

# **DIFFERENCES IN IPM BETWEEN THE UNITED STATES AND NON-ENGLISH EUROPE: MENTALITY AND COMPATIBILITY**

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**Abstract** Every introduction of new technology including Integrated Pest Management (IPM) in Germany and Europe competes with ancient proven structures, part wise older than the United States. Innovation requires mindful appreciation for the unique mentality and for the positive aspects of existing pathways. A selection of IPM-relevant special clues like national historic background including illusions, taboos and rat runs, ambivalent relationship to nature and/or to industry and to progress, international experience or its absence, population density and environmental protection, are addressed. Mutual exchange at eye level and respect for the mentality rather than unidirectional delivery enables acceptance as a precondition for applying a successful transfer. Documentation and instruction material requires much more than mere word by word translation. Texts need interpretation, conversion into the needs of the foreign system, and to be adapted for specified target groups. Internet translation techniques increasingly facilitate access to international references but still require cautious review.

**Key Words** Innovation transfer, national clues, mutual exchange, adaptation, integration

## **INTRODUCTION**

Germany has several years of practical and theoretical IPM experience (Scholl, 1996a, 1996b; Umweltbundesamt, 2010), and several English and U.S. based suppliers have successfully introduced their products in Germany / Europe. Nevertheless, compatibility is an ongoing challenge. This can partly be explained by the language barrier. Other obstacles are existing structures that escape the superficial examination, thus limiting the potential successful supply of products and services from outside.

A look into historic development (Kemper, 1968; Jansen, 2003; Henseling, 2008) helps to vitalize and to deepen the understanding of interrelationships. Since the biblical reference list of plagues in the Book of Job, the understanding of other living organisms, pests and disease throughout history underwent several major changes. Further influencing factors are differences in social behavior, national history, motivation, understanding, use and protection of nature and environment; overseas ‘experience’, the role of work, handiwork, building construction, national self-esteem psychology and philosophy (Jansen, 2003; Olkowski et al., 1991; Eichler and Eichler, 1989) and these differences have been inextricably intertwined into the many faces of Germany.

The purpose of this paper is to raise awareness of IPM-related national specialties and to encourage creative mutual exchange between U.S. and non-English European countries – hopefully some new aspects of old stories. Every single nation has its own interesting approaches to IPM. All of them can learn from each other.

## **BACKGROUND AND HISTORY**

To begin, sustainable environmental management including IPM along with other basic needs in Germany/France/ Europe was time and time again to be found in literature, many often romantically glorified, and frequently more hidden between the lines than evident in the text itself, especially political aspects thereof (Montaigne, 1580; de la Fontaine, 1668; de Beaumarchais, 1784; Löns, 1900; Feuchtwanger, 1946; Eichler, 1989), occasionally by women (Herdan-Zuckmayer, 1949) and even for children (Busch, 1865; Matthiessen, 1928; Thomé, 1942). Explanations can be found well hidden in Montaigne (1580) und Feuchtwanger (1946).

The Rhine River as a natural longitudinal border in historic Germany resulted in a European “melting pot of nations” along the river banks on either side. Many Germans like to travel and to speak other languages, however Germany has very limited overseas ‘experience’ with vector borne diseases as compared with the U.S., GB and other nations.

Many other present Europeans are ancestors of those dominant (or inert) individuals who did not emigrate to the United States and insofar are to be considered 'natives'. These people have been shaped by centuries of their predecessors' experience in providing for the context of ongoing religious and political power struggles and changing legal framework on confined space. Intuition, to distinguish between mysticism and quackery, as well as to develop hidden paths were essential clues for survival. With 230 humans per square kilometer, Germany has one of the densest populations in Europe. Ancient woods were wild and dangerous (Schwind, 1984). The eradication of carnivores eliminated all dangers. Later, they were exploited in large scale, and later cultivated as forests.

Among the first German natural scientists were Bingen (1098-1178), and the first German entomologist Merian (1647-1717), and yet: Maybeetle control remained priest responsibility until the 19<sup>th</sup> century. In 1870 began a transformation of diverse objects as 'harmful insects', the 'stranger', the 'social parasites' and 'the enemies' into the term 'pest'. The change from everyday-present insects to 'harmful insects' took place in the early 19<sup>th</sup> century. Meanwhile, in the dominant German Lexicon, the term Schädling (Engl.: Pest) was not addressed until 1933 (Jansen, 2003; Brockhaus, 1928-1937). The 'pest' integrated social fields of meaning such as, 'purity', 'degeneration', 'race', 'destruction' and 'war' economic practices of accounting, social practices, monitoring and experimental-mathematical practices, which is mainly concerned with the practices of the chemical warfare which were imposed. (Jansen 2003). Until recently, in English textbooks at German schools, the word 'pest' was not part of the standard vocabulary. Pestilence, the disease is what the average 'native' German associates this term with.

Striking megalomania becomes evident in certain castles, for example Neuschwanstein (1868-1884) <http://www.neuschwanstein.de/english/palace/index.-htm>. 2011-05-24 and in the eleven square kilometers Nazi Party Rally Grounds (1933-1945) <http://www.museums.nuremberg.de/documentation-centre/index.html> 2011-05-24. The castle is a reflection of progress in technique and science. Both are indicators for the growing gap in the socioeconomic diversity, and for aberrant resource utilization.

A great degree of technical – especially male – knowledge was lost in two devastating wars, and replaced later on with the need to reconstruct buildings in a hurry. National Socialism still exerts a frightening fascination on many that are deeply terrified, the mere affected – a scary greeting from the subconscious.

Personal experience based on oral tradition, complemented with references from the Internet for gathering information and for understanding broad correlations, especially controversial historic and political background is a treasure that builds up during a lifetime, and is fed by the creative use of the human brain as suggested by Vester (1975), enhanced by written resources (Geiger, 1927; Huxley, 1932/1959; Reich, 1933; Hartnack, 1939/1943; Adorno, 1947; Herriegel, 1951; Fabre, 1961; Ebeling, 1979; Schwind, 1984; Heinsohn and Steiger, 1985; Hiepe, 2000; Magas, 2006).

## FACES OF GERMANY

Even within one single nation, Germany, there is great diversity of aging power structures and competing interest groups. Differences and invisible borders exist physically: North-South, East-West and mentally, between employer – employee, as well as the separation of women and men at the traditional habitat level. Further polarizations affect technical versus natural scientific understanding of the environment, conglomerated with economic aspects and romantic transfiguration. IPM in Germany is closely related to plant pathology and chemistry on one side, and on the other side to environmental protection in many respects, which has been determined by the motivation of key personalities and groups in a very specific way (Ökoinstitut et al., 1984; Bick, 2008; Wust, 2009) since the beginning of the 19<sup>th</sup> century. Recently, even physicians became interested in IPM, maybe to get their share of the limited resources.

Hartnack (1939), Schwenke (1974), Duerr (1984), Jansen (2003), Henseling (2008), Hiepe (2000) and Eichler (1988) addressed nature sciences, entomology, technique, chemistry and the role of the diverse associations. 'The pure combat task will diminish in favor of a well-considered assistance with the prevention of insect infestation' (Eichler 1988). The romantic and mystic aspects can be found in Löns (1900), Matthiessen (1928), Wiechert (1930), Thomé (1942) and Merivale (1969).

A discrepancy existed between consciousness and environmental friendly action (Deutscher Bundestag, 1998b; Kuckartz, 1998; Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit [BMU], 2010). In spite of high environmental awareness, economic instruments are the best vehicle for environmental innovations in Germany. With this perception, government policies changed to monetary incentives instead of education to promote environmental friendliness (Kuckartz, 1998).

The professional appreciation of women was quasi zero. They remained at home. Entomology as a science was an all male world - except in the German Democratic Republic (GDR). Domestic solutions are more pragmatic. Pests and weeds were used in many ways: as food, fodder and consumer goods (Maybeetles, Dandelions, moss; Hartnack, 1939/1943; Franke, 1976) or as medicine (ants; Bingen, 1158). Oral tradition enjoys little respect in the scientific world, but is definitely taking place.

The political Green Party in Leverkusen was already founded in 1979 under the name of AGL (Green Alternative List Leverkusen). In that same year we moved to the city parliament and formed one of the first green council parties in NRW. Five years later we provided - in a red-green joint coalition - the first green city mayor nationwide. Especially in the early days we came to a kind of a pioneering role in the 'green camp'. "To play a role" probably is the right term to describe that phase <http://die-gruenen-leverkusen.de/kreisverband/wir-ueberuns/> 2011-05-26. Others were the intellectual precursor Pioneers (see below, Bridges).

Central messages were often camouflaged in theater plays (de Beaumarchais 1784, Feuchtwanger 1946), and even in operas (Mozart, 1786). Trust and mistrust are two faces of the same thing (Luhmann, 1968), just like magic and panic (Merivale, 1969). Further addressed aspects are the important role of 'witches' in society as a necessary link between civilisation and wilderness (Duerr 1984), fear as a phenomenon in the West (Delumeau, 1978), purpose and critical sight at rituals (Berne, 1967; Luhmann, 1968), and the psychic addiction to environmental chemicals based on DDT as an example (Eichler and Eichler, 1989).

Disparities affect the relationships between Federal Republic of Germany (BRD) and (GDR), between Bavaria (still existing) and (former) Prussia, and more. They manifest themselves for example in legal regulations (house fly biological control with *O. aenescens* or with chemicals, roof rat – pest or endangered species), in diseases (damages thru Contergan, allergies, asthma only in BRD until the reunification), and in environmental successes.

Nevertheless, IPM in the U.S. has German roots (Hartnack, 1939/1943), ironically brought to the author's attention by an American colleague (Olkowski 2009, e-mail communication). And according to the available literature it seems that a larger number of pest species have imported from Central Europe to North America (U.S. and Canada) than vice versa. However, this may be explained by the fact that the North American zoologists had focused more actively and earlier to applied research than the European and thus observed and recorded newcomers more carefully (Kemper 1968). This is just a selection of German faces that in some way or other reflect the challenge of innovations in history. In how far these faces may be generalized, is probably more easily ascertained from outside.

## BRIDGES

The decline of biodiversity in the river through Wuppertal was impressively described by Hartnack (1939): "... the color of its water on most days is a deep black (...) the water is without plant or animal life. This comes from many small factories on its banks." The largest factory, Friedrich Bayer and Sons, later moved to Leverkusen.

Environmental protection in Germany started to develop since circa 1900 as a counterweight to the historical overexploitation (Henseling 2008, Scholl 2009). Bick (2008) and Kneitz (Wust, 2009) lamented the decline of biodiversity since the beginning of the 1950s. Role models for bridging the gap were Vester (1975), Franke (1976), Ökoinstitut et al. (1984), Bick (2008), Kneitz (Wust, 2009), Henseling 2008, and they are also increasingly being heard politically (Deutscher Bundestag, Referat Öffentlichkeitsarbeit, 1998). Bick and Kneitz express their motivation and personal commitment in relation with environmental protection: A great deal of what has been fought for in the 1970s, is now taken for granted. Back then, environmental protection was not pushed forward only by the love of nature, but out of the knowledge that things can not go on this way (Kneitz, after Wust, 2009). "The main motive of this work (...) was my desire to spread ecological ideas in the public, to promote environmental protection, and to share knowledge. I am sure that this motivation has actually existed and was not designed by me after the fact. (Bick, 2008). Many improvements have been achieved in Germany in completely innovative ways and have become common practice years ago in Germany, whilst completely unknown in the U.S. even now, and vice versa.

## URBAN IPM STATUS

Guidelines for urban IPM based on the experiences with the US Army Europe were published in 1996 (Scholl, 1996a, 1996b), and are in progress. To promote the reduction of biocides, existing knowledge and concepts are to be further developed. These need to be transformed for different target groups in an appropriate manner, that means user-friendly, and above all, made available for educational programs and training of professionals involved with

pest management. (Deutscher Bundestag, 1997, 1998). A long term IPM perspective concerns the shaping of the living conditions of the humans and the organisms, as pointed out by the European Commission Environment Directorate-General (2009). In 2010, a biocide internet platform was started (Umweltbundesamt, 2010).

## CONCLUSIONS AND GOOD NEWS

The language barrier is melting with ever improving online translation. Nevertheless, quality assurance for translations, e.g. alphabetic order of translated indices will be necessary.

It is recommended to learn from very old people as long as they are there, especially from women. They may have knowledge of practical facts beyond scientific textbooks, with the following provisos: careful review historic 'facts', take into account the motives of the rapporteurs. The wheat needs to be separated from the chaff.

Rampant nationalism still exist, posing an immanent potential for resurrection as soon as ecological niches are provided, just like persistent weeds or pests. Comparisons are dangerous yet good for imagination. German history should be kept in mind as a deterrent example, and the positive aspects should also be underlined.

A lot has changed for the better. There is now a broad base of technological innovations; cultural innovations are also appreciated by relatively large minorities. Personal commitment has increased. Unspoiled nature as an experience and recreation is meaningful to people as an important part of quality of life. (From a representative survey, BMU 2010). With the events in Japan/Fukushima since March 2011 this may be subject to change again. Matching the above is a message from the Organisation for Economic Co-operation and Development (OECD) on the rediscovery of the knowledge that happiness is more than the gross domestic product. <http://www.oecdbetterlifeindex.org/2011-05-25>

A lot more than before could be achieved by paying more attention to individual national peculiarities. Mutual exchange would be advantageous over unilateral supply of products and services and is recommended. Transfer of achievements in environmental protection to bring about sustainable pest management is possible. After having identified, studied and recorded the differences, the recommended course is to concentrate on the similarities.

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