



THE INDEPENDENT CONSULTANT



Share

Print-Friendly
NewsletterSearch
Back issues

CONTENTS

Issue Notes from the Editor

by Bill Ely

And the Beat Goes On ...

by Larry Stern

From the Chairperson—It's What You Make It—Really!

by James Ramenda

Developing Professional Development

by Jennie McGinnis

How Sharing the Spotlight Can Help You Move Ahead

by Carl Friesen

To Make Your Points and Get Others to Follow You: Speak Boldly!

by David Casullo

Sustainable Production of Food for Growing World Population

by Oz Ben-Ami

ENTREPRENEURIAL ACTUARIES SECTION

Entrepreneurial Actuaries Section Leadership

William Ely, Editor

Issue Notes from the Editor

by Bill Ely

In this quarter's issue of *The Independent Consultant*, we offer a diverse selection of articles for the actuarial entrepreneur.

[\[Full article\]](#)

And the Beat Goes On ...

by Larry Stern

With the passage of time, every October, SOA Sections install new officers and new Council members and give thanks to those rotating off the Council. On behalf of the Entrepreneurial Actuaries Section (EAS), I would like to express my gratitude to two members of EAS Council who are leaving, but will not be forgotten: Dave Axene, former chair; and Michael Frank, member extraordinaire.

[\[Full article\]](#)

From the Chairperson It's What You Make It—Really!

by James Ramenda

"It's what you make it." That's a cliché that easily attaches to membership in any organization. Often however, it's just a throwaway line, maybe half-hearted encouragement, or sometimes even a downright impossibility. Many organizations are what other people have made them long before you got there and will remain so far into the future. The Entrepreneurial Actuaries Section (EAS) is different. Why?

[\[Full article\]](#)

Developing Professional Development

by Jennie McGinnis

SOA Staff

[Meg Weber, Staff Partner](#)

[Jacque Kirkwood, Staff Editor](#)

[Sue Martz, Section Specialist](#)

OTHER SITES OF INTEREST

[Entrepreneurial
Actuaries](#)

[Newsletter](#)

[Resource Center](#)

[Member Benefits](#)

As you are no doubt aware, the SOA's Continuing Professional Development (CPD) Requirement went into effect in 2009 and at the end of this year all SOA members will be required to attest to their compliance. You may not be aware, however, that in 2009 another significant change was made to the oversight of PD with the establishment of the Professional Development Committee (PDC).

[\[Full article\]](#)

How Sharing the Spotlight Can Help You Move Ahead

by Carl Friesen

Are you willing to share the spotlight through an article that is jointly authored by you and another person? We call it a "co-byline" article. Why would you do this?

[\[Full article\]](#)

To Make Your Points and Get Others to Follow You: Speak **Boldly!**

by David Casullo

My wife and I were watching "To Kill a Mockingbird" the other evening. I was feeling guilty because our daughter Sara was explaining the story as we prepared to watch and it occurred to me that I never read the book—required reading in my high school. Nor had I ever bothered to watch the movie—a classic. It seems most everyone my age has not only read the book and watched the movie, but they cherish both.

[\[Full article\]](#)

Sustainable Production of Food for Growing World Population

by Oz Ben-Ami

Over the last few centuries, the global population has grown at an unprecedented rate. The major causes are decreasing mortality rates, advancing technology, and better access to healthcare, food and water. In 1800, economist Thomas Malthus warned that this growth was unsustainable due to inherent resource limitations of the planet. He predicted that the growth could only last until a certain population capacity was reached, at which point the population would be checked by famine, war, disease and slower reproduction induced by poverty. Recent research shows that after a period of unconstrained growth we are nearing the food producing capacity of arable lands. This, combined with uneven distribution of resources and drought, is causing an impending world food crisis.

[\[Full article\]](#)

Actuaries
Risk is Opportunity.®

475 North Martingale Road, Suite 600, Schaumburg, Illinois 60173
Phone: 847.706.3500 Fax: 847.706.3599 www.soa.org



THE INDEPENDENT CONSULTANT



Share

Print-Friendly
NewsletterSearch
Back issues

CONTENTS

[Issue Notes from the Editor](#)

by Bill Ely

[And the Beat Goes On ...](#)

by Larry Stern

[From the Chairperson—It's What You Make It—Really!](#)

by James Ramenda

[Developing Professional Development](#)

by Jennie McGinnis

[How Sharing the Spotlight Can Help You Move Ahead](#)

by Carl Friesen

[To Make Your Points and Get Others to Follow You: Speak *Boldly!*](#)

by David Casullo

[Sustainable Production of Food for Growing World Population](#)

by Oz Ben-Ami

ENTREPRENEURIAL ACTUARIES SECTION

[Entrepreneurial Actuaries Section Leadership](#)

William Ely, Editor



Issue Notes from the Editor

by Bill Ely

In this quarter's issue of *The Independent Consultant*, we offer a diverse selection of articles for the actuarial entrepreneur.

- In "From the Chairperson," outgoing chairperson, Larry Stern, discusses his experience over the last year with the Entrepreneurial Actuarial Section (EAS).
- Incoming chairperson James Ramenda reaches out to members of the EAS in his article, "It's What You Make It; Really."
- Jennie McGinnis' "Developing Professional Development" highlights some of the objectives and plans of the Professional Development Committee.
- Carl Friesen explains "How Sharing the Spotlight Can Help you Move Ahead."
- David Casullo advises members to "speak *Boldly*" in his article.
- We are excited to publish the second place winner from the 2010 EAS-sponsored Papers Competition held over the summer, "Sustainable Production of Food for Growing World Population," by Oz Ben-Ami.

Enjoy the issue!

Bill Ely is director, Actuarial Services for a five-state region of Coventry Health Care. He may be reached at brely@cvtv.com or 402.995.7088.

SOA Staff

[Meg Weber, Staff Partner](#)

[Jacque Kirkwood, Staff Editor](#)

[Sue Martz, Section Specialist](#)

OTHER SITES OF INTEREST

[Entrepreneurial
Actuaries](#)

[Newsletter](#)

[Resource Center](#)

[Member Benefits](#)

Actuaries
Risk is Opportunity.®

475 North Martingale Road, Suite 600, Schaumburg, Illinois 60173
Phone: 847.706.3500 Fax: 847.706.3599 www.soa.org



THE INDEPENDENT CONSULTANT



Share

Print-Friendly
NewsletterSearch
Back issues

CONTENTS

[Issue Notes from the Editor](#)

by Bill Ely

[And the Beat Goes On ...](#)

by Larry Stern

[From the Chairperson—It's](#)

[What You Make It—Really!](#)

by James Ramenda

[Developing Professional](#)

[Development](#)

by Jennie McGinnis

[How Sharing the Spotlight Can](#)

[Help You Move Ahead](#)

by Carl Friesen

[To Make Your Points and Get](#)

[Others to Follow You: Speak](#)

[Boldly!](#)

by David Casullo

[Sustainable Production of Food](#)

[for Growing World Population](#)

by Oz Ben-Ami

ENTREPRENEURIAL ACTUARIES SECTION

[Entrepreneurial Actuaries Section Leadership](#)

William Ely, Editor



And the Beat Goes On ...

by Larry Stern

With the passage of time, every October, SOA Sections install new officers and new Council members and give thanks to those rotating off the Council. On behalf of the Entrepreneurial Actuaries Section (EAS), I would like to express my gratitude to two members of EAS Council who are leaving, but will not be forgotten: Dave Axene, former chair; and Michael Frank, member extraordinaire.

We have many times mentioned EAS is a section somewhat different than the others as our membership for the most part is composed of independent entrepreneurs and small business owners. Many times work demands trump volunteerism. Not so for Dave and Michael. In his second year of a regular three-year term, Dave stepped forward to be chair. And Michael gave us a fourth year on the Council when several other Council members were unable to continue on the Council. Their service is greatly appreciated.

I would also like to express my appreciation to Meg Weber and Sue Martz, the SOA staff members assigned to EAS. They provide insight and guidance to maintain consistency among the 19 SOA Sections and specifically keep EAS on the straight and narrow. And Jacque Kirkwood, our SOA staff newsletter editor, has helped *The Independent Consultant* maintain its high level of quality.

Last but not least, my appreciation goes out to Jeff Beckley who this past year served as our SOA Board representative. Jeff, himself a self-employed actuary, understood firsthand the special characteristics of what makes our section "different" and reported to us how SOA Board activities would influence our section.

As a close, I want to relate a new project EAS has entertained. In my

SOA Staff

[Meg Weber, Staff Partner](#)

[Jacque Kirkwood, Staff Editor](#)

[Sue Martz, Section Specialist](#)

OTHER SITES OF INTEREST

[Entrepreneurial
Actuaries](#)

[Newsletter](#)

[Resource Center](#)

[Member Benefits](#)

last column, I highlighted the EAS Group on LinkedIn. Mike Kaster began a discussion asking how the SOA Directory could (or more likely couldn't) assist the public in finding actuaries. Other professions (doctors, lawyers, accountants, etc.) have websites directing the public to find specialized individuals. This discussion led to a stream of comments. Long story short, the EAS has submitted a request to the SOA to develop a separate website for finding actuaries. This would not be an extension of the SOA Directory (which allows actuaries to find actuaries) but a website for public access to actuaries who would register as independent entrepreneurs, small business and larger consulting firms. With the help of Chuck Ritzke, Cheryl Krueger, Mike Kaster, Ruth Ann Woodley, myself and Meg Weber, we expect the SOA to soon ask for preliminary specifications for this website. This is an exciting development—and it all started with the discussion stream from LinkedIn. Stay tuned as this project will continue into the next year.

It has been a privilege and honor to be the chair of your section this past year. I now turn the reins over to Jim Ramenda for the coming year and wish him much success.

Until next time, may all your experiences be "profitable" ones!

Larry N. Stern, FSA, MAAA, is president of Canterbury Consulting LLC. He may be reached at larry_stern@earthlink.net.



475 North Martingale Road, Suite 600, Schaumburg, Illinois 60173
Phone: 847.706.3500 Fax: 847.706.3599 www.soa.org



THE INDEPENDENT CONSULTANT



Share

Print-Friendly
NewsletterSearch
Back issues

CONTENTS

[Issue Notes from the Editor](#)

by Bill Ely

[And the Beat Goes On ...](#)

by Larry Stern

[From the Chairperson—It's What You Make It—Really!](#)

by James Ramenda

[Developing Professional Development](#)

by Jennie McGinnis

[How Sharing the Spotlight Can Help You Move Ahead](#)

by Carl Friesen

[To Make Your Points and Get Others to Follow You: Speak Boldly!](#)

by David Casullo

[Sustainable Production of Food for Growing World Population](#)

by Oz Ben-Ami

ENTREPRENEURIAL ACTUARIES SECTION

[Entrepreneurial Actuaries Section Leadership](#)

William Ely, Editor



From the Chairperson It's What You Make It—Really!

by James Ramenda

"It's what you make it." That's a cliché that easily attaches to membership in any organization. Often however, it's just a throwaway line, maybe half-hearted encouragement, or sometimes even a downright impossibility. Many organizations are what other people have made them long before you got there and will remain so far into the future. The Entrepreneurial Actuaries Section (EAS) is different. Why?

First, the EAS is probably the most diverse among the SOA in terms of its members' business activities. So there is no central theme with respect to lines of business or functional areas.

Second, our section is the most granular. EAS members are often the only actuaries in their firms, and sometimes the only employees of their firms. There are no dominant companies or entities in the mix.

Third, by nature, our members, our Section Council, and our Section Officers tend to be outward looking and very open to nontraditional ways of doing things.

Together these factors make for a section that is not bound by its own sense of institutional memory. It's another cliché that happens to be true, but we do "reinvent ourselves" with every year's elections and every new membership.

The flip side of all this is that the EAS can seem a bit amorphous at times—a lot of little companies, some start-ups, some established, doing a lot of different things, with actuaries applying their actuarial backgrounds to widely different tasks. At times, I've found myself wondering whether there is enough of a commonality of interests to

SOA Staff

[Meg Weber, Staff Partner](#)

[Jacque Kirkwood, Staff Editor](#)

[Sue Martz, Section Specialist](#)

OTHER SITES OF INTEREST

[Entrepreneurial
Actuaries](#)

[Newsletter](#)

[Resource Center](#)

[Member Benefits](#)

bring it together in a coherent way. Another hurdle is that our members' time and financial resources are often tightly constrained by the demands of starting, growing and running their own businesses. But here's why I think our section is important.

1. It gives us a "seat at the table" for matters affecting the profession, perhaps not the head of the table, but a better seat than most of us could hope to get on our own. With industry consolidation, the big players are only getting bigger and they cannot be expected to pay much attention to how the entrepreneurs in the profession are faring.
2. It provides a platform from which the small business person can connect with 500 or so similarly-situated professionals, and with a little effort, the entire profession. That's a lot of decision-makers, representing a lot of sales/assets/personnel, in a lot of lines of business.
3. It is the only section, by definition, devoted to entrepreneurial thinking. My own opinion is that our profession needs to move more in this direction, as does the greater financial industry. Some people mistakenly equate entrepreneurship with simple risk-taking, so this direction may seem strange to them at this time of the financial upheaval. However, it is entrepreneurs who take the most carefully calculated risks because they are playing with their own money, not OPM (Other Peoples' Money). How much better off today would many large banks, investment banks, and insurers be if they truly had adopted the entrepreneurial mindset? Will our profession be better off five years from now if it isn't more entrepreneurial?

With these unique attributes, opportunities and challenges in mind, these are the principles I've put before our Section Council for guiding our actions.

1. Help members find opportunities to better manage and especially grow their businesses. This type of commercialism isn't a common theme openly expressed in SOA related activities, but I can't see how to separate the commercial aspects from the professional ones, given the entrepreneurial nature of our section.
2. Avail members of CPD opportunities that are relevant, interesting and time/cost effective.
3. Make sure members have efficient access to resources that allow them to be effective actuaries in this environment, i.e., how to get/stay up to speed on the myriad of subjects that the

market, regulators, governments, etc., are constantly churning up.

4. Foster a sense of volunteerism among members that in turn repays the profession, feeds the section, and boosts the individual's visibility and opportunities.
5. Do everything we do with utmost regard for members' time, energy and resources.

Lastly, I must extend great thanks to Larry Stern who has completed his term as chairman and will remain on the Section Council. Larry stepped up to perform these duties at a time when everything in the industry (and elsewhere) was in flux, and volunteerism was not foremost on people's minds. He has done a super job and we are extremely lucky to have him for still one more year.

James Ramenda, FSA, CERA is managing director of Northington Partners, Inc. in Avon, Conn. He can be reached at jr@northington.net.



475 North Martingale Road, Suite 600, Schaumburg, Illinois 60173
Phone: 847.706.3500 Fax: 847.706.3599 www.soa.org



THE INDEPENDENT CONSULTANT



Share

Print-Friendly
NewsletterSearch
Back issues

CONTENTS

Issue Notes from the Editor

by Bill Ely

And the Beat Goes On ...

by Larry Stern

From the Chairperson—It's What You Make It—Really!

by James Ramenda

Developing Professional Development

by Jennie McGinnis

How Sharing the Spotlight Can Help You Move Ahead

by Carl Friesen

To Make Your Points and Get Others to Follow You: Speak Boldly!

by David Casullo

Sustainable Production of Food for Growing World Population

by Oz Ben-Ami

ENTREPRENEURIAL ACTUARIES SECTION

Entrepreneurial Actuaries Section Leadership

William Ely, Editor



Developing Professional Development

by Jennie McGinnis

As you are no doubt aware, the SOA's Continuing Professional Development (CPD) Requirement went into effect in 2009 and at the end of this year all SOA members will be required to attest to their compliance. You may not be aware, however, that in 2009 another significant change was made to the oversight of PD with the establishment of the Professional Development Committee (PDC). The PDC has been charged with the following responsibilities:

- Meeting the diverse development needs of the profession,
- Providing the highest quality learning experiences,
- Ensuring that the program is focused on both current and forward-looking technical and nontechnical content, and
- Making appropriate use of technologies to ensure timely access to relevant and engaging programming.

While numerous volunteers serve to ensure that individual PD events provide meaningful development opportunities, the PDC oversees planning at a higher level to minimize potential gaps in membership needs and the SOA's offerings. The PDC is chaired by Dale Hall, as the Board of Directors' representative, and is comprised of section representatives and liaisons from the Education Committee and SOA staff. Each year the PDC will set out a plan (e.g., number and types of opportunities to be offered) and evaluate the fulfillment of that plan. In addition, the PDC gave focus to the following five areas of interest this year:

Marketing the Competency Framework

SOA Staff

[Meg Weber, Staff Partner](#)

[Jacque Kirkwood, Staff Editor](#)

[Sue Martz, Section Specialist](#)

OTHER SITES OF INTEREST

[Entrepreneurial Actuarial](#)

[Newsletter](#)

[Resource Center](#)

[Member Benefits](#)

The SOA Competency Framework (CF) was developed by and for actuaries to give focus to the key skills that drive success in the field. Beginning with this year's spring meetings, each learning opportunity has been mapped to one of the eight competencies. The competencies have been organized around business and technical competence and are often interrelated. Session evaluations have been used to gauge the participants' awareness of the CF category when selecting the session and how well the category applied. In the works is a CF self-assessment, which will help provide actuaries with a more informed perspective when selecting PD opportunities.

Piloting a Blended Learning Opportunity

Blended learning utilizes various teaching and learning techniques to increase the retention and comprehension of the material. Science class comes to mind when thinking about blended learning—you read a chapter in advance, attend a lecture and then put what you have learned to work in a lab setting with some measure to validate that learning occurred. These techniques have been used in other SOA sessions before. At this year's Annual Meeting, we are not only using the technique but will assess the effectiveness of this blended learning opportunity with attendees. Participants will be debriefed in order to evaluate how well the structure worked and if/how it should be utilized going forward.

Evaluating the Implementation of a Leadership Institute

The team involved in this project has faced many questions and, upon surveying members and employers, continue to search for answers. Should the SOA offer a Leadership/Executive Development program? Would it be developed in-house or in partnership with an already established program? Will employers support a program geared toward actuaries or is a multidisciplinary approach preferred? Will such a program be cost effective given the number of employers who have training programs of their own? How can technology be used to minimize costs while ensuring engaging programming? Stay tuned!

Piloting the Conversion of an Education e-Learning Module for PD Purposes

A key tenant of PD development is the repurposing and repackaging of material where appropriate. With an increased desire in "anytime" access to learning opportunities and recognizing the availability of e-Learning modules used in basic education, it made sense to determine if this material could be of value to those already credentialed. After review, and with a resounding "yes," the subcommittee has set forth on a pilot conversion. Up first is a module focused on modern corporate finance.

Developing a Speaker Database

Those who have volunteered on a PD planning committee know how difficult it can be to find speakers. Finding subject matter experts and ensuring that they are effective presenters (and available!) can take a significant amount of effort, especially when considering that most panels have more than one speaker and that session coordinators typically work on multiple sessions for any given meeting. The desire and need to ease this process is clear and thus the development of a speaker database was born. Once in effect, it will assist not only those looking for speakers, but will also provide those thinking about presenting a place to post their interest and credentials.

To learn more about PD opportunities, the CPD Requirement and the Competency Framework visit the Professional Development area on the SOA's [website](#). A current list of PDC members can be found [here](#).

ennie McGinnis, FSA, MAAA, CERA, is vice president at Swiss Re in Fort Wayne, Ind. She is also the special interest representative on the PDC. She can be reached at jennifer_mcginnis@swissre.com.

Note: This article first appeared in the November 2010 issue of *Actuary of the Future*, the newsletter of the Actuary of the Future Section.



THE INDEPENDENT CONSULTANT



Share

Print-Friendly
NewsletterSearch
Back issues

CONTENTS

[Issue Notes from the Editor](#)

by Bill Ely

[And the Beat Goes On ...](#)

by Larry Stern

[From the Chairperson—It's What You Make It—Really!](#)

by James Ramenda

[Developing Professional Development](#)

by Jennie McGinnis

[How Sharing the Spotlight Can Help You Move Ahead](#)

by Carl Friesen

[To Make Your Points and Get Others to Follow You: Speak Boldly!](#)

by David Casullo

[Sustainable Production of Food for Growing World Population](#)

by Oz Ben-Ami

ENTREPRENEURIAL ACTUARIES SECTION

[Entrepreneurial Actuaries Section Leadership](#)

William Ely, Editor



How Sharing the Spotlight Can Help You Move Ahead

by Carl Friesen

Consider these scenarios:

- Your client is pleased. You've done great work on that project. You'd like to demonstrate your abilities through publishing a case study, but you have trouble getting magazine editors and website managers to accept an article that's really just you talking about how great you are.
- You want to build a strategic partnership with another business professional—possibly to get some referral work or to be brought in as a partner for a project. But your calls aren't returned. How do you offer this person something that benefits him or her enough to get you noticed?
- You want to publish an article in a professional journal, perhaps one for lawyers, or accountants, or actuaries. Problem is, you're not a lawyer, accountant or actuary, and the editor only takes articles by members of the profession.

One answer to these three situations lies in being willing to share the spotlight, through an article that is jointly authored by you and another person. We call it a "co-byline" article. Why would you do this?

In the first example above, if you can get your client to co-author the article, the message of your successful solution has greater credibility than if it's just you saying it. In the second example, offering the object of your desire the chance to have a byline in a prestigious publication will have its attractions—particularly if you offer to interview them for their views, and then do a first draft of the article. And in the third example, bringing along a member of the professional association as co-author

SOA Staff

[Meg Weber, Staff Partner](#)

[Jacque Kirkwood, Staff Editor](#)

[Sue Martz, Section Specialist](#)

OTHER SITES OF INTEREST

[Entrepreneurial
Actuaries](#)

[Newsletter](#)

[Resource Center](#)

[Member Benefits](#)

will generate a lot more interest from editors.

If you think that jointly authoring an article will help you strategically, start by thinking of a market that both you and your potential co-author would like to reach. Then determine which medium, print or digital, will reach those markets. Next, think of a topic or theme that will show your thoughtleadership and that of your co-author, and also be of interest to the gatekeepers at that publication. Your fourth step is to develop a query letter that offers the editor a dual-view article. Take care not to mention the name of your co-author unless you've talked with him or her first.

If the editor is interested, you will be in a strong position when you approach your co-author: "I've already got the editor's go-ahead to write the article—do you want to be part of this?" Be sure to tell them that there's no cost, and that they will get a chance to review and edit the article before it gets published.

The result can be an article that meets your strategic objectives in more ways than one, and also helps another business professional move ahead.

Carl Friesen, CMC, is a chief associate with emerson consulting group inc., which specializes in transforming business experts and professional service firms into "thoughtleaders." Friesen can be contacted at carl@thoughtleading.com or visit Thoughtleading.com.

Actuaries
Risk is Opportunity.®

475 North Martingale Road, Suite 600, Schaumburg, Illinois 60173
Phone: 847.706.3500 Fax: 847.706.3599 www.soa.org



THE INDEPENDENT CONSULTANT



Share

Print-Friendly
NewsletterSearch
Back issues

CONTENTS

[Issue Notes from the Editor](#)

by Bill Ely

[And the Beat Goes On ...](#)

by Larry Stern

[From the Chairperson—It's What You Make It—Really!](#)

by James Ramenda

[Developing Professional Development](#)

by Jennie McGinnis

[How Sharing the Spotlight Can Help You Move Ahead](#)

by Carl Friesen

[To Make Your Points and Get Others to Follow You: Speak *Boldly!*](#)

by David Casullo

[Sustainable Production of Food for Growing World Population](#)

by Oz Ben-Ami

ENTREPRENEURIAL ACTUARIES SECTION

[Entrepreneurial Actuaries Section Leadership](#)

William Ely, Editor



To Make Your Points and Get Others to Follow You: Speak *Boldly!*

by David Casullo

My wife and I were watching "To Kill a Mockingbird" the other evening. I was feeling guilty because our daughter Sara was explaining the story as we prepared to watch and it occurred to me that I never read the book—required reading in my high school. Nor had I ever bothered to watch the movie—a classic. It seems most everyone my age has not only read the book and watched the movie, but they cherish both. Anyway, check the box. And, by the way, the movie is a classic indeed.

My favorite line was when Gregory Peck, Atticus, a small town lawyer in the prejudiced depression-era south was giving his closing arguments to the exclusively white male jury. He passionately explained that the humble defendant, Tom Robinson, an African-American, had the "... unmitigated temerity to feel sorry for a white woman." His intentional and bold sarcasm was meant to drive home his point—that Mr. Robinson genuinely wanted to help a white woman, the "victim"—something that Atticus anticipated no white man on that jury in that era would have ever considered.

As a leader, Atticus took a bold action and made a very bold statement.

Although it didn't overcome the jury's deeply-rooted preconceived prejudices, this comment certainly endeared Atticus to the all black audience in attendance on the second floor of the courtroom. It also reinforced the admiration his daughter had for him. Great leaders know when to be direct and how to use language to make an important point. Gandhi once said to a violently-charged following, "They may torture my body, break my bones, even kill me. Then they will have my dead body, but they will not have my obedience."

SOA Staff

[Meg Weber, Staff Partner](#)

[Jacque Kirkwood, Staff Editor](#)

[Sue Martz, Section Specialist](#)

OTHER SITES OF INTEREST

[Entrepreneurial
Actuaries](#)

[Newsletter](#)

[Resource Center](#)

[Member Benefits](#)

This is a learned skill. That's the good news. And it's a skill we all need for our presentations to clients, prospects, business partners, professional colleagues and employees! Research done by my firm, Bates Communications, reveals four key elements that constitute this skill: eye contact; gesturing; voice inflection; pauses. Understanding, developing and effectively using these four skills will help you build your foundation.

Next comes the essential piece of the content of your bold statement. In this case, three steps in particular are imperative and primal: 1) preparation, 2) simplification and 3) practice, practice, practice!

When your content is set, and your delivery mastered, an "art" piece comes into play: timing. This piece separates the best of the best from everyone else. It's what makes powerful leaders (contemporary—Nelson Mandela, for example; and historical—Churchill and Gandhi) so influential. Back to literature, Atticus knew that his sarcastic, bold, well-timed words would slap the jury into consciousness, so he seized the opportunity to say what he was prepared to say, just at the "right" moment.

It is important to end by pointing out that courage too will always be present when speaking boldly. Extraordinary leaders know that game-changing opportunities emerge infrequently and often unexpectedly. So they seize them when they do emerge, not only because they are prepared for such moments but also because they are ready to bravely utter whatever is necessary to get their point across. In other words, they speak boldly and say exactly what they mean. So convicted are they to their cause, they courageously look their teammate(s) in the eye and reveal what's in their heart and on their mind, considerately yet powerfully and succinctly. This is how such presenters and leaders make a difference.

Communicating as a professional and a leader is really the most powerful tool in any of our tool chests. You may be a brilliant strategist; you may know your business better than anyone else around you; and you may have a sixth sense to see what is coming and to know what needs to be done in advance. You may even have the courage to stand up and face any challenge head on. But even all this is not enough. If you cannot also communicate what is inside you in a way that marshals the support of your troops, if you cannot speak your truth in a way that pierces through their layers of uncertainty, fear, and confusion, if you cannot touch the very hearts and souls of those who choose to follow you when they need it most, then you will not be counted among the best or the greatest.

Most of the senior leaders I work with want to be the best.

Communication skills are most often the one skill they must improve if they are to get there. As a leader yourself, have the "unmitigated temerity" to boldly say what those whom you want to follow you need to hear.

David Casullo is president of Bates Communications, a leading executive coaching firm in Wellesley, Mass. His passion is developing leaders who have the courage and capability to change the world. His methods ensure that leaders remember what is important by helping clarify values and recommit to behaving consistently, in alignment, with the "who that you are." Casullo can be reached at dcasullo@bates-communications.com



475 North Martingale Road, Suite 600, Schaumburg, Illinois 60173
Phone: 847.706.3500 Fax: 847.706.3599 www.soa.org



THE INDEPENDENT CONSULTANT



Share

Print-Friendly
NewsletterSearch
Back issues

CONTENTS

[Issue Notes from the Editor](#)

by Bill Ely

[And the Beat Goes On ...](#)

by Larry Stern

[From the Chairperson—It's What You Make It—Really!](#)

by James Ramenda

[Developing Professional Development](#)

by Jennie McGinnis

[How Sharing the Spotlight Can Help You Move Ahead](#)

by Carl Friesen

[To Make Your Points and Get Others to Follow You: Speak](#)

[Boldly!](#)

by David Casullo

[Sustainable Production of Food for Growing World Population](#)

by Oz Ben-Ami

ENTREPRENEURIAL ACTUARIES SECTION

[Entrepreneurial Actuaries Section Leadership](#)

William Ely, Editor

Sustainable Production of Food for Growing World Population

by Oz Ben-Ami

Entry for Society of Actuaries Entrepreneurial Actuaries Section 2010 Papers Competition

Executive Summary

Over the last few centuries, the global population has grown at an unprecedented rate. The major causes are decreasing mortality rates, advancing technology, and better access to healthcare, food, and water. In 1800, economist Thomas Malthus warned that this growth was unsustainable due to inherent resource limitations of the planet. He predicted that the growth could only last until a certain population capacity was reached, at which point the population would be checked by famine, war, disease and slower reproduction induced by poverty. Recent research shows that after a period of unconstrained growth we are nearing the food producing capacity of arable lands. This, combined with uneven distribution of resources and drought, is causing an impending world food crisis.

I will analyze the expected food shortage in terms of the inherent resources of land, energy, water and labor. I propose a system of combined solar-powered desalination and irrigation agriculture in drylands as both a scalable model for long-term population sustainability and a profitable investment in the short term.

Background

The main constraint on human population in the foreseeable future is cultivable land for food agriculture. Though only an estimated 38 percent of the potential arable land (for rain-fed cultivation) in the world is currently in use for agriculture, most of the remaining land is not readily available. Some of the land is forest, which provides necessary assimilation of carbon dioxide and other valuable services. The rest of the arable land is either occupied by human settlement, or savannas and

SOA Staff

[Meg Weber, Staff Partner](#)

[Jacque Kirkwood, Staff Editor](#)

[Sue Martz, Section Specialist](#)

OTHER SITES OF INTEREST

[Entrepreneurial
Actuaries](#)

[Newsletter](#)

[Resource Center](#)

[Member Benefits](#)

other grasslands, which not only form large ecosystems for diverse and often unique wildlife, but are also utilized as pasture for the production of livestock (WSR 39-40). Most of the remaining land is made of desert or polar ice. Therefore, existing arable land cannot be relied on to supply a growing population.

This lack of land can be demonstrated by another approach. It has been estimated that sustainable rain-fed agriculture on all cultivable lands can support a maximum of about 10-20 billion people worldwide.

Superficially, this seems to remove the threat of overpopulation in the foreseeable future as the population is not projected to exceed these amounts in the next century. However, the need for forests and pastureland, and the difficulty of implementing sustainable high-yield agriculture globally, implies that the total capacity in practice may be significantly lower than the above estimate. Additionally, the uneven distribution of both cultivable land and population, as well as the economic constraint of uneven wealth distribution, mean that a significant portion of the population will continue to face food insecurity.

Proposed Solution

To summarize, conventional rain-fed cultivation of arable land must be supplemented by other means. I will demonstrate that the most sustainable solution is use of the desert. The desert has two important advantages: it provides cheap land with little current utility, and it provides abundant amounts of solar energy. However, the main challenge of cultivating the desert is the necessary creation of artificial freshwater. However, this paper proposes a profitable and sustainable model for farming of the desert, using irrigation with water provided by desalination, which is in turn powered by solar energy.

Though desalination and solar power generation have in the past been considered uneconomic processes that cannot compete with traditional power and freshwater sources, recent technological advances have caused their prices to decrease sufficiently to allow their use. Their advantages are further utilized in the desert environment.

A small prototype of a comprehensive sustainable desert farming solution would have the following components:

- 10,000 m³/day desalination plant using reverse osmosis technology
- 2MW Concentrated Solar Power plant
- 600 hectare farm plot
- Residential and commercial center for workers and others

Description of the Food Creation Process

Energy from the sun will be converted by the CSP plant to electrical power, at a rate of 2MW. This electrical power will be used to directly power an adjacent desalination plant that has a capacity of 10,000 m³/day. The water from the desalination plant will be directed using drip irrigation to a plot of land. A water-efficient crop will be harvested by workers living on-site and sold for a profit.

Detailed Cost Analysis

Based on recent similar projects, the power plant will be built using an estimated initial capital cost of about \$9 million for installation and associated costs. Ongoing maintenance will require a team of at most three full-time employees or a part-time equivalent. The desalination plant will cost around \$12 million for a capacity of 10,000m³/day, again based on recent market research. Currently available technologies use approximately 4kWH/m³, so the plant will need a constant energy input of about 1.5-2 MW at maximum capacity. Ongoing desalination costs, other than electricity, are expected to be around \$600,000 annually. Using stock values from the UN's Food and Agriculture Organization, 1 m³ of irrigation water can produce, for example, 4-7 kg of potatoes, 8-10 kg onion, or 5-8kg of watermelon. For simplicity, it will be assumed that the entire plot is planted with watermelon year-round, or that irrigation rotates between different land plots in different seasons. Watermelon is highly suitable for the hot, dry climate of the desert because of its tolerance for high temperatures and low water needs. Using a low value of 25 tons/hectare for annual watermelon yield, 600 hectares of land would produce 15,000 tons annually, using 3,000,000 m³ of water, or about 8,000 m³/day. According to FAO data, average trade price (total value traded/total volume traded) of watermelon worldwide in 2006 was \$393/ton, up from a 10-year average of \$313/ton. Using a conservative estimate of \$300/ton yields an annual revenue of \$4.5 million. Labor intensity of the agriculture is assumed to be approximately 0.5 workers/hectare, as is typical for the region. The costs for labor, at about \$2000/person/year, add up to about \$600,000/year. Other agricultural costs, including fertilizers, are estimated at \$300,000/year.

Using values of \$23 million for the original investment (including \$2 million for efficient interfaces between the components and other miscellaneous costs), \$3.0 million for annual profit, and 25 years for the economic lifetime of the project, the internal rate of return is calculated to be 12.3 percent. This value is calculated using current prices and technology and a fully resource-sustainable process. In practice, profitability can be further improved by initially relying partially on non-renewable energy and water resources, and gradually phasing in greater use of solar power and desalination as their prices become relatively

lower.

Scalability

By design, this model can easily be implemented on a much higher scale: the only technical inputs are land, seawater, and solar power, which are almost unlimited, and labor, which is inexpensive in the region.

Look to the Future

Over the next few decades, the inherent trends which make this model profitable will increase. Technological costs for both solar power and desalination are decreasing exponentially, while greater population growth and evolving diets will spur an ever-growing demand for food. Technologies currently in development include nano-filters that would drastically reduce the cost of Reverse Osmosis desalination, as well as innovative ways to build cheaper solar power plants. In addition, research is being done on generation of nitrogen fertilizer, which is currently synthesized using natural gas, using electrolysis to provide hydrogen. This would remove yet another dependency on diminishing fossil fuel reserves. In the long term, this general model can be used to effectively cultivate the resources of the desert, and even allow permanent de-desertification and large-scale settlement.

Necessary Research and Alternatives

Although this model is expected to be profitable, there is much room for improvement. Ongoing research is needed to correctly choose the best crops for the desert environment, considering water efficiency and global market demand in a particular year. In addition, there will likely be considerable cost-saving potential in more efficient integration of different components of the desalination plant and solar power. For example, by using thermal desalination, solar heat could be used directly in desalination without the intermediary conversion to electricity. Also, different systems should be evaluated for effective utilization of labor. Instead of simply offering jobs, the company could offer land for sale or lease, or perhaps for free in exchange for a set share of the revenue, and present potential farmers with an opportunity to become independent and succeed on their own. Other revenue opportunities include selling power, water, and commercial real estate to other parties. The relative profitability of such opportunities will have to be considered in more detail, but the diverse options for future revenue ensure future profitability in a variety of possible markets.

References

German Aerospace Center (DLR), Institute of Technical Thermodynamics Section Systems Analysis and Technology Assessment. November 2007. *AQUA-CSP Study: Concentrating Solar Power for Seawater Desalination*, Final Report

<http://www.dlr.de/tt/aqua-csp>

U.S. Department of Energy, Energy Efficiency and Renewable Energy,
2008 Solar Technologies Market Report

[Nrel.gov/applying_technologies/pdfs/2008_solar_market_report.pdf](http://nrel.gov/applying_technologies/pdfs/2008_solar_market_report.pdf)

United Nations Food and Agriculture Administration, FAOSTAT
database, <http://faostat.fao.org/>

United Nations Food and Agriculture Administration. Rome, 2000. *World
Soil Resources Report* <ftp://ftp.fao.org/agl/agll/docs/wsr.pdf>

Eswaran, H., F. Beinroth, and P. Reich. 1999. Global land resources
and population supporting capacity. *Am. J. Alternative Agric.* 14:129-
136. Accessed online on August 28, 2010 at

<http://soils.usda.gov/use/worldsoils/papers/pop-support-paper.html>

United Nations Food and Agriculture Administration, Land and Water
Development Division, Water Resources, Development and
Management Service. Rome, 2004. *Water desalination for agricultural
applications*. ftp://ftp.fao.org/agl/aglw/docs/lwdp5_e.pdf

Yochanan Oz Ben-Ami is an actuarial student in Bat-Yam, Israel. He
can be reached at ozzieba@gmail.com.

Actuaries
Risk is Opportunity.®

475 North Martingale Road, Suite 600, Schaumburg, Illinois 60173
Phone: 847.706.3500 Fax: 847.706.3599 www.soa.org