



**THE CRAWFORD FUND**  
*For a Food Secure World*

# **THE BUSINESS OF FOOD SECURITY:**

**Profitability, sustainability and risk**

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# **Building yields, capacity and commerce in the developing world**

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## **Abstract**

Asia is a strategic growth area and Bayer has taken a significant role in many public-private partnerships, including being a founding member of Grow Asia in Indonesia, with CIMMYT in India, NATEC/MOA in China and a broad coalition of groups in Vietnam. Bayer supports sustainable intensification of agriculture via developing and promoting integrated crop production packages. Its *Much More* programs deliver substantial benefits for growers and the community. Significant increases in rice yields and income have been demonstrated across Asia and the program has now been extended to coffee, citrus, integrated shrimp production and other crops.

I'd first like to thank the Crawford Fund for the opportunity to speak to you today. My role is an Australian role and I'm based in Australia, but I've going to talk to you today about Bayer's activity internationally in addressing global food security, with particular emphasis on the developing world.

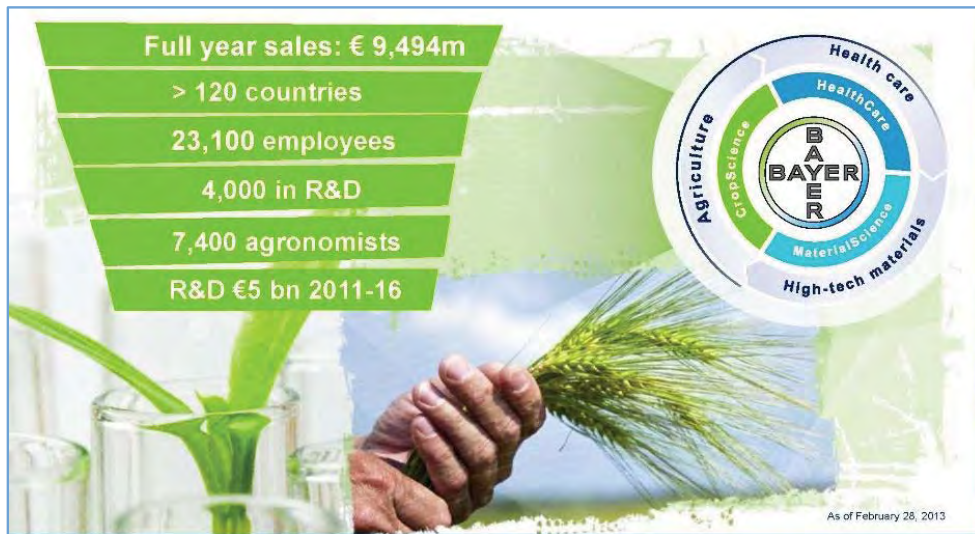
While Bayer's mission statement is 'Science for a Better Life' our focus these days is much broader than just the technologies that protect crops. Through a variety of partnerships we are connecting smallholders to the global market, and addressing skills and capacity shortages which are a problem in most markets around the world.

After a brief introduction to Bayer, I will explain our commitment to sustainability as the basis of addressing food supply and development issues. I will then outline several programs which address in particular, the economic and social pillars of sustainability.

## **An introduction**

Bayer CropScience is part of the large International life sciences company, with a strong commitment to agriculture. We have a strong commitment to R&D with annual spending of around 1 billion Euros. Our 4000 R&D staff have delivered a strong innovation pipeline. These are delivered via 7,400 agronomists operating across 120 companies. As a consequence, our sales have grown to around 9.5 billion Euro, a record for us in recent years (Fig. 1).

**Figure 1.** Bayer's program statistics in crop science.



### **Sustainability: the starting point for our business**

I would now like to explain how Bayer views sustainability as a business model for addressing food supply challenges and development issues in general. You will all be familiar with the challenges facing global agriculture. Bayer is fully in line with FAO strategies of Sustainable Intensification as a key means of dealing with food security challenges.

One aspect not fully reflected here, however, is the very real conundrum that many of the technologies that underpin sustainable intensification are strongly resisted by certain influential groups in the community. Concerns comes in many forms, from concerns over safety of new technologies, globalisation and the loss of independence and sovereignty.

Whether correctly based or not, Bayer is acutely aware that these concerns exist, and must be dealt with – by re-building trust in the efforts of companies like Bayer, and the agricultural industry as a whole. Bayer believes that sustainable agriculture is the best approach to addressing food security and quality, and to responding to community concerns about agricultural practices (Fig. 2).



**Figure 2.** Challenges in agriculture – security and quality in food.



Our commitment starts at the Group level, where Bayer is one of the few companies to have been listed in the Dow Jones Sustainability index – for 15 years in row! Sustainability is now fully integrated in our corporate reporting, and in the last report, of the 23 listed Sustainability issues facing Bayer, ‘Sustainable Food Supply’ is the highest ranked of all, being materially important for our customers and the community and also fitting our skill set (Fig. 3).

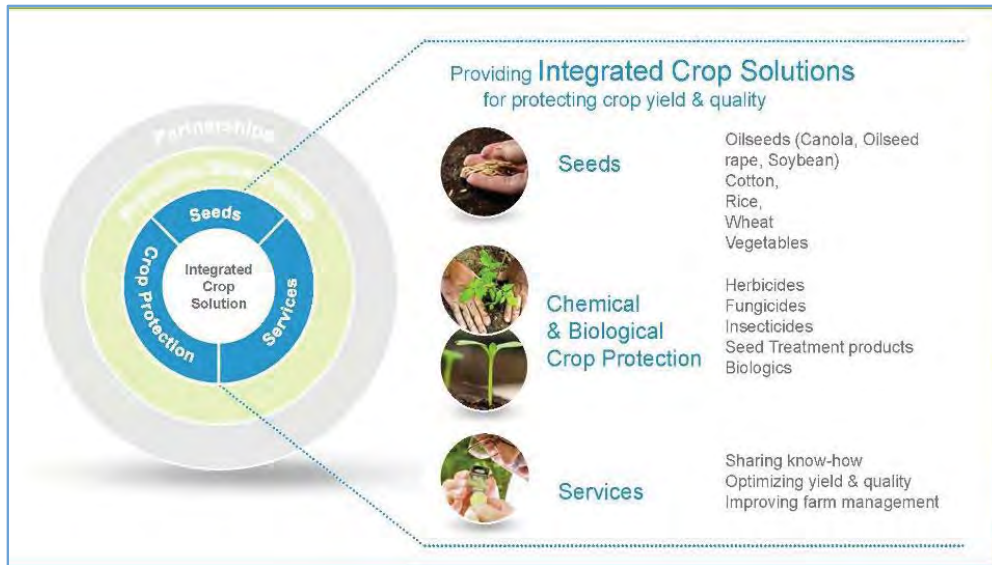
**Figure 3.** Bayer’s commitment to sustainable agriculture.



Bayer has thus initiated a broad program designed to create better solutions, demonstrate their inherent sustainability, and use our position to help lead sustainable agriculture implementation wherever possible. The front line delivery mechanism for sustainability is our

integrated crop solution (Fig. 4). The last decade has seen a concerted effort to improve sustainability by removing ‘Tox 1’ class products, launching more selective chemicals, boosting seed and traits research and leading the industry into the new area of biological crop protection. A range of services seeks to maximise value capture – both for our direct customers and along the food value chain.

**Figure 4.** The core is integrated crop solutions.



### Partnerships – the new reality

Our activities are underpinned by a deep commitment to product Stewardship, and everywhere, Partnerships – public-private partnerships, private-private partnership, multi-partners, research partners, and business partners. Bayer realises that it no longer can solve all issues by itself, and that lots of people have smart technology, ideas and solutions. As we seek to demonstrate and add value beyond the point of product application, the list of potential players multiplies, opening new partnering opportunities (Fig. 5).

### ***Much More* programs**

The following examples taken from Bayer’s *Much More* PPP programs give an idea of the range of our partnerships. The first, initiated in Vietnam with rice, is a direct effort to promote sustainable intensification of rice production. While this may seem normal for a company like Bayer, the difference here is the multi-party nature of these programs.

**Figure 5.** Backing integrated crop solutions with proactive stewardship.



Across Asia, Bayer has partnered with government and academic players to find ways to significantly improved rice yields, through both fundamental research activities and practice change at the farmer level (Fig. 6). More than 1000 trials with a wide range of partners have shown yield increases of up to 20%, driven by better inputs as well as better farmer training and practices.

**Figure 6.** Collaborations to boost rice output and sustainability.



It is not just agronomy. The Philippines IFC (International Finance Corporation) program trains farmers in finance and business practices while the latest Vietnam projects include international food chain companies, such as Mars, which link growers to global markets. ‘Much

More' programs have now spread to a range of many other crops, including coffee in Vietnam and citrus in China.

### **Bayer Food Chain – linking farmer to global markets**

Bayer's Food Chain partnership concept is a proactive approach to meet increasing demand for sustainably produced food. This is a global trend, equally true in Beijing as in Berlin.

By linking players across the food chain, we can create real added value shared between all players in the food chain projects. I want to highlight two examples, one each from India and China.

The Indian Food Chain project is based on simple principle called '5P', which trains, and audits growers in sustainable agriculture practices routinely required by retailers (Fig. 7). This opens up both export and local retail markets, increasingly driven by developed world retailers demanding developed worlds standards.

Integrated programs are developed, based on principles of integrated pest management (IPM), incorporating the best products for the situation. Training is conducted by a system of 'train-the-trainer', products are sometimes supplied and everything is recorded on either a paper or electronic passport (smart phones being now widely available).

As with rice, the objective is to increase the productivity, quality and return for farmers and their customers. The McCormick Hot Pepper project which involves Bayer plus four different organisations has allowed more than 8,000 farmers to meet export standards, boosting reliability and level of income to these growers. In the same way the Reitzel Gherkin project allowed some 27,000 famers, working on some 7,160 ha, to participate in global supply to this major German food company.

Bayer India now has partnership with some 33 key partners across the food chain system. Each, however starts with the growers, who must benefit from the program.



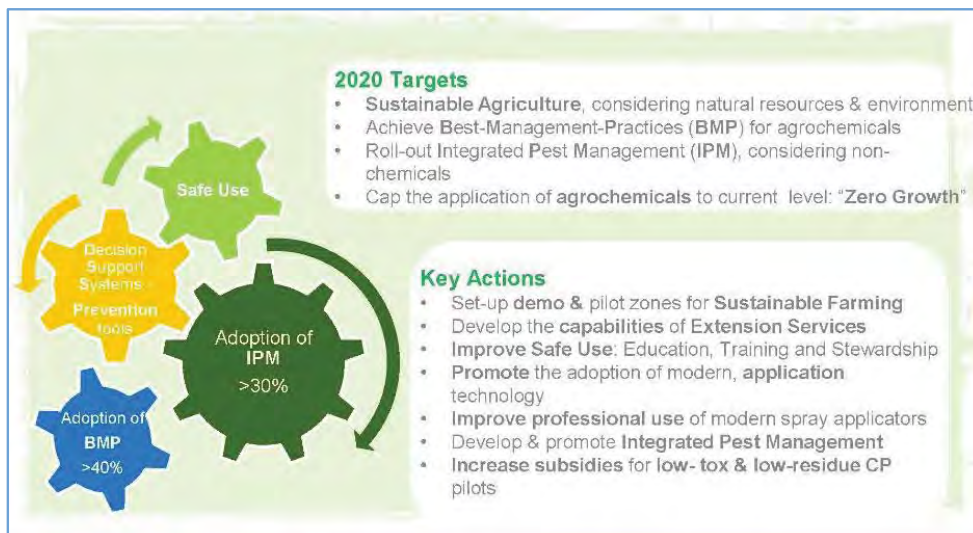
**Figure 7.** India's 5P process business model.



Activities in China are driven by a dual imperative – a new Ministry of Agriculture ‘zero growth’ pesticide policy, and increasing ‘food chain’ requirements (Fig. 8).

One of our earliest and largest projects included the major supplier and exporter Golden Wing Moa, and the local retailer Haisheng. New markets for apples have opened for some 500 growers. A recent program in tomatoes, with the global companies Uniliver and Agraz, is opening export markets for a new crop.

**Figure 8.** Approaches in China to meet new food requirements from 2015.



Bayer CropScience China has established similar projects with 35 key players. You will see almost every major multinational and national food



company, reflecting the growing integration of Chinese horticultural markets with world markets. In February this year Bayer celebrated the 10th anniversary of the food chain concept. To date we have established over 240 projects in 40 crops and 30 countries. If you look in YouTube for Bayer Food Chain Anniversary video, you will hear many farmers and food chain actors speaking passionately about what Bayer Food Chain means to them. The majority of these are from the developing world.

At Bayer we believe the Food Chain Partner concept is opening up new opportunities, lifting incomes and building skill sets for small producers across the world.

### **Youth Ag Education – building capacity around the world**

Switching tack a little, I want to move into the social domain. The world of agriculture faces its share of social challenges, but the lack of young bright people entering the field is, as they say, an ‘existential threat to both our agriculture and the whole global community’. Just at the time we need our best and brightest to solve the food supply crisis, they are choosing other professions.

With our international footprint, commitment to science and potential career paths, we believe Bayer is well placed to drive interest in agriculture amongst the young. We have therefore re-organised our various science education activities under a simple platform, called the ‘Bayer Ag Education Program’. This program spans the age groups up to around 30 years of age and is being implemented around the world in different formats (Fig. 9).

In Australia for example, Bayer supports the Sustainable Future Primary School Science program, which reaches more than 300 schools across Australia; the CSIRO Agriculture Vacation program allows 3<sup>rd</sup> year university students to conduct research with CSIRO during their summer breaks.

But most exciting of all, is the Global Youth Ag Summit Program. The 2<sup>nd</sup> Global Youth Ag Summit is scheduled to take place in Canberra from 24 to 28 August 2015. From 2000 essays on food security, submitted in 80

**Figure 9.** The next generation outreach – Bayer’s agriculture education program.



countries, 100 winners were chosen from 33 countries. We are delighted that the developing world is well represented by 38 delegates.

The program will be broadly based with major contributors including the CSIRO<sup>1</sup>, WWF<sup>2</sup>, the Borlaug Institute, John Deere, Dairy Australia, Organic Australia and ACIAR<sup>3</sup>. Apart from a life-changing experience, the key outcomes include a process for setting and tracking personal goals, and a ‘Canberra Youth Ag Declaration’, which will be presented in conjunction with the meeting of the Committee for Food Security in Rome from October 12 to 15.

Our long-term vision for this program is developing, but with help of major like-minded commercial, NGO and public partners we believe this is an excellent opportunity to drive youth engagement and interest in sustainable agriculture as a worthwhile career choice.

## Conclusion

So wrapping up, Bayer CropScience is committed to the concept of sustainability and sustainable intensification to address global food security issues. Bayer is committed to a partnership approach to add value both for our direct customers and their customers along the value chain. Our *Much More Food* chain partnership and Youth Ag education

<sup>1</sup> Commonwealth Scientific and Industry Research Organisation.

<sup>2</sup> World Wide Fund for Nature

<sup>3</sup> Australian Centre for International Agricultural Research

programs are designed to make a real contribution to the different pillars of agricultural sustainability via shared commercial interest. Often it's a shared commercial interest, but nonetheless it delivers real benefit – with particular benefit for the developing world. Thank you.

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Mr Richard Dickmann is the Head of New Business Development at the Bayer Head Office in Melbourne. Bayer is a global enterprise with core competence in the fields of health care, nutrition and high-tech materials. Bayer CropScience, a subgroup of Bayer AG, is one of the world's leading innovative crop companies in the areas of crop protection, non-agricultural pest control, seeds and traits. The company offers a range of products and extensive service backup for modern, sustainable agriculture and for non-agricultural applications. It has a global workforce of 20,700 and is represented in more than 120 countries.