

IUPAC-UNESCO-UNIDO Safety Fellowship.

Learning experience by

Fellow: *Tersoo Charles Gwaza*

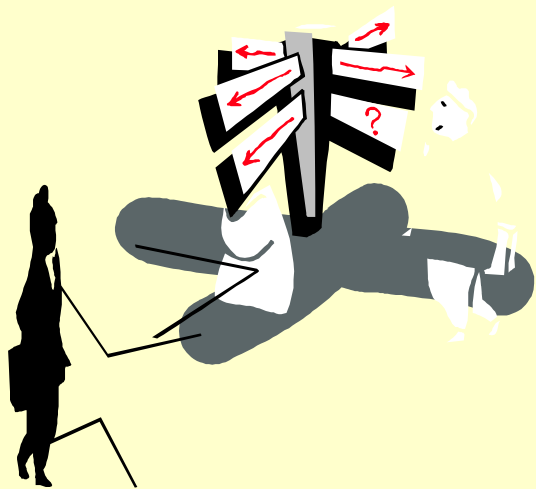
Corporate Safety Adviser,
Shell Petroleum Development
Company.

Port Harcourt, Nigeria.



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Where? SASOL Chemical Industries
Republic of South Africa.



When? June 2, 2002 to June 16, 2002.

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Training Highlights:

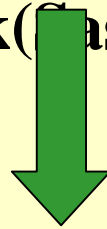
- 1. Aspects of responsible care and integrated approach for SHE (Safety, Health & Environment).**
- 2. Occupational hygiene.**
- 3. Process Safety Management with emphasis on HAZOP awareness.**
- 4. Material Safety Data Sheets (MSDS).**
- 5. Hazard Identification Risk Assessments (HIRA).**
- 6. Topset accident investigation technique.**

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Introduction:

Corporate Preview of SASOL SHE (Safety, Health and Environmental activities) by SASOL, General Manager.

Process Safety Framework (Sasols experience) based on



United States occupational Safety & Health Administration (OSHA).

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Incorporated Responsible Care Concept, initiated in Canada in 1984.

Adopted by SASOL in 1994.

KEY FACTORS.

- **Seen as Fundamentals of Chemical Industry ethic or philosophy for continual improvement in performance of Safety, Health & Environmental aspects.**
- **Considered key to Public acceptance.**
- **Guiding principles essential to the policy of a management System.**

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Care of the Environment (Summary of SASOL's Approach)

- **Environmental Management System in Place.**
- **Actions include Ground Water Monitoring(PH, Connectivity, Sodium, Cyanide analysis etc).**
- **Sasol is shifting from Coal to Natural Gas Processing (more environmental friendly feed / technology).**

Waste Management.

- **System in place for tracking Waste and control on Waste generated in the Company.**

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Occupational Hygiene:

Five Stress Categories Highlighted.

1. **Chemical - e.g Benzene exposure.**
2. **Physical - e.g Noise, Illumination.**
3. **Ergonomics.**
4. **Psychological.**
5. **Microbiological.**

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HAZOP Awareness.

HAZOP  **Hazard and Operability Study.**

Originated from the United Kingdom.

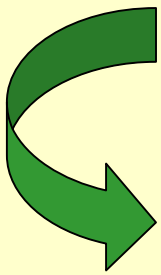
HAZOP carried out for all major projects of SASOL.

MSDS  **Material Safety Data Sheets.**

- **All products have a chemical abstract service (CAS) number.**
- **It provides chemical product information under 16 standard headings.**

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Hazard identification risk assessment(HIRA)



- Risk is classified into Low, Medium and High based on a structured matrix.
- This enables effective decision to be taken in order to give priority to higher risks.

Topset Accident Investigation tool.

- Invented in Scotland .
- Diagnostic system that establishes causes of failure in incidents, sequence of events & root causes.
- Timeline charting, incident profiling.
- Works on an interviewing methodology which identifies immediate cause, root causes and contributing factors.

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CONCLUSION:

This fellowship is a worthwhile investment.

- **Has sensitized me to a greater commitment to Safety and Environmental issues.**
- **Hope to build on this and contribute to best practice in Safety, Health and Environment in Shell, Nigeria.**

Part of my Actions include:

- **Bench mark practice in Shell with those of Companies in similar operations.**
- **Improved contribution to HSE Plan, Audits and Projects supervision.**
- **Make contributions to Training of Staff and Contractors in my**

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A Typical HSE Training summary of Shell Petroleum Development Company (Staff ,Contractors) in a Single location by HSE Function. In addition to a structured learning and development program.

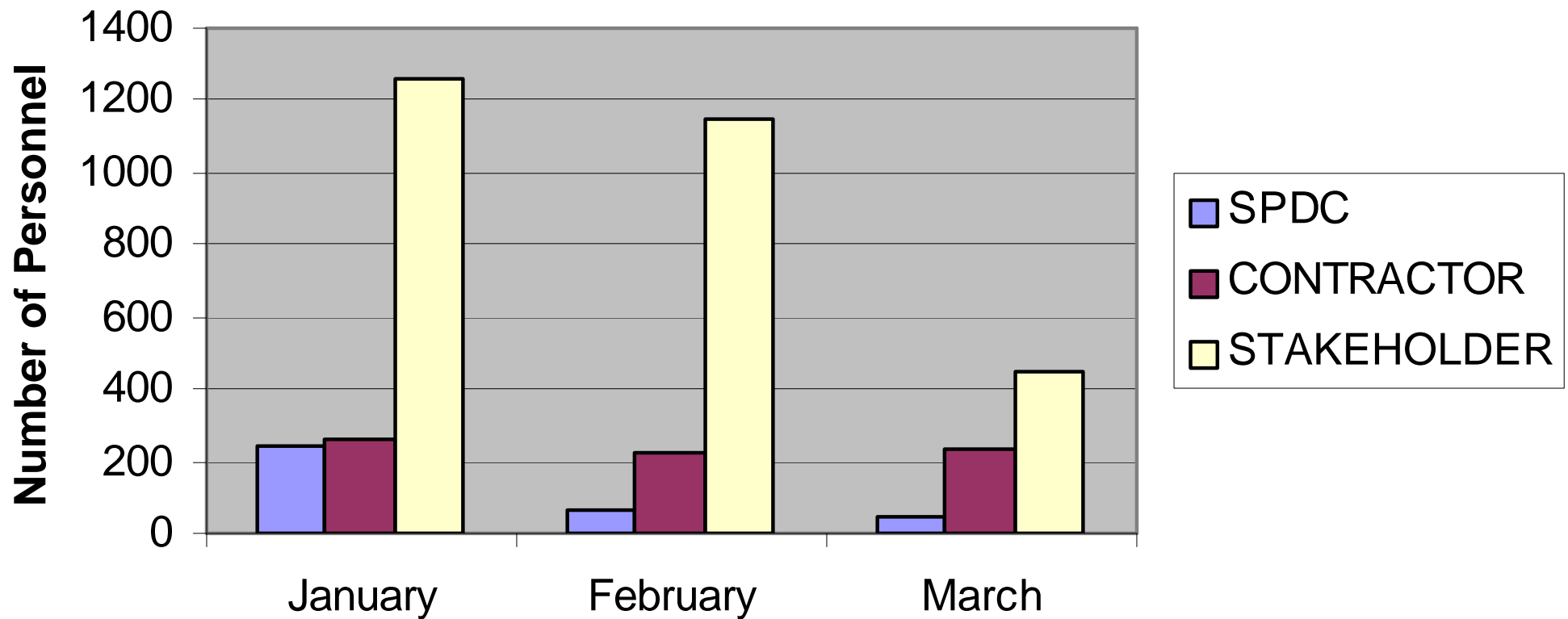
Quarter 1,2002(number of people trained) .

Month	<u>SPDC Staff.</u>	Contractors	Stakeholders	<u>TOTAL</u>
January	241	257	1262	1760
February	64	227	1147	1438
March	45	232	450	727
TOTAL	350	716	2859	3925

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Figure 1

Number Trained Q/1 2002



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Industries

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Some Key Challenges

- ✓ Rapidly changing technology in HSE tools & application
- ✓ Challenges of new business areas of Gas & Offshore business
- ✓ HSE Competence of Line HSE personnel...

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