Road Pavement Forum
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Eastern Cape

ASPASA /GAIN MEETING
11 – 13 April 2016

Presented by: Nico Pienaar

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Aggregate & Sand Producers Association of Southern Africa

Hosted by:

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Summary:

- Fourth GAIN meeting
- Hosted by Aspasa
- Countries Represented:
  - China
  - USA
  - Latin America
  - Europe
  - Australia
  - Canada
  - New Zealand
- GAIN founded in 2010 – Brussels
- Then second meeting in Charlotte
- Third in Brussels in 2014

The purpose of GAIN

- The purpose of GAIN is to openly share experiences and industry best in the interests of promoting the greater good of the aggregates industry globally.
- Challenges experienced by the industry in various parts of the world are remarkably similar
- Best practices to be exchanged

Developments in South Africa

Nico Pienaar, ASPASA Director, then summarised industry developments in South Africa.

Post the decline after the Rugby World Cup in 2010, the South African aggregates sector was now growing with a production of some 130mt, equivalent to 2.5t/c (tonnes/capita), driven by ongoing needs for housing, road, rail, electricity and water infrastructural development.

The Quarrying Industry falls under Mining legislation, and so is heavily regulated.

The single biggest issue is illegal mining and quarrying, very negatively affecting both industries.

Other challenges include electricity, water and skills shortages, the latter despite 30% unemployment.

Even with all these challenges, the future prospects for the economy and the aggregates industry in South Africa look bright,
and ASPASA looks positively to the future.

Developments in the United States

Mike Johnson, President and CEO of NSSGA, indicated that NSSGA represents 90% of crushed stone and 70% of sand & gravel produced in the US.

NSSGA is focused on advocacy through communications with all stakeholders, particularly the politicians.

The recent success in promoting the FAST (Fixing America's Surface Transportation) Act should provide a further industry boost up to 2020.

NSSGA's top priorities are (a) advocacy, both legislative and regulatory, (b) communications with all stakeholders and (c) membership
education and events.

Its core message is to highlight what the industry does and its importance –

"America's future is tied directly to the success of the Aggregates Industry".

Developments in Australia

Ken Slattery, CE of CCAA, indicated that the CCAA (which notably represents 90% of the combined cement, concrete and aggregates industries) actually aligns itself with the construction industry in Australia. CCAA's strategic priorities include (a) the industry licence to operate, (b) market development, (c) technical leadership and (d) member engagement. Uniquely, the country has enjoyed 23 years of continuous growth, now using some 7t/c, despite recent setback in the mining sector. CCAA sets out to differentiate itself from the mining sector, using extensive communication media emphasising the strong environmental stewardship of the aggregates industry.

Developments in China

Jixian Han, Secretary-General of CAA, outlined that the "new normal" of (only!) 7%pa economic growth in China, the level of 2015 output of aggregates remaining at about 15bnt, even though those of cement and concrete had declined about 5% and 12% versus 2014.

The "Silk Road" project, linking China with Europe, will link 4.4bn people on its route.

There was increased focus on higher-quality aggregates for use in high-strength concretes, as well as in manufactured sand replacing natural sand.

Developments in Latin America

Jaume Puig i Canal, Treasurer of FIPA, outlined the strong bonds that exist between Spain, Portugal, Mexico, Central and South America. There are full member aggregates associations in Argentina, Brazil, Colombia, Costa Rica, Guatemala, Panama and in the Dominican Republic, with other countries in the region represented by either companies or observers. The total region market is estimated at 1.9bnt, equivalent to about 2.9t/c,

Developments in Europe

Dirk Fincke, Secretary-General of UEPG, described the challenges being faced in Europe. UEPG represents the aggregates industry across 29 countries (most of the EU28 plus EFTA).

Europe has 24 working languages.

Europe has suffered a long recession, where aggregates production declining 30% from 2008 to 2.6bnt in 2014, equivalent to 5t/c.

UEPG’s top priorities include (a) better access to resources as part of the Raw Materials Strategy, (b) green and blue growth in particular the fostering of biodiversity, (c) the upcoming regulation of RCS and (d) campaigning against the illegal industry, more prevalent in some Central and Southern European countries.

Developments in Canada

The aggregates industry continues to prosper there as the greater Toronto area continues to develop, though with increasing difficulties in getting access to resources in the surrounding Greater Golden Horseshoe area. OSSGA actively participated in the recent Provincial Plan Review.

The results recognised the importance of aggregates, yet gave little consolation in better facilitating permitting. OSSGA is campaigning for a more positive industry image, counteracting a recent negative social media campaign. There are also aggregates associations in the Alberta and British Colombia provinces, though there is as yet no national Canadian association. Consumption in Canada is around 13t/c, which (like Scandinavia) is typical for a developed, rugged, sparsely-populated country with a severe climate.

Developments in New Zealand

The output of the aggregates industry there suffered a major decline from 2006 to 2011, but now is in very positive growth, driven by new housing around Auckland, the development of highways between the major cities and the post-earthquake rebuilding in Christchurch.

NGOs now recognise the need for aggregates, and recycling is being pushed very actively. Due to a coal mine tragedy, health and safety is now being very strongly regulated, the aggregates industry being regarded as part of the mining sector.

Estimated Global Aggregates Production

Best estimates indicate a global production of 40bnt, of which 60% is covered by China, India and the rest of Asia. This represents about 5.3t/c for a population of 7.5bn

Monday:

The Safety Imperative & the Road to Zero Harm

In quarries, the highest risk relates to heavy mobile plant, where much work has recently been done by suppliers to improve all-around visibility.

There are probably at least 100 fatalities in the quarrying industry globally each year, which is totally unacceptable.

Monday:

The Safety Imperative & the Road to Zero Harm

The likely regulation of exposure to RCS in Europe under the Carcinogens and Mutagens Directive (CMD). It is hoped that the exposure limit would be set at 0.1mg/m3 8-hour TWA. Inclusion under the CMD could set very severe rules for process system enclosure, general exposure reduction as low as technically possible and employee health monitoring with records retained for 40 years.

The recent US OSHA Final Ruling limit was set at 0.05mg/m3, despite many sectors being opposed to such an impossibly low limit.

Industry Environmental Issues

The most immediate environmental issue in the US was the recent EPA ruling on "Waters of the US/ WOTUS". This would require permitting of water discharges to any waterway in which a pencil could float at any time of the year.

Consequently NSSGA had to take legal action to try to change this to a more reasonable ruling. While biodiversity is not a major focus in the US, a recent update of the Endangered Species Act threatens to have significant implications where these species exist in quarries.

Monday:

Access to resources and recycling

European countries have now developed 20-year strategies for future aggregates reserves.

In the US, aggregates are now deemed a "strategic source", which represents a great recognition of the importance of the industry there.

Recovering from Recession – the Spanish Aggregates Plant to 2025

In the European financial crisis, Spain was hardest hit with a sudden 80% drop in aggregates market between 2008 and 2012, with consumption coming down to 2t/c. Hence the Spanish association, FdA, headed up by its Secretary-General - had to devise a survival plan for the industry. This was achieved through consultation with 623 stakeholders in the industry, its customers, its legislators, community/society representatives as well as its international partners.

2012 to 2025 laid out a detailed strategy with 107 actions for improving sector profitability

Monday:

What is Operational Best Practice for the Industry?

While the basic technologies remain fairly constant, there is increasing innovation through smarter blasting, quarry transport, crushing, screening, stockpiling and optimisation of the whole process to market demand. There can also be strategic advantages in co-locating of readymixed concrete, asphalt and other production facilities within the quarry site.

In well-regulated countries, quarries, particularly those well-connected with major urban areas, can have good margins with strong barriers to entry, as qualitatively illustrated in the diagrams below. The opposite unfortunately is true in poorly-regulated regions, where the illegal industry can thrive.

Tuesday:

Initiatives on Tackling Illegal Quarrying

Nico outlined the huge scale of illegal mining.

The aggregates sector also has challenges in terms of not only of illegal extraction, but also through operation by contractors of "borrow-pits" associated with infrastructural projects. This presents very severe problems to responsible ASPASA members which are heavily controlled in terms of permits and environmental and health & safety regulations. Campaigning against illegal extraction is therefore a top priority for ASPASA.

UEPG initiative on campaigning against illegal quarrying that is highly prevalent in Central Europe (for example in Romania and Bulgaria), as also in some parts of Southern Europe. The campaign will focus on alerting authorities to their loss in tax revenue and the associated poor technical, environmental and health & safety records of illegal players. The key to success is a strong association, whose members can publicly display responsible stewardship and who are not afraid to point out those not so doing to the authorities.

Tuesday:

Product and Building Certification – Implications for Aggregates Sector?

UEPG has developed a generic Environmental Product Declaration covering primary, marine and recycled aggregates, based on their very low production environmental impact.

Aggregates producers in various regions will already be familiar with requirement for existing certification schemes like BREEAM and LEED. There are now moves to at European and international levels to define certification requirements proposed by the CSI's Concrete Sustainability Council. While UEPG is positively disposed towards these, they may create unnecessarily complex and costly certification requirements for supplying aggregates. Hence the jury is still out on the merits of such a scheme.

Differentiating Quarrying from Mining

The CCAA strategy for reshaping public perception about quarrying through producing a brochure on Stone, Gravel and Sand, containing a series of explanatory leaflets on the national and local benefits of the industry.

The real success lies in convincing the authorities that the economic and efficient supply of aggregates is key to national infrastructural development. The end goal is to achieve an equitable regulatory outcome that is proportionate and risk-based, with reduced red and green tape, a streamlined permitting process with longer-term resource protection.

Tuesday:

ASPASA
Aggregate & Sand Producers
Association of Southern Africa

Recruiting the Employees and Managers of the Future

Nico opened up a broad debate on the important topic of recruiting future talent within the industry. Despite high unemployment in South Africa, it was very difficult to find the right skills; few recruits nowadays had the patience to work up the ladder over 10 years from tradesman to plant manager.

Managers now need a much broader portfolio of skills, also embracing environment, health & safety, community relations, the "internet of everything" as well as business acumen.

A universal challenge is to make the industry more "sexy" maybe through rebranding to make it more appealing particularly to the "Millennials".

What is the Industry Vision for 2030 and 2050?

Gert Coffee gave a stimulating view of the future, questioning the industry process technology of the future, whether its future infrastructure markets will change dramatically, what might be the impacts of demographic trends and migration.

For the foreseeable future, the end-markets for aggregates would remain broadly similar, with population and economic growth driving greater consumption in the future. While process blasting, crushing and screening technology would continue to be refined and ever more smartly operated, a quantum disruption is unlikely in such a basic and highly-competitive industry.