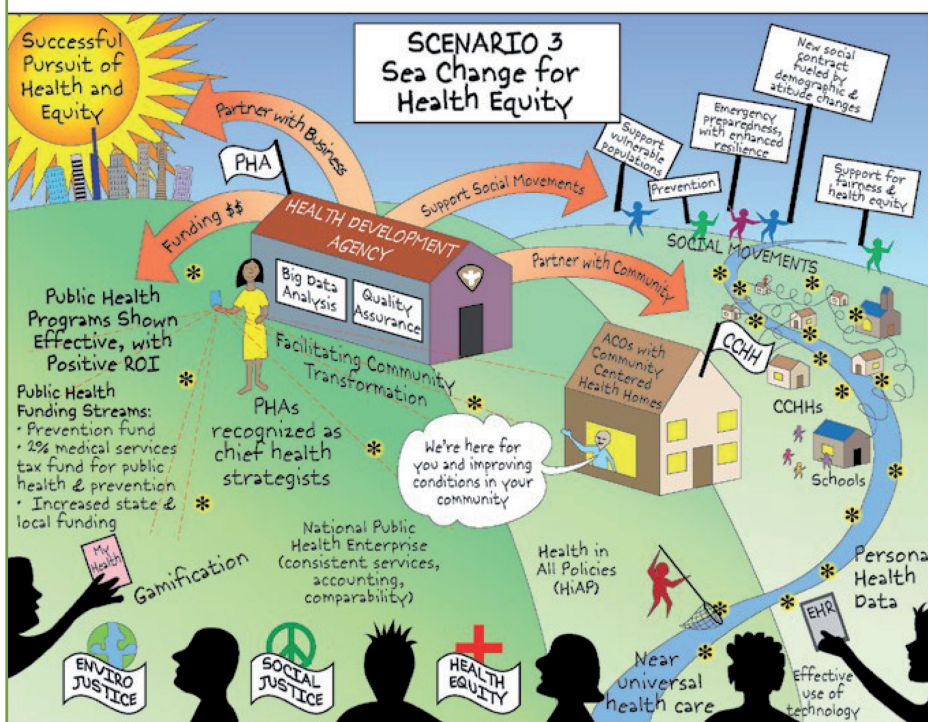


Funding cuts and a hostile political context undermine the role of public health agencies, which subsequently fail to attract talented young people. Public health crises grow worse and more frequent, largely due to climate change. Private sector initiatives produce significant innovations for health and wellness, but these primarily benefit the middle class and affluent groups. Technological, economic, educational, and health disparities grow, and the institutions of public health have little capacity for doing anything about them.

Source: IAF, *Public Health 2030: A Scenario Exploration*, 2014. © Visual Insight

- Scenario 3: Sea Change for Health Equity

**FIGURE 4. "PUBLIC HEALTH 2030"
ILLUSTRATION OF SCENARIO 3**



Source: IAF, *Public Health 2030: A Scenario Exploration*, 2014.

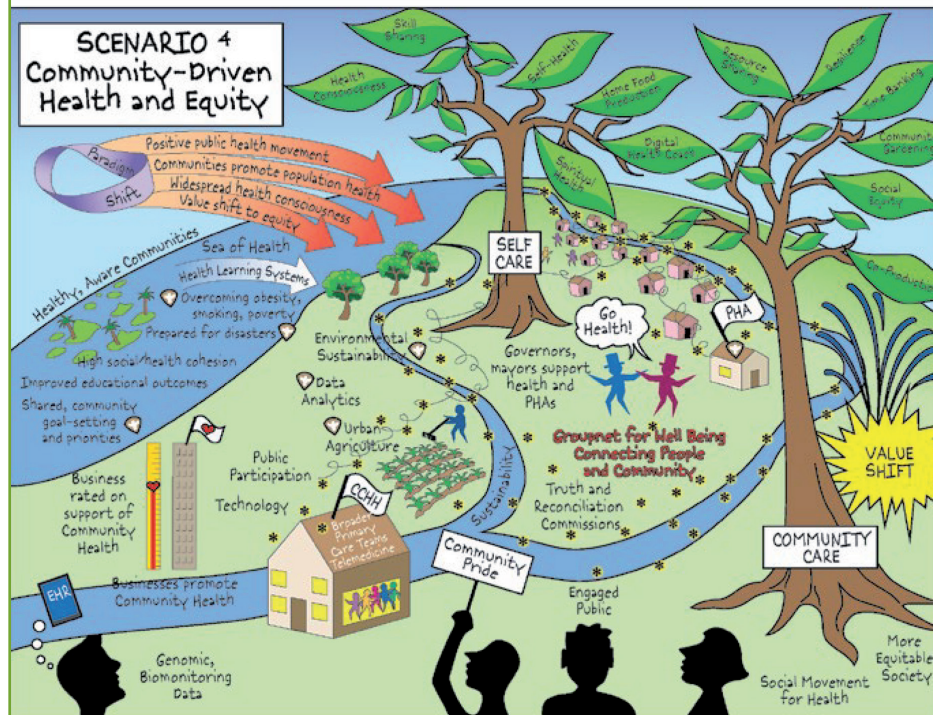
© Visual Insight

National and local economies gradually grow, and changes in values and demographics lead to "common sense" policies and support for health equity. Public health agencies develop into health development agencies that use advanced analytics, gamification (the application of game-design elements and principles), and diverse partnerships to identify problems and opportunities, as well as catalyze and incentivize action to improve community health. While some disparities persist, in 2030, the vast majority of Americans have attained greater opportunity for good health through quality improvements in housing, economic opportunity, education, and other social determinants of health.

• Scenario 4: Community-Driven Health and Equity

**FIGURE 5. “PUBLIC HEALTH 2030”
ILLUSTRATION OF SCENARIO 4**

Public health agencies, partners, and local health improvement initiatives coalesce through technology and social media into a national web of community health enhancing networks. These networks help communities exchange



news on their innovations and best practices, plus leverage the expertise of public health and other agencies. The nation also strives to come to grips with its racial and socio-economic histories, and supports real changes and legislation to create a more equitable society. This value shift to equity is accelerated by the proliferation of new community economic models that help households sustain themselves and improve health and well-being. Public health sheds many functions and facilitates these movements to improved health.

Source: IAF, *Public Health 2030: A Scenario Exploration*, 2014. © Visual Insight

World Scenarios to 2030 for IEEE (2013)

The Institute of Electrical and Electronics Engineers (IEEE), tasked the IAF with developing scenarios to describe a range of alternative contexts in which the IEEE may be operating in the future.

The world's largest association for technical and technological professions has as a mission to advance technology for the benefit of humanity (https://www.ieee.org/about/vision_mission.html).

In this instance, the goal was to help the IEEE frame and nourish its strategic planning process.

► Project Organization

An IAF team was in charge of developing scenarios from the input provided by a project officer at IEEE.

From the onset, the project addressed and included key leaders within the IEEE's Board of Directors and management team.

► Environmental Scanning

In order to contribute to the research, an IEEE project officer provided IAF with an extensive research document on future trends. The trend data had been collected internally, but the in-



IAF, *Scenarios for IEEE*, 2013
(report cover)

house team lacked the expertise to organize the material into compelling future possibilities and stories. Based on the research supplied, IAF identified 18 drivers specific to IEEE's macro and operational environment. Through an online survey, IEEE top leaders selected nine of these drivers: 1) global intelligent networks; 2) knowledge creation and dissemination; 3) workforce; 4) scientific disciplines; 5) intellectual property; 6) technologies; 7) generations standards; 8) conferences; and 9) energy.

► Forecast Development

For each driver, IAF developed one forecast in the expectable zone. These forecasts were designed to be used as the basis for interviews with members of the Institute of Electrical and Electronics Engineers' Board of Directors.

The interviews were vital to the project. Besides adding further content to the expectable forecasts, IAF used dialogue techniques to elicit aspirations and fears about the Institute's future and to prepare for the upcoming scenario construction workshop.

► Scenario Construction Workshop

Participants at this workshop designed and facilitated by IAF in October 2013 were mainly members of the IEEE *ad hoc* Committee on Strategic Planning. During the first part of this workshop, participants outlined two alternative forecasts for each driver (one "challenging" and one "aspirational") as a complement to the "expectable" forecasts provided before the workshop. Participants also further explored the zone of higher aspiration. During the second part of the workshop, this exploration of alternative futures informed a list of key strategic questions for the IEEE to consider in the near term. The participants then ranked the strategic questions in terms of importance and urgency.

► Scenario Development

At this stage, IAF developed in-house the narratives of four scenarios summarized below:

- **Scenario 1: Smart Technologies, Missed Opportunities**

The combination of big data and social networks creates high-quality knowledge technologies and networks around the world. However, leaders and communities fail to use them to address the grand challenges of the twenty-first century.

- **Scenario 2: Info, Info Everywhere (and Not a Drop to Drink)**

A small number of powerful entities create and control advanced analytics that turn information into knowledge. Most people lack access to these sophisticated tools for making sense of the ever-increasing reams of information.

- **Scenario 3: An Integrated Knowledge Network**

Visionary leaders facilitate the creation of a highly integrated global knowledge network that is accessible to all. The network combines advanced analytics and human expertise to create high-quality knowledge, and increasingly, wisdom, in order to alleviate global challenges.

- **Scenario 4: Distributed Talent for Good**

Rising unemployment and shifts in societal expectations undermine traditional organizational structures, thus pushing most associations and many other organizations to the brink of extinction. However, a handful of these associations reinvent themselves as networks of autonomous entities united by a common purpose.

TABLE 1. EXAMPLE OF A SCENARIO MATRIX FOR TWO DRIVERS, SPECIFICALLY WORKFORCE AND SCIENTIFIC DISCIPLINES, OUT OF THE NINE SELECTED BY IEEE'S LEADERSHIP

EXPECTABLE	CHALLENGING	ASPIRATIONAL	ASPIRATIONAL
Workforce			
- Robots gradually replace manufacturing and expert work. - Educated, tech-savvy workers favor new, more flexible work engagements. - Unemployment becomes endemic among people whose educational attainment is low.	- Engineering and informatics professions are reduced to a small elite that is relentlessly pursued by corporations and governments. - Particularly in engineering and other scientific professions, the gap between industry needs and workforce qualifications widens. - Growth without jobs: Automation increases economic profits without job creation.	- Worker mobility increases thanks to widespread use of adaptive knowledge technologies. - Holistic education, new tax systems, and global ethic of fairness support human development. - The "global brain" nurtures leadership qualities among larger groups of people.	- The nature of employment fundamentally changes worldwide to rely on multiple affiliations and collaboration. - Online matchmaking tools allow teams with complementary skills to form rapidly around the globe. - The new organization of work facilitates the integration of disenfranchised communities in local economies.
Scientific Disciplines			
- Scientific silos continue to break down. - Collaboration skills (e.g., T-shaped scientists) become as essential as subject matter expertise. - Collaborative platforms enable cross-disciplinary work.	- Funding cuts in research and education in STEM (science, technology, engineering, and mathematics) and informatics. - Basic science research is devalued compared to applied scientific research. - Innovation becomes exploitation of the many by the few, rarely used for solving pressing global challenges.	- United Nations adopts treaty on ethical deployment and use of science and research applications by 2021. - Engineering and computer science become "the new liberal arts." - Hard and social sciences incorporate theories from each other. - Children gain deep scientific knowledge early on.	- Many hardware and software engineering endeavors are crowd-sourced or co-created by designers, customers, and other stakeholders. - Education—including scientific education—is delivered to people of all ages through adaptive learning and assessment platforms. - Credentials from traditional institutions become irrelevant.

Source: IAF, *Scenarios for IEEE*, 2013.

Agriculture and Food Justice in Peru: Scenarios for 2030 (2013)

This one-year project was conducted by IAF with partners and sponsors Oxfam America and Oxfam Peru to explore agricultural and nutrition perspectives in a country facing uncertainties related to its particular climate, expanding economy, and social characteristics.

► Project Organization

A team of IAF futurists produced the bulk of the scenario work. A head of research at Oxfam's headquarters in Washington, DC, supervised the project with support from two colleagues in different countries. The Peruvian bureau of Oxfam provided research input and expert contacts, organized the logistics of the scenario construction workshops, and took charge of relaying the scenario project to the media, wider public, and policymakers (press conferences, public conferences, campaigns).

► Environmental Scanning

The research conducted by IAF viewed global trends and developments specific to Peru and outlined six key drivers: 1) climate change; 2) land and water use and governance; 3) food distribution; 4) technology and innovation; 5) infrastructure; and 6) access to funding.

Beyond desk research and a literature review, six Peruvian experts were interviewed.

► Forecast Development

Based on this research, four alternative forecasts were developed for each of the six drivers. The aim of these 24 forecasts was explicit: provide a basis for reflection and discussion with stakeholders; *i.e.*, as a means to enrich the final scenarios and, more importantly, to involve stakeholders in the process of exploring future possibilities.



Press conference in Lima for the report. Snapshot from video “Perú al 2030: El futuro de la agricultura” by Instituto de Estudios Peruanos (IEP), 2013.

URL: <https://www.youtube.com/watch?v=p9WtUoDQQfE>.
Accessed February 14, 2017.

► Multi-stakeholder Scenario Construction Workshops

Participants at the two scenario construction workshops led in Peru (Lima and Cusco) in March 2013 included academics, policymakers at the national and regional levels, staff from non-governmental organizations, and farmers’ representatives. The three stated objectives of the workshops were as follows:

- facilitate exchanges and dialogues among participants;
- explore and refine IAF’s preliminary scenarios;
- collect participants’ aspirations about the future of agriculture in Peru.

The workshops included individual, small group, and full group activities to meet the above objectives.

► Scenario Development

An IAF team developed and drafted four scenarios in-house, incorporating material from environmental scanning, forecasts, and input received during the workshops.

Their scenario report included the following four narratives:

- 1) Progress at the Margins:** Peru makes some progress in poverty reduction and food justice, but these efforts are inadequate to address challenges related to climate change and food prices. This scenario is in the “zone of conventional expectation.”
- 2) A Harvest of Inequity:** The gap widens between large-scale agribusinesses, which own more land and are able to deploy advanced technologies, and smallholder farmers, who face climate change effects and lack access to these advances. This scenario is in the “zone of growing desperation.”
- 3) Sustainable Future, Timeless Past:** Facing an increase in social unrest at the local level, policymakers set the goal of establishing an equitable distribution of productive resources between large-scale and small-scale agriculture. This scenario is in the “zone of high aspiration.”

4) The Peruvian Way: Following a series of environmental crises, Peruvians initiate a national dialogue to chart the country's future. A series of efforts, dubbed "the Peruvian way," achieve food justice by combining the best of indigenous techniques with the best of modern technology. This scenario falls into the "zone of high aspiration."

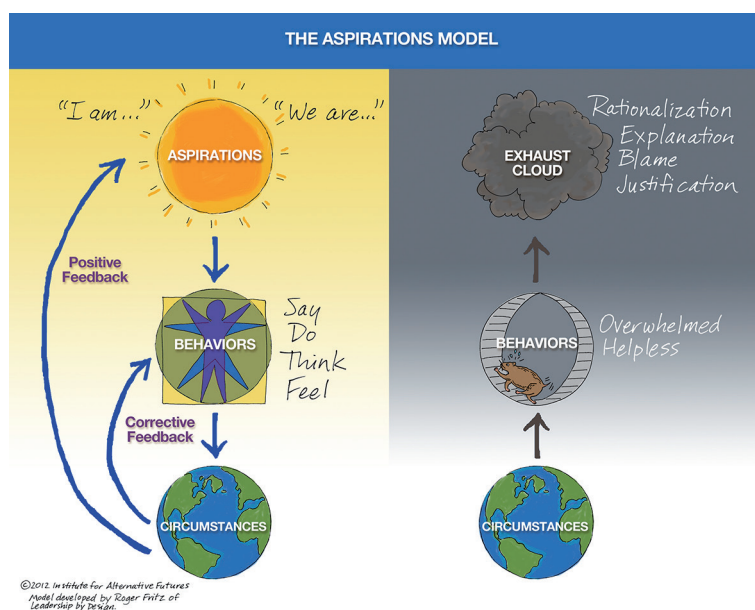
- In each scenario, three personal stories presenting "a day in the life" of three people in the year 2030, one from each of Peru's three agricultural zones: the Coast, the Andes, and the Amazon.
- A scenario matrix which summarizes the key elements that change in each alternative future and allows for comparing the scenarios side-by-side along key dimensions.
- Conclusions and further considerations putting forward the notion of "food justice" rather than "food security" in international development policies. ■

Further Reading

Examples of theories of change that may anchor a bold yet plausible exploration of future possibilities include relativity and quantum physics, complexity sciences, evolution, psychological preferences, developmental psychology, integral theories, anticipatory democracy. (For a detailed presentation, see Jonathan Peck's 2009 article listed in the bibliography.)

Aspirations Model

This model developed by Roger Fritz challenges organizations to align their behavior with their aspirations rather than becoming "victims of circumstance."



More information at <http://altfutures.com/what-we-do/visioning/>.

Guided Visualization and Letter to a Grandchild Exercise

Two examples of visualizing techniques based on work by Roger Fritz, Oliver Markley and Jonathan Peck are guided visualization and the letter to a grandchild exercise. These activities help envisage particular opportunities or challenges in images and emotions.

► **Guided visualization** is used on a regular basis at IAF, particularly under the supervision of Oliver Markley, author and Professor Emeritus at Houston University. During his time at the famous Stanford Research Institute, he developed an approach to the future based on higher consciousness and visionary futures. Guided imagery is instrumental in his approach which

he has extensively documented. See his latest thinking and a list of his publications at <http://www.jfs.tku.edu.tw/I7-1/AOI.pdf>.

► **The letter to a grandchild exercise** may be found fully explained in the *Guidebook for Nurse Futurists*, developed by IAF: http://www.altfutures.org/pubs/health/ICN_Guidebook_for_Nurse_Futurists.pdf.

This exercise merits a word of caution. It is a delicate tool that touches upon psychology and deep mental images, hence should be handled with care. Be sure to warn participants that the exercise may reach far into subconscious dreams or wishes that they rarely have opportunities to explore. If participants are reluctant to engage, let them refuse. The author experienced a participant's refusal during a training session with a major French ministry. The team manager explained that his personal situation at the time did not allow him to engage in the exercise because it would remind him of other issues and upset him too much. Note, however, that this did not prevent his staff from doing and enjoying the exercise.

Ongoing IAF Projects

In 2017, IAF is leading two aspirational futures projects:

► **The Human Progress and Human Services 2035** is a project whose scenarios will build a platform to help the healthcare sector consider the uncertainties, trends and forces that will shape human services and their organizations as well as the strategies that will best help the sector achieve a preferred future. This project is funded by the Kresge Foundation at a time when the human services sector faces such challenges as difficult economic trends, government spending cuts and extreme weather events. It is also a time when organizations must reinvent and remarket their approach and services while creating more person-centered, holistic practices.

► **Health Equity and Prosperity** is a project designed to connect leaders seeking to advance health equity through meaningful systems change. Funded by the Robert Wood Johnson Foundation, this project will see the IAF connecting influencers from education, business, housing, and faith, among others, in order to initiate and sustain national dialogues. The goal is to co-create opportunities for better health, by sharing best practices, developing and disseminating methods for cross-sector engagement, and inspiring others to take action to promote health equity.

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Further Reading

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The aspirations model developed by IAF collaborator Roger Fritz is illustrated on the AFA website.

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Notable Website

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