Insight!

MPRL E&P

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MPRL E&P Group of Companies and its Public Relations

U Tint Swe
Executive Director
Government &
Public Affairs

Our world, as stated in Toffler's Wave Theory, actually commenced its changes in the form of a First Wave from the late Stone Age agricultural and livestock society to the Industrial Revolution Phase; then as a Second Wave, from the Industrial Revolution of Western Europe until the events up to the end of the Second World War in 1950s, and finally as a Third Wave, the world transformed itself during the period from the 1950s to the 90's to what is commonly known as the news and media age. Subsequently, Herman Bryant Mayard and Susan E. Mehrtens wrote in their book about the formation of the 21st century eco-globalism in 1993 with the aim of naming it as the Fourth Wave. In 2005, Thomas. L. Friedman, in fact described the correlations of "Internet and the 21st Century World as "The World is Flat". The intent of the writer, by quoting the above, is to draw one's attention that our world is not static but that it is dynamic and is constantly changing.

There have also been changes in Myanmar since 1948, after gaining Independence. However, no significant changes were seen from 1962 to 1988, when the military dictatorship and mono-party system prevailed during this period. Under this system of government, Myanmar actually stopped moving ahead although the rest of the world kept moving forward throughout the news and media age. Then, during the tenure of the previous quasi civilian government, Myanmar started making changes obviously with the government realizing and accepting the fact that Myanmar as a country must change to be at par with other countries in the region, especially in this fast growing Internet Age. In such a rapidly growing Internet Age, which has the advantages of letting the users know of every single incidents happening around the world within seconds from any geographic whereabouts in the world, in my opinion, changes in Myanmar actually started somewhat cautiously. To be fair, although the government at that time was fully committed to change it faced a lot of difficulties. The most difficult challenges to change during the said transitional period were opposing political views and agendas, economic and social impact, the mindset of state employees working within the government mechanism opposing change, civil society organizations, and strong resistance to change even by some private sector business

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More Stories

Your Opinion : What is Your Favourite Book?

Daw Aye Myat Thuzar
Executive Office Assistant
Executive Management Office

I am pleased to talk about my favourite book, "Zit Myit", which was translated into Myanmar by a well-known Myanmar author, Maung Tun Thu, in 2001, from the original English book entitled "Roots: The Saga of an American Family."

"Roots: The Saga of an American Family," written by Alex Haley, is a fictional account about the ancestry of the black author and traces his roots back to the Gambia in Africa. The book was first published in 1976 in the United States and has now been translated into thirty languages.

This historical novel tells the story of Kunta Kinte, an 18th Century African, from his being captured and sold into slavery in the United States as an adolescent to his later life and traces the story of his descendants down to the author. "Roots" immediately proved to be a great success, garnering positive reviews, television adaptations and resulted in Haley receiving a Pulitzer Prize award in 1977.

I particularly like this book because it is a good read, stirring the emotions of sadness and happiness. It tells its readers the awful historical reality of slavery in America and raises the awareness of the origins of family. Although the author talked about a particular family and its evolution within the history of a different culture from mine, the message sent is the same for everyone – people need to be connected with their ancestors. The original author wrote with a focus on clarity and comprehension rather than the use of literary devices and Maung Tun Thu's translation follows this same path.

I recommend reading this book; it is long, at over 500 pages, but it is worth spending time on it. We can learn much from it, especially the perseverance of the protagonist, Kunta Kinte, and his family – although Kunta Kinte could not get back to his homeland, one of his descendants did. When I have a problem or difficulties in my career or personal life, I recall people in the book and realize my problems are small compared to theirs. I have an electronic version of the book so feel free to request it if you are interested! ■

Daw Myo Myat Myat Thein
HSE Administrator
HSE Department

Reading is an important activity which educates, entertains and broadens one's mind. Having read a lot of books, a particular self-help book became one of my favourite books for its insightful writing on money and investing. It's called "Rich Dad Poor Dad", written by Robert Kiyosaki and published in April 2000. Having sold over 26 million copies worldwide, and been translated into dozens of languages, it became the number one personal finance book of all time. American talk show host and media mogul, Oprah Winfrey, endorsed the book on her show!

I hope you are now interested to learn more about the book. It is about the story of Robert Kiyosaki, the author, growing up with two fathers, both strong, charismatic and influential. However, the first father, who is his biological father, is the poor father while the second, who is the father of his childhood best friend, is the rich father. Both fathers taught the young Robert how to achieve success but with very dissimilar approaches, based on their differing attitudes towards money. It later became clear to the author which father's approach made more financial sense.

The author argues in the book that money is a form of power. However, what is more powerful than money is financial education, which is not taught at schools. If you have the knowledge about how money works, you gain control over it and build your wealth. Therefore, people need to learn "financial literacy" in the same way that they become literate in other subjects: by studying books, etc.

Advocating the importance of financial knowledge and building wealth through investing and entrepreneurship, the author shatters the myth that earning a high degree secures a high income and explains the difference between working for money and having money work for you. The book completely changes the way I look at money, income, investing and personal finance. It makes me realize that financial education is important not because it will make me rich but because it will increase my awareness of my own attitude towards, and actions about, money. ■

Insight!

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"*Did you know that,* in 1948, the United Nations defined community development as a process designed to create conditions of economic and social progress for the whole community with its active participation and relying as fully as possible upon the community's own initiative? Community development practices are rooted in a variety of sources and can be traced back to the social reform movement in Britain and North America in the latter half of the 18th Century. Community development principles were formulated and applied in third-world development efforts following decolonisation. "

Introduction to New Employees (March 15 ~ June 12 2017)

No.	Name	Department	Designation	Commencement Date
1.	Yin Thant Aung	Executive Management Office	Executive Office Assistant	24-Apr-2017
2.	Chit Su Hlaing Phyu	Executive Management Office	Executive Office Assistant	08-May-2017
3.	Hnin Moe Htun	Executive Management Office	Front Office Assistant	15-May-2017
4.	Nyein Thu Lwin	Executive Management Office	Administrator	1-June-2017
5.	Shwe Sin Myo Htut	Human Resources	Senior HR Officer	1-June-2017
6.	Thae Aei Khinn Zaw	CSR & Communications	Communication Officer	5-June-2017
7.	Myat Mo Phu	Human Resources	HR Intern	6-June-2017

MPRL E&P Pte Ltd.

Employee Recognition & 15 Years of Service Awards

CSR Field Team Attended WASH Coordination Meeting In Magwe

Thal Sandy Tun

Organisations and government agencies implementing Water Access, Sanitation and personal Hygiene (WASH) works in Magwe Region held a coordination meeting to exchange information about their emergency response plans for summer water shortages at the meeting hall of the Department of Rural Development, Magwe, on 28 March 2017 at 9:20 a.m.

The meeting was attended by the Director of the Department of Rural Development, the Director of the Regional Health Department, and officials from Relief and Resettlement Department, UNICEF, PC Myanmar, World Vision, Save the Children, Regional Red Cross Society as well as other relevant agencies. MPRL E&P's CSR Field Team were also present at the event to discuss its implementation of CSR projects in cooperation with MOGE in the communities in Mann Field.

Director U Kyaw Swe from the Department of Rural Development gave an opening address, saying that even drier and hotter than normal temperatures were anticipated to hit the region in the first and second part of summer this year. As a result, about 74 villages are likely to suffer from shortages of water. Coordination with respective departments and organisations took place so that water could be distributed with vehicles when shortages occur. An official from the Relief and Resettlement Department presented its emergency plans for water shortages in the summer – a total of 77 villages in the area are covered in the plans and cooperation with the regional ministry, NGOs, KBZ and Daw Khin Kyi Foundation were reportedly underway.

After a short tea break, attendees began reviewing response efforts to last year's summer water shortages. Issues relating to sanitation and hygiene promotion, including their weaknesses, strengths, challenges and lessons learned, were discussed. Local resources were identified for priority communities, based on their severity category of water supply shortages. Daw Zin Mar Myint from MPRL E&P's CSR Field Team explained about the company's water pipeline project and low-cost water storage container making skill training together with its flood response, including the provision of food and hygiene items as well as the water filtration project, implemented in the communities in Mann Field.

The meeting, which was organised in an effort to speed up coordination among WASH partners in the region, was held to build capacity by sharing resources and information and to prepare together for summer water supply shortages. The meeting concluded by lunch time. ■

" Volunteering to Teach Helps Me Contribute Much More to My Community "

Thal Sandy Tun

Daw Lai Lai Khaing, CSR Field Support Staff, talks about why she is devoting her free time to teach English in the community in Mann Field.

I used to be a teacher before I joined MPRL E&P and I am familiar with English as it is taught in school. However, since I started to work in the CSR and Communication Department as a member of the Field Support Staff, which entails writing daily and weekly reports in English, English language skills have become more important than ever to me. I feel admiration for, and I am inspired by, the Yangon Office staff talking in English and I would like to improve my speaking skills by attending an English-speaking class but I am fully occupied and have no free time. So I decided to study in my own free time. A good grasp of English is increasingly important for anyone who wishes to be able to communicate in the workplace and is vital for anyone seeking knowledge because so much information is only available in English. Therefore I decided to share my knowledge of English grammar with those in the community where I work.

I discussed this idea with the community volunteers for whom I am responsible and explained that not only would it help them better integrate with our CSR projects but it would also help them build their capacity to perform their roles within those projects. As a result, Ko Win Ko, a community volunteer from Man Kyoe village, met with the village administrator and the headmaster of the village school and examined the idea of gathering students from his village at the village school to be taught English by me. Thanks to their agreement and support, we are now studying five days a week at the village school – on weekdays from 6 to 7:30 and on weekends from 7 to 8:30.

Currently, the number of attendees has reached a total of 80 – spanning the range from primary school to university students. As a starting point, I teach the eight parts of speech, aiming to elaborate on the usage of each one of them as the class progresses. Because the class is all-inclusive in nature, some younger children fall behind during the lessons and face difficulty understanding them. To solve this problem, I ask them to remain for about half an hour after class to give them further explanation about the lessons until they understand.

All the students are motivated by their desire to learn English and most of them can follow the lessons. They want to be able to talk in simple English with their peers, however, I note that the majority of the school children have poor English language skills. I want them to be well-prepared for their future and so I am trying to address this skills gap with my own efforts. To this end, Daw Wit Hmone Tin Latt, from my Department, provided me with some En-

glish Language self-study books which support my classes.

Teaching is a rewarding activity for me because it allows me to help young minds to develop a love for learning and to instil a sense of self-discipline and self-esteem. I always advise them how to best manage their time so that they can gain knowledge in the same way I did when I was a teacher, who was taking care of household chores at the same time as studying at school. It is important to allocate your precious time in order to be able to manage all of the fruitful tasks in life.

I am a veteran teacher of 15 years and I am still teaching for as much time as is available to me. One reason I continue is because my students are innocent and talk honestly and I feel free and happy to be with them. Spending time with these young ones is a time spent telling jokes and laughing with a pure-heart, which is relaxing for me.

> "Volunteering is all about allowing you to connect to your community and making a difference to other people's lives. However, volunteering is a two-way street, and it can benefit you as much as the cause you choose to help."

I believe my volunteering activities allow me to refresh my memory, to have fewer distractions, and helps the children realise their potential. We need to explore each of the children's abilities, talents and interests in order to encourage them to be able to confidently shape and realise their ambitions in life. As they will be the future leaders of our country, it is important that we help them build their knowledge and skills as well as strengthen their character and discipline. ■

THINKING ALOUD with Dr. Aung Zayar Myint
Senior Geoscientist

Please introduce your role in the offshore block A-6 and update us on the upcoming appraisal campaigns to determine the possibility of commercial production at this prospect.

My client is the Exploration and Joint Ventures (EJV) team, the asset manager of Block A-6. My responsibility as Senior Geoscientist is to lead the effort to interpret the massive amount of processed seismic data received from our partner, Woodside, so as to identify and analyse the prospectivity for gas in the block. Not only does my team interpret the data, we also integrate any other geological data and our own knowledge from our rich previous experience to assess risks, evaluate uncertainties in exploitable oil and/or gas volumes of prospects and discoveries in Block A-6. I also lead the effort to propose the best drilling locations to evaluate potential gas prospects for the EJV team. The forthcoming drilling campaign in Block A-6 is planned for two firm wells to be drilled in two prospects, which both appear to be gas-filled submarine channels, based on their seismic characteristics and our knowledge gained in drilling a similar prospect in the successful Shwe Yee Htun-1 well. One of the wells will be tested to check whether its sands are capable of producing a sustainable, commercial gas flow. This drilling campaign is due to start in July 2017 and the data obtained should enable us to significantly reduce the uncertainties and enhance our ability to determine whether commercial amounts of gas could be produced.

Can we say that to an extent in national energy sector the block A-6 is likely to become a key driver to national economic development? Please tell us how it will.

Block A-6 is ideally located close to the energy-thirsty Ayeyarwady Region and could provide domestic gas for the country, which could be utilised by the electricity-generating sector although there is also an option to export the gas to neighbouring countries. Block A-6 gas is therefore a candidate, in the not so distant future, to become a key driver for the growth of the national energy sector, thereby powering the economic development of the country, while at the same time potentially generating foreign revenues.

Please tell us what the state of affairs of offshore oil and gas exploration and production in the country are?

While most of Myanmar's offshore blocks are licensed, they are still undergoing the early stages of exploration. Blocks A-6 and AD-7 are in the most advanced stage of exploration, with discoveries being made in the appraisal stages in 2017. However, offshore oil and gas exploration, particularly in deep water environments, remains very challenging in terms of risk, cost and uncertainty. Geologists and engineers wonder what the chances are of finding commercial gas in thick sands. Will producing wells flow enough gas for long enough to be economic? Is what we see on seismic telling tales of gas-bearing sands?
Myanmar is believed to hold vast amounts of hydrocarbon resources, particularly in the offshore region. At present, exploration, appraisal, and development activities are being undertaken by some of the most capable and competent oil and gas companies in the world and most operators in the country hold an optimistic view towards achieving a successful outcome resulting from their current exploration efforts.

Myanmar has an urgent prerequisite to secure energy needs before it attracts investors and ensures its economic development. What is your outlook on meeting national energy demands?

Myanmar is poised to undergo significant economic development going forward resulting in domestic energy demand growing at significant rates. Any increase in available domestic gas from new fields could help to provide the feedstock for generating electricity for the nation. Currently, more than 80% of the gas produced from the offshore of Myanmar is exported to our neighbouring countries. In my opinion, any additional production from new discoveries should be prioritised for domestic use. ■

A Major HSE Achievement By Mann Field Team

HSE Team

We are proud to announce the achievement of a major HSE GOAL: Reaching one million man-hours without a Lost Time Injury (LTI).

MPRL E&P's Mann Oil Field team reached this goal on 4 February 2017. This demonstrates the Field Team's efforts and commitment towards incident-free operations. With everybody focussing on incident-free operations, everyone has returned home safely to their families.

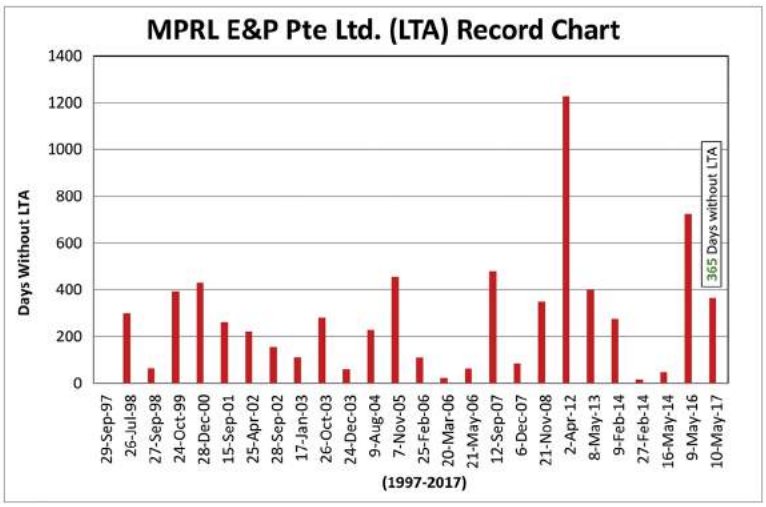
MPRL E&P has awarded safety sport shirts and certificates to all participants in Mann Oil Field Operation for this achievement of one-million man-hours without LTI.

The Importance of Safety

A serious injury or death at the workplace changes lives forever – for families, friends, communities and co-workers too, by inflicting immeasurable human suffering. Occupational injuries and illnesses may provoke major crises in the concerned families, including a dramatic loss of livelihood.

Safety at the workplace is important. Implementing an effective safety program for its workplace is one of the best investment decisions a company can make — both for its workers and its financial and social performance.

Strict laws and regulations discourage practices that value production over safety. The safety culture of an organisation represents the shared beliefs, attitudes, norms and work practices of employees and management. Every employee plays a critical role in ensuring the safety of other employees. The chemical, manufacturing and construction industries are at particular risks of workplace accidents; the petroleum industry is similarly risky.



Definition - What does Lost Time Injury Frequency Rate (LTIFR) mean?

A Lost Time Injury (LTI) is any work which renders the injured person temporarily unable to perform any regular job on subsequent day(s) after the day on which the injury occured.

Lost Time Injury Frequency Rate (LTIFR) refers to the amount or number of lost time injuries relative to the total number of hours worked in the accounting period. In many countries, the figure is typically calculated per 200,000 hours. LTIFR is considered a more meaningful indicator when measured across a large group of workers, than just the number of LTI.

The figure of 200,000 hours, let's call it the Standard HSE Unit of Time (SHUT), is typically the number of hours worked in a year by 100 workers for eight hours a day and five days a week for 50 weeks in a year.

The lost time injury frequency rate (LTIFR) is calculated using two pieces of essential information: the LTI within a given time frame, and the amount of hours worked in that time frame. So, if you want to calculate the LTIFR for the past year, you would first take the number of recorded LTI's, divide it by the total number of worked hours, and further divide by the number of 200,000 hours in this latter total.

As a more concrete example, in the Mann Field there was a lost time injury that occurred in May 2016, and a total of 1,352,732 hours were worked during the following year without further incident: the standard LTIFR for 200,000 hours is therefore: 1 LTI divided by (1,352,732 divided by 200,000 = 6.76 SHUT's) = 0.14. This means that there were 0.14 lost time injuries for every 200,000 hours worked during the last year.

Lost time injury frequency rates are tracked by companies over time to gauge workplace safety and the effectiveness of their safety programs. Metrics such as LTIFR and Lost Time Injury Incidence Rate (LTIIR) are also used by regulatory bodies like the Occupational Health and Safety Administration (OSHA). The LTIFR can be used to calculate and compare the frequency rate of occurrence of different types of injuries and for different occupations. The rate for lost time injuries, for example, can compared to the calculation for medical treatment injuries.

One of MPRL E&P GoC's HSE goals is, **"Promote positive safety culture"**. Key Performance Indicators in this matter are:

- The number of lost time accidents (any work injury) to be less than one per 1,000,000 hrs worked in the Mann Project.
- Achieve 2 million (cumulative) man-hours without LTA (expected by December 2017).
- Tailor our safety training matrix program for the present fiscal year to

Creating a culture of workplace safety requires a team approach and a proactive attitude to learn from indicators of unsafe conditions. You can see the HSE pyramid in the web portal of MPRL E&P. There is no doubt that organisations with a better safety culture are more successful in preventing workplace accidents and injuries than others. Because employees are often used to the particular practices of a particular workplace, it is often challenging to promote changes but behaviour-based safety programs largely focus on ensuring that everyone in an organisation adheres to the best workplace practices.

As an example, MPRL E&P has its "CARE" card program for motivating and rewarding MPRL E&P and subcontractors' personnel who respect working in a safe and environmentally responsible way. This mechanism provides incentives, encouragement and recognition for workers who demonstrate respect and compliance with safety and environmental procedures. This program has succeeded in substantially improving HSE performance in the Mann Oil Field production enhancement projects.

The program has been promoted and is applied at all site/facilities managed by MPRL E&P. Occasional and monthly rewards are given to work crews and individual workers.

MPRL E&P has awarded Occasional Safety awards to MOGE's crews and subcontractors' personal who demonstrate safe and environmentally responsible work practices on the job site. Awards are also given to individuals for HSE performance identified by HSE Officer(s), Senior Engineers and the Field Operations Manager. Awards may be given based on observations of safe work practices, or an interview in which the worker demonstrates his knowledge of safe and responsible work practices, etc. Occasional awards will include such items as stylish safety glasses, stylish safety shoes, baseball hats, polo shirts or umbrellas.

The definition and objectives of positive safety culture is industry specific and subject to perception. However, there are certain critical common elements irrespective of the organisation, such as:

- The feedback of employees with respect to risks, hazards and safe behaviour is important for incorporating safe habits. Bureaucracy should be minimised wherever possible to ensure quick and seamless reporting of accidents, injuries and near-misses.

- Taking corrective actions with respect to near-misses and incidents is important. For a flawless safety culture, one should not shy away from making changes to the system and implementing new practices that encourage safe behaviour.

- Trust is one of the core components for an effective safety culture. One needs to learn from mistakes and errors which then become invaluable learning opportunities. The workforce should have a good relationship across all levels to allow the employees to voice their opinion in a "**no-blame**" culture.

- A safety culture should be a way of life rather than being a weekly training or scheduled safety instructions during shift changes. Rather than being the agenda of a single meeting, the safety culture should be discussed in every level of the organization for any type of operation.

- Increasing employee engagement, identifying and remediating potential hazards and risks gets the company inch by inch closer to an ideal safety culture.

- Safety performance is linked with the safety culture of an organisation. A positive and proactive safety attitude must be duly rewarded.

- The leadership team that includes the managers and supervisors should lead by example and constantly exhibit safe behaviour and best workplace practices. Establishing a safety culture should always be considered as a long term investment and not a cost.

Why do we need a safe work place?

When a workplace is safe, workers feel more comfortable and confident. Minimising downtime and running smooth operations induce a boost in productivity and profit margins follow suit. Absenteeism and related costs also drop when employers take steps to implement an effective safety program.

Everyone in the workplace has a duty and a responsibility to keep the working environment safe. Employers and managers need to know and understand the safety regulations that pertain to their industry and make sure that their premises are up to safety standards. Workers must understand the safety procedures of the company and follow them. If they encounter unsafe actions or unsafe conditions, then MPRL E&P's safety rules mandate that they shall report them to the management using CARE cards so that they can be dealt with promptly. Managers should comprehensively deal with employees' concerns about safety issues.

With the above culture constantly in mind, we may safely look forward to the second million-man-hours milestone of MPRL E&P, probably by December 2017. ■

From Front Page ➤

enterprises and their associates. The fact is, that while moving forward towards good governance and a transparent society, not only the role of competition on fair and even grounds, efficient and effective management systems, development of human resources, individual's qualifications are key to success, but public relations, the relationship between the public and the government as well as engaging with all stakeholders become essential.

MPRL E&P Group of Companies now comprise of 13 independently operated companies. The flagship company is MPRL E&P which was founded in 1996. In fact, the very first company in the group which was established in 1989 is Myint & Associates Co., Ltd., the leading service provider in the oil & gas industry in Myanmar. The latest member company of the group is M&AOSB, an offshore supply base company which was established in May 2017. One would notice that each individual company was formed, in different period of time and setting (from 1989 to 2017), and with different purposes, business objectives and in the nature of job requirements. The employees working in each organization also differ from one another based on their livelihoods, their respective job responsibilities, and their work experience in each organization. Nevertheless, the key to continued success of these independent companies as a whole is on account of the fact that each and every employee clearly understand and respect that they all are part of the same family or the GoC as we often address the organization. Accordingly, we must all continue to strive to do our very best in going an extra mile to do what we believe is in the long term best interest of each individual company, and the entire GoC. This is a perspective on the companies created over time, based on the situation and circumstances of the time when each company was established, and the expectations by the management on each employee internally within the GoC.

However, unlike the old days of a dictatorial style government under a command economy, the current democratic government is elected and chosen by the people where the promotion and the success of the private business sector is very much encouraged and supported by the government. During the previous successive governments, any individual cooperating closely with the government were accusingly labelled as "Cronies". But today, a "transparent" and "productive" relationship with the government very much play a critical role since government/private/public partnership is essential for the sake of building a nation. Whilst the qualifications, productivity and perseverance of each and every employee within a business enterprise are key ingredients for success, in the ever changing circumstances which we are facing, engaging all stakeholders outside of the business enterprise or the GoC becomes a necessity. Thus, Public Relations become a critical element with the aim of disseminating the goals and visions of the GoC to the Public, the Government, the Hluttaw and to Civil Society Organizations.

Public Relations essentially mean making people understand and appreciate the company's vision and policies, and striving to make the public understand our goals and vision, while the company in turn try to understand their viewpoint and needs, so it can be said that Public Relations is adjusting or tailoring the policies of the GoC in harmony to the people's viewpoint and needs. Whereas propaganda can be defined as making a specific policy or an idea or a subject to be intentionally spread using various methods and means to influence/mobilize the people. The Nazi's very effectively used state propaganda as a political tool or weapon, which is a form of political brain wash to systematically control the social life of the people. Propaganda can also be carried out unknowingly in the free world with the goal of achieving a specific task which can on some occasions be unethical and in some instances even deemed to be illegal. Whereas, Public Relations (PR) is to build bridges and relationships which are transparent and fully accountable, with the aim to achieve the company's goals and objectives in a holistic manner. Public relations cannot be done forcibly. In today's arena, we are reading and witnessing individuals or groups who would actually go out and create problems by using people, merely for their own interest or hidden agendas. It is also not unusual to witness such events happening in Myanmar nowadays. No matter what, we as a GoC must accept the fact and face it in a professional manner. We must be willing to accept it and deal with it in an appropriate, transparent and ethical manner. The main purpose of public relations is to establish connectivity between ourselves, the civil society organizations and the public to be able to reach a win-win situation for all. We need to actively engage with all stakeholders to understand their needs and their grievances, and to address them appropriately and adequately as much as we can. The perspective of the people especially in the areas where we work is very crucial. No organizations can survive in the long run without having the support from the local populace. Accordingly, it is worthy to note that public relations can never be implemented effectively if the viewpoint of people are ignored.

In summary, along the dynamics of the changing world, employees from our entire GoC should be vigilant on the changes that are rapidly taking place in terms of politics, social and economics especially during the transitional period of our nation. We as employees of the GoC will need to also change in harmony not only in the way we conduct our business but also in our mindset as to how we deal with the prevailing situation and circumstances.

I have had the opportunity to join MPRL E&P GoC, and participated in ten monthly management meetings of each company. I noted that the Chief Executive himself have been consistently emphasizing the need for us to change the mindsets of the past, remove any opposition to change, think out of the box, to leave the comfort zone of the office atmosphere to go out and engage, and collectively march towards not only the success of all projects undertaken by the GoC, but in bringing harmony and holistic success in bringing unity and success for our country to the future. Through this article I ask all staff to expeditiously move to fulfil this task clearly laid down as a policy by the Senior Management. ■

Insight! 3rd July 2017

What Is Petroleum Exploration?

Dr. Eloi Dolivo, Exploration & JV Manager

Growth seems to be the recipe for business survival these days. Petroleum companies do not escape this trend and, in the business of petroleum, you have two main ways to grow:

(1) acquiring more assets: you contract concessions and evaluate them for their black gold potential, such as by acquiring a little bit of seismic data, and then you sell part or all of these assets to other petroleum companies who will take the risks of finding this petroleum and/or

(2) operating these assets after having acquired them such that, by acquiring all the necessary data, you can identify prospects and then successfully drill into them, hopefully revealing that the fine prospect you have identified will make you rich; in other words, making a petroleum discovery with a commercial potential. This is petroleum exploration.

Or is this all? Will just finding the black gold jackpot make you rich? Not necessarily; the jackpot also needs to be in the right place for selling at the right prices with the right resources and right partners in the right environment, i.e. when the Nature, the communities, the law and the taxes are favourable.

For accountants and engineers, to sum up exploration as an equation, discovering petroleum with good potential to be converted into cash is the result of :

(1) favourable petroleum geology unearthed by good petroleum geologists and engineers plus

(2) sound and safe drilling and testing engineering supported by faultless logistics plus

(3) accepting natural environment and welcoming communities, plus

(4) favourable markets, economics, legislation and fiscal system plus, where applicable,

(5) cooperating joint venture partnership.

This is exploration in simple terms. Let us have a quick look at each of the members of the equation.

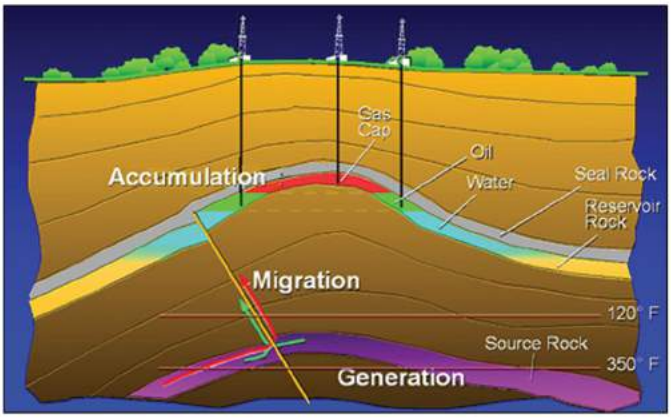
(1) Are all geological elements of my petroleum field present in the right time at the right place?

Much of Mother Nature's involvement in the making of a petroleum field can be seen in the first minute of the excellently informative documentary on the Mann field broadcasted on MRTV on 11 February 2017:

https://www.youtube.com/watch?v=n6YeyejQeCU&index=1&list=PLP8Dv2nieTw668k5J3QWdQKSQL3dT0Rty

But just as a reminder, here is an image showing the rocks and the processes that come together to form a petroleum field. The rocks are:

- the **source-rock**: rich in dead organisms (not necessarily dinosaurs though), deposited on land or on the bottom of the seas millions of years ago and which Mother Nature has been cooking with the right pressure and temperature to produce petroleum,
- the **reservoir**: with enough holes, known as "pores", between the grains grains of rock in which the petroleum will accumulate. The "porosity" of the rock is a measure of the percentage of the pores compared to the total rock volume. One also needs good connections between these holes that will allow the petroleum to flow easily from pore to pore towards a well drilled into the reservoir to tap into the petroleum. The "permeability" of the reservoir is a measure of how easily the petroleum will flow,
- the **seal**: the impermeable rock that will prevent the lighter-than-water petroleum to escape to the surface of the earth, as it tends to find any opportunity to buoy upwards,
- the **processes**: the source-rock has to be buried deep enough so that petroleum is generated before migrating upwards into a trap that has been previously formed and thus allows the petroleum to accumulate.



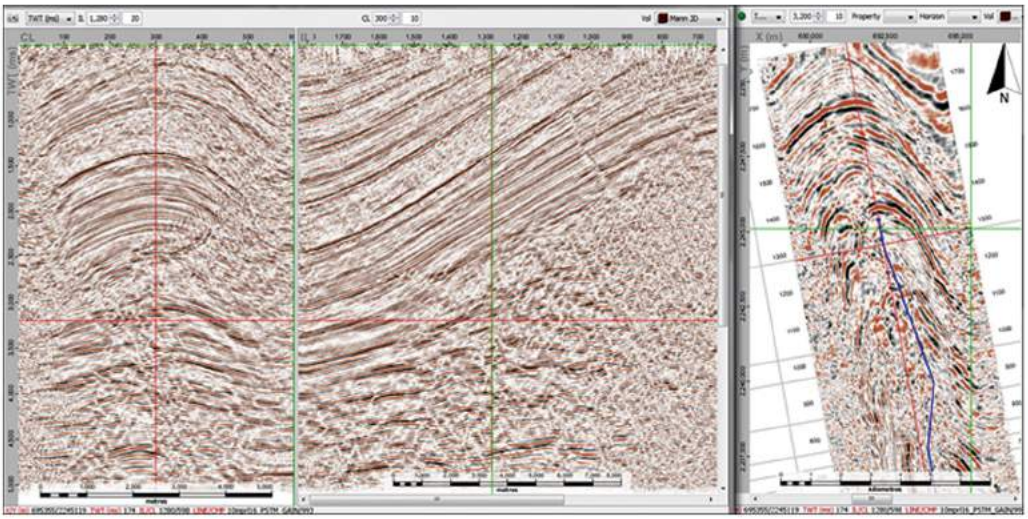
To assess the possibility of petroleum existing, i.e. to explore for petroleum, the geologist will have to verify all these ingredients exist by acquiring various data relating to the suspected accumulation.

The game of exploring for petroleum is risky: should any of these ingredients be missing or any of these processes be failing, there is no chance to find petroleum.

Because we cannot check directly the properties of a potential accumulation buried under a mile or so of rocks, the game of exploring for petroleum is not only risky, but also uncertain. For instance, the trap may be as large as the whole of Yangon town or as small as Latha township in downtown; or the reservoir may have as much as 25% but as little as 10% of its volume available to store the oil.

The main risk and uncertainty, and the easiest to unravel, is the shape and the size of the trap. To solve this risk and narrow the uncertainty, the main and most expensive tool – at least before one drills - is to acquire seismic data, which you may compare with sonograms obtained by ultra-sound. However, petroleum explorationists use giant ultra-sound scanning machines, a whole ship that can be more than 300 ft long and 200 ft wide at sea, or a fleet of trucks on land, together with miles of cables that connect "geophones" (our earphones). We measure the time taken to receive echoes from the various rocks underground that are the reflections of a noise generated at the surface. The source of the noise may be from a programmed series of explosions or from vibrations transmitted by specially equipped trucks known as "vibrators". The size of the ultra-sound device is so large because the "baby" to be pictured, as indicated above, is buried beneath solid rocks that may be anywhere from half a mile to 5 or more miles thick.

The medical ultra-sound machine



The result of exploration ultra-sound machine: a "sonogram" (we call it a "seismic section" on the left and a "seismic time slice" on the right) of MPRL E&P's Mann field

If you have burning quizzes for geo-nuts as geologists like to be called, there is nobody better that Geoscience Manager U Kyaw Soe Win to provide the answers.

(2) Is the jackpot reasonably easy to drill and test?

That's it; the decision has been taken; investors, geo-nuts and engineers have agreed on the location of the least risky largest jackpot to be found! Are we done with exploration? Far from it! We have to drill a well to prove it, and here comes our team of drilling engineers and logistics specialists. Here are some of the questions they have for explorers:

- **How many and how deep are the objectives?** The answer will dictate the size of the drilling rig, which like commercial drills comes in all sizes depending on whether you would like to drill through thin wooden walls or thick concrete slabs. The answer will also impact on the architecture of the well, whereby the well is drilled as a succession of ever deeper and narrower holes which are prevented from collapsing by lining the well with steel casings, each cemented in place. Usually between two and four to five of these cased sections of hole ensure that you will be able to safely reach and test your target.

- **Will the objective be over-pressured?** While drilling, drillers circulate mud down the drilling string and back up to surface, so as to cool the drilling bit, to maintain the pressure on the walls of the hole so that it does not collapse, and to evacuate to surface the rock cut by the drill bit. The expected pressure of the anticipated petroleum will dictate the density of the mud. Great care is taken nowadays to use environmentally friendly components and to recycle the drilling mud for further use; it saves the environment and the purse of the company.

- **Are there surface obstacles that will force us to drill a deviated well?** Usually wells are simply drilled vertically. Murphy's Law, a factor familiar to lucky geologists, sometimes calls for a potential accumulation to be right under a village for instance. In this case, engineers and geologists will design a "deviated" well whereby the surface location will be away from the village and the well below ground will be drilled at an angle to reach the objective a mile or more below the village.

- **Are there sub-surface obstacles that will force us to drill a deviated well?** Geologists and drillers alike sometimes prefer to avoid faults because of surprises they hold, such as high-pressured gas and/or water invasion, and design the well to follow the fault plane rather than to cross it vertically, a bit like preferring to take the pedestrians' overpass when you go out of the office when you want to cross Pyay Road.

- **What are the logistics challenges?** It is too often forgotten that the success of a well does not come only from geologists and drillers but also from a carefully planned supply and transport of a lot of essential equipment, some of which may be useful in case of incidents. Materials, mud products, food and diesel have to be gathered, packed, transported and stored away in weatherproof conditions. Drilling operations can be suspended at a cost of a couple of hundred thousands of US$ per day because of forgotten or overlooked pieces of equipment. Offshore drilling projects costing a million US$ per day carry a lot of redundant equipment to ensure no disruption of drilling operations. Two to three dozen essential services to drill and/or monitor the well need transport, working and storage space. While fleets of specialized vessels are available for offshore projects, onshore drilling projects are often located in fragile or faraway environments that cannot always be reached by road or river, in which case a road has to be constructed.

Any more questions? Drilling Manager U Yan Naing Soe and/or our Supply and Logistics Manager U Ko Ko Naing will answer your concerns.

Asia Drilling rig AD-2 on MDE-1 well site

(3) Will I be able to keep my neighbours reasonably friendly?

Let's face it, petroleum exploration and production can be extremely messy and dirty if not very carefully planned and all potentially out-of-control situations prevented. Petroleum workers remember with awe the terrible accident of the Deepwater Horizon semi-submersible platform in the Gulf of Mexico in 2010, not to mention the terrible explosion of the Piper Alpha production platform in the North Sea on 6 July 1988 (167 casualties, only 62 rescued, more than three US$ billion in damages, not including the lost production), This accident and the ensuing enquiry transformed the way the whole industry oversees the health, safety and environment impact of their operations worldwide.

- **Are there any geological risks and uncertainties that may impact the safety of the drilling operations?** These risks and uncertainties are thoroughly reviewed and planned for by geologists and engineers using lessons learned from nearby wells or from similar operations abroad; incidents due to a drastic oversight of geological risks and uncertainties are now very rare, essentially because the seismic images images have dramatically improved and now show us in detail what to expect as drillers progress their operations.

No thank you!

- **How do we mitigate the unavoidable nuisances of exploration operations?** On shore seismic and drilling often occupies ground destined for farming or forest activities. Thus fair compensation mechanisms must be in place, as dictated by the law and companies' procedures.

A well site is a noisy, wet place that run 24 hours a day, seven days a week until the well is either completed for production, suspended for re-entering to test its potential or abandoned in such as way it does not remain an obstacle or a potential nuisance.

Modern rigs are more efficient and are more silent than ever before, and run on low-fumes, low-particle diesel, which powers electric generators for improved flexibility in power resulting in lower fuel consumption and faster drilling to minimize environmental impact.

Another concern is the drilling mud and the disposal of the rocks cuttings from the borehole: company procedures and economics minimize the impact of these effluents, by prioritizing recycling and disposal in safe conditions.

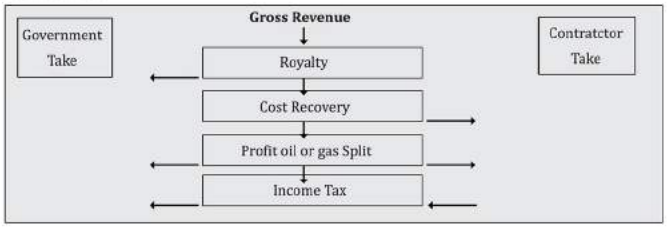
Any green query? Our Health, Safety and Environment all-round Manager Ko Bala will be delighted to hear from you.

(4) How is exploration controlled by law and economics?

The Law

Who owns subsurface natural resources? In most cases worldwide, the state, although in some cases, the owner of the land owns it to the centre of the Earth (U.S.A. being the most notorious). In Myanmar, the state represented by state enterprise MOGE is the owner of the petroleum resources. From time to time, most state companies competitively grant to the most professional companies the rights to explore, develop and produce petroleum for a limited time; this is known as a bidding round.

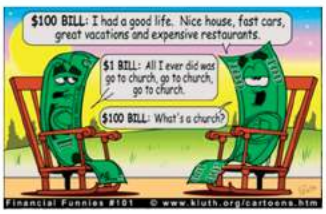
How do state companies ensure the petroleum national resource is efficiently explored and produced? As a result of winning a concession to explore and produce petroleum, the petroleum companies sign a contract, the main purpose of which is to equitably share part of the produced petroleum with the resource owner, the state (see following diagram of profit sharing). These production sharing agreements are the most common legal instrument ruling the access to petroleum resources by companies.



What is the range of activities covered by petroleum sharing agreements? The typical agreement not only rules on the share of petroleum to the state, but also regulates a range of issues to ensure the petroleum companies diligently and professionally work to explore and develop petroleum when found. The contract dictates how to recover the money risked to explore and spent on bringing the petroleum to the market, how to pay taxes, often consisting of a royalty imposed on the whole production, usually followed by an income tax on benefit. The contract also covers the preferential use of local resources and services, the training of local people, the respective rights and obligations of the state company and of the petroleum company and the arbitration procedures. The investing petroleum company must hold accounts and audits, arrange insurances, arrange for banking and, of course, as a local stakeholder, must abide by all laws ensuring the protection of the social and natural environment; responsible companies even pre-empt this enforcement by vigorously following strict recognised petroleum industry standards.

The Dollar

How can a company ensure its project is economic? You may think that economics are far from exploration concerns; make no mistake, we are still very much talking exploration. The whole life of a petroleum project needs to be considered at the initiation of a petroleum project, i.e. at its exploration stage: some small discoveries, which can be developed fast because they are close to thirsty markets, can sometimes be much more profitable than mammoth projects with gigantic reserves but pharaonic costs far from markets. As with all businesses, a petroleum company has to make money. Since it takes risks in exploration and must navigate the uncertainties inherent in its travels on this voyage, how do we decide whether or not to explore? The most common tool is to build an economic model based on the fiscal regime and anticipated costs and to assess the viability of the whole petroleum project, including the exploration phase. The economic model will answer how much will you spend (this is the easy part) and how much you will earn (that is the trickier part).



How much will you spend? Successful petroleum projects go through three phases: exploration (including appraisal), development and production (including decommissioning of the project). The riskiest phase, exploration, is also, relatively speaking, the cheapest. Costs escalate as commercialization approaches. Because you have to envisage the life of your project at the beginning of the exploration phase already, let's look at the end result: the following questions on risks and related uncertainties come to mind as far as expenditures go:

- Will my petroleum be more economic being exported, or used for domestic consumption? What are the legal obligations to sell petroleum for domestic needs?
- Where are my markets for petroleum? Who will buy it to do what? Will my petroleum be needed for producing electricity? To feed a refinery? And/or to be a primary resource for the petrochemical industry? Indeed about a quarter of petroleum is not burnt, but used as a com modity to produce fertilizers, paints and countless sorts of plastics, especially from gas.
- What infrastructure do I need to plan and build for transporting my petroleum to these markets? Or is part of the infrastructure in place and would it accept my petroleum and at what price?

This covers the question of expenditures in very broad and simple terms; sorry to the screaming expert economists and engineers. The next question coming to mind is: how much will you earn? How much will the oil and gas be worth when your exploration discovery is delivered into the market?

How much will you earn: what will be the oil and gas prices? Let's face it, nobody knows: risks and associated uncertainties associated with the games played between various world powers that affect the price of oil and gas are even further from our reach than our reservoir rocks. Whilst many people are sometimes expensively paid to gaze through crystal balls, nobody has ever been able to predict with any certainty what will be the price of oil or gas in 5 or 10 years, which may be the time scale required for your new find to reach the market, nor even in six months' time.

A petroleum professional reaching the end of his/her professional career nowadays will having experienced four major oil prices crises: in 1986, in 1999, in 2009 and in 2015, all of which saw oil prices fluctuating in the ratio four to one in the matters of months.

The question of how much one will earn perhaps needs to be phrased in terms of the size of the oil company and its appetite for risk. Are you a mouse, influential in one area which you know well, and enjoy a niche in the market? Do you then err on the side of caution and assume a low oil price with little increase during the life of your project. You may only commit to a development if profitability is assured under very conservative projections Or are you an elephant with substantial production on a few continents, which can afford some losses here and there? You may use fancy oil price scenarios but make sure you don't put all your eggs in the same basket. Interestingly enough, quite a few petroleum majors, especially European ones, find the petroleum industry so risky that they diversify as "energy companies" and are now actively developing and profitably investing in renewable energy. In contrast, 15 or 20 years ago, they might have bought innovative solar or wind energy companies only to subsequently snuff them out of existence.

What is the state's take in the petroleum sharing agreements? The usual contract regime of most petroleum producing countries in the word is the petroleum sharing contract. However, the government take includes not only its share of production from the petroleum sharing agreement but also royalty and various corporate and/or income and/or withholding taxes. The total government take ranges widely between 40% and 90%.

The countries satisfied with 40-50% of government take are normally affluent countries with most of their petroleum resources already very depleted and want to continue to encourage investment or would like to promote the exploration of risky and expensive plays. Examples include: the US Deepwater and Continental Shelf of the Atlantic Ocean, UK, New Zealand, shallow waters of Argentina, and South Africa.

The countries taking the lion's share of more than 90% of the petroleum are either very close to thirsty large markets, such as Libya near Europe, and/or governments with strong nationalist policies and vast petroleum resources that they know how to exploit themselves, such as Iran and Venezuela.

Myanmar's government take for gas is about 85%, a rather high take in the same range as for Algeria and Nigeria with both countries located near to thirsty markets, as well as having vast resources managed by strong state oil companies with the full gamut of skills and the capacity to explore and produce.

The apparent financial advantage to a country of having a high government take, thereby ensuring a comfortable flow to the nation's coffers, may be much eroded considering that the concomitant low take of the petroleum company discourages new investment, especially for developing medium-sized gas fields that are much needed for the sustainable production of electricity.

Surely enough, our compliance expert U Zaw Lwin and our Finance Manager Daw Mya Wit Yee will be delighted to relieve your remaining hesitations before investing millions in dicey exploration.

(5) Are joint ventures' partners my good friends?

Petroleum companies, while competing for the best petroleum resources, rarely tackle the risks of exploring alone. To bring new petroleum to the market, they may share the risk with others and form joint ventures of the kind of the one holding the rights to exploring and producing petroleum on MPRL E&P operated Block A-6: by agreement, Australian company, Woodside, manage the exploration and appraisal while French company, Total, may one day lead the development and production of any gas discovered. Various motives push partners to seal a deal; for instance one partner may be building a new exploration-development hub centred on a perceived giant gas potential in a sedimentary basin hitherto unexplored, while the other partner, which may be an established petroleum producer in the country, is anxious to extend the life of its installations beyond the limit imposed by the production induced depletion of its current assets.

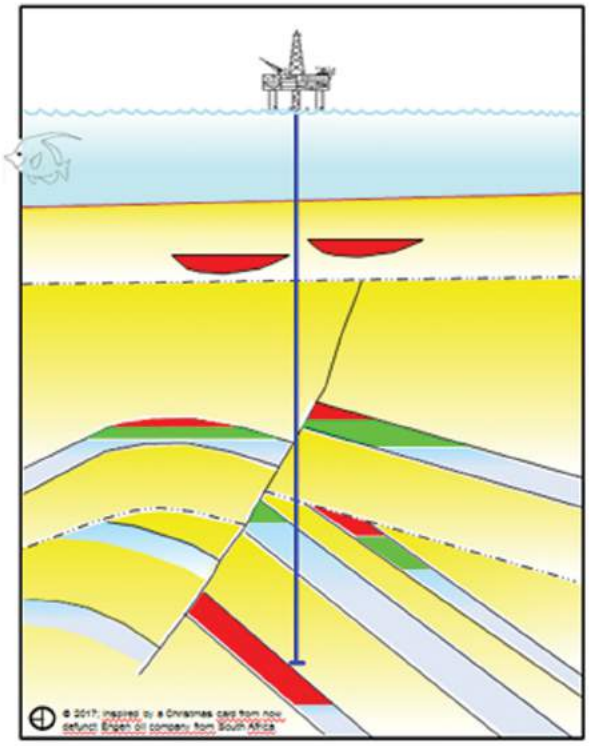
Remember, however, that there is nothing like a free lunch; helping another potential rival is never ever the first motive of any strategic move to develop a partnership; one must always look for a hidden agenda and this is often business in its purest, unemotional and hard-bitten form. Building win-win situations from the often diverging agendas of foreign dancing elephants while keeping away from their crushing steps is the challenge of the indigenous mouse.

Conclusion (for now)

All in all, with so many question marks surrounding so many factors, you might wonder how successful are explorers worldwide?

Exploration success, meaning the find of a spoon of petroleum while drilling a well, widely varies between 20 and 60% mainly depending on:

- whether the area is onshore - more risky because a good seismic image is more difficult to obtain, but cheaper to explore than less risky dearer offshore,
- whether the target is in a well-explored region, whereby the risks are very much alleviated but remaining undiscovered traps can be more subtle to find and are often much smaller, or in a nearly virgin area, where large finds can be made in the initial exploration phase, but often at great risk and expense,
- whether the geology is complex, whereby the success rate is less, but the variety of petroleum plays, the combination of scenarios leading to the discovery is greater.



Commercial success is roughly a half to a third of the exploration success depending on:

- the same reasons as above, but this time due to uncertainties, whereby a minimum economic threshold of reserves must be proven before embarking into development, the petroleum-impregnated rock volume might be too small and/or the reservoir not porous or permeable enough for instance;
- the minimum economic threshold also much depends on the proximity and nature of the markets where the petroleum has to be finally sold as well as to social and environmental constraints.

With a game so fraught with risks and uncertainties, you will now understand why geologists, especially explorers, hate to answer yes or no, black or white, to a professional question; if, as a boss, you meet one in your company who answers without any ambiguity, sack her/him: (s)he lies. This is caricatured by this classical joke of a mathematician, a physicist and a geologist being asked "How much is 2 + 2?"; while the mathematician confidently answers the expected "4", the physicist conducts experiments and concludes "between 3 and 5", while the exploration geologist (who has been educated to always answer a question by a question) retorts "How much would you like it to be?" ■

U Moe Myint & Family's Educational Foundation

Contribution Ceremony for the Support of Education to the Staff's Children of MPRL E&P Group of Companies for 2017-2018 Academic Year








Family of CEO U Moe Myint and Staff of MPRL E&P Group of Companies

Monsoon Tree Planting & Donation Event at Ywar Thar Gyi Mental Hospital for Second Time



Visit of the Union Minister of Ministry of Health and Sports, H.E. Dr. Myint Htwe and Party to Vantage Tower








Media Release for Resales Agreement Partnership with NTT Communications

CEO & Staff of MPRL E&P Group of Companies Together with Ministry of Education and Police Force Meeting with Officials from iGroup









Three Students Supported by the Myittar-Yaung-Chi Saytanarshin (Staff Donation) Group Passed the 2017 Matriculation Exam

Name	: Ma Wut Yee Phyo
Village	: Mei Bayt Kone
Status	: Passed with distinction in Economics
Donated Fund	: 100,000 Ks

Name	: Maung Aung Min Thu
Village	: Man Kyoe
Status	: Passed
Donated Fund	: 440,000 Ks

Name	: Maung Tay Zar Aung
Village	: Auk Kyaung
Status	: Passed
Donated Fund	: 180,000 Ks

From Front Page ➤

Geoscience Team

A party of about 20 geologists and engineers (Fig. 1) spent the week of 8 to 13 May in the Magway and Mt Popa areas, to look at rocks. What is the fun of leaving a cool, clean, air-conditioned, office to go trudging in craggy, muddy creeks, nosing at rocks, under a mercilessly beating sun with no breeze to cool one's brains and hearts with temperatures flirting with 100°F?

The Geoscience team has endeavoured to go on field trips every two to three years since 2007 to remind it of the humbling discrepancies between the rough digital vision showed by their workstations and the exquisitely complex intricacies of Mother Nature's reality in the underground.

This year, for the first time in MPRL E&P's history, engineers joined the adventure, to enable them to see for themselves the rocks that they drill or produce from; a bit like at last putting a face on a name of somebody about whom we have known for a long time, but had never previously encountered.

Also for the first time, MPRL E&P staff were joined by those of our partners from ENI operating the nearby RSF-5 concession, giving us an excellent opportunity to compare our deep local knowledge with their wide world-wide experience.

Preparation

Like any trip, a geological field trip requires some preparation. Why are we going there and what do we need to be properly kitted out?

Setting the objectives

While discussing the opportunity and keeping within a narrow budget, the G&G team settled on three objectives:

- to better understand the lateral and vertical changes of rock character of one particular formation, the Shwezettaw Sandstones, strongly suspected to hold light oil and/or gas beneath the Mann oil field and one the main petroleum objectives of our ENI neighbours in the Ondwe structure in their RSF-5 concession,
- to familiarise our junior geologists with the real rocks through the description of rock outcrops (Fig. 2), while being coached by experienced senior mentors, and
- to familiarise some of our engineers with rocks in the terrain and what is done with observations, whose scale ranges from that of the hand lens to a whole region, to build the geological aspects of a reservoir model.

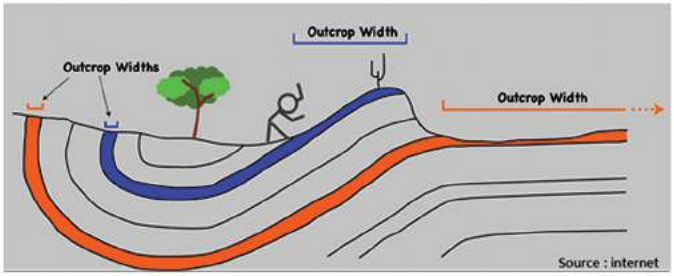


Fig. 2: A sketch of a geological outcrop, an expanse of bare rock spared by erosion because of its hardness (in blue), or constantly swept by waters running from time to time down a creek to clean it from vegetation and sands (in orange)

Getting ready

Fortunately MPRL E&P's geoscience team benefits from ex-MOGE Consultant Geologist U Thein Win's unique experience of more than 40 years walking through about every sedimentary basin of Myanmar; his role was crucial to establish an excellent itinerary that fulfilled all the above objectives. This itinerary included visiting a number of well exposed rocks outcrops, at reasonable distances from one another, vertically and as the crow flies, to minimise approach marches, and with good continuity so as to be able to have an easy view of whole vertical sections of rocks, telling us about the evolution of its deposition from base to top as well as at map scale.

Some equipment needs to be gathered as well, such as a 300-ft measuring tape to measure sections, GPS units to record locations, geological hammers

Fig. 1: The MPRL E&P's party posing in the upper Shwezettaw of the Kyaukpon chaung

to sample the rocks to allow seeing its detailed composition on a surface unaffected by the weather, compasses to measure the dip and azimuth of the layers of rock, hand lenses to see small minerals or fossils, grain comparators to ease the description of the sand grains, a good field guide book, prepared by the Geoscience team, with ample space to take notes and make drawings, without forgetting pencils and erasers.

Fig. 5: A geologist, to remain anonymous for compliance with the Company's Code of Conduct (art. 6, 8 and 11), **had to launch an SOS ("Save Our Soles") as his old walking shoes threatened to part in various pieces scattered around the terrain. Sedimentologist Ms Amy Gough provided most fortunately some duct tape for keeping the pieces together. Technical Manager wryly commented: "I know only two pairs of such handsome shiny shoes in the world; the other is Michael Jackson's when dancing Moonwalk".**

Unlike modern travelling, geological field trips remain somewhat tough, rough and exhausting depending on weather and terrain. Safe and comfortable footwear is the number one concern of any field geologist (Fig. 5). Plenty of drinking water is recommended too, so as to withstand the simmering heat.

In the field

The name of the game is to describe a number of judiciously selected rock outcrops, best exposed in the bottom of creeks or "chaung", which are often obstructed by boulders, collapsed cliffs, or large water pools. Some eight miles of chaung were walked, measured and described in this field trip. Fresh outcrops are also to be seen along new roads, but they usually quickly deteriorate as vegetation claims them.

Each outcrop is described at various scales, on the whole (Fig. 4), then in detail, layer by layer, looking at lithology, measuring thickness, recording the type of rock, checking for fossils, for signs of the environment of deposition,

Fig. 4: Half a dozen 35-million-year old river channels eroding each other and overlooking a present day river channel

Page 22 ➤

Who's Who at MPRL E&P?

Compliance Department

What does the term "Compliance" describe?

The term compliance describes the ability to act according to an order, set of rules or request.

What is the role of the Department?

The Compliance Department ensures that MPRL E&P's business is conducted to the highest standards of ethics, legitimacy and transparency and that it is guided by a clear sense of social and environmental responsibility. The department serves a critical role to promote doing right things and to prevent and detect misconduct, including both illegal acts and unethical conduct. The department is thus responsible for maintaining the reputation of the company for conducting its business with honesty and integrity.

Why is a Compliance Department required for MPRL E&P, an independent private oil & gas company?

MPRL E&P organized the Compliance Department within the past couple years. Based on the company's achievements over the last two decades and because we believe that we will have continued success over the next few years, we are planning to list the company at either the Singapore Stock Exchange or the London Stock Exchange in the near future via an Initial Public Offering (IPO). Thus, we need a Compliance Department that proactively ensures that the company is fully compliant with the rules and regulations of the exchange and meets the obligations of a listed company. This is in line with the company's vision to be a leading upstream exploration and production company in the oil and gas sector within the Asia-Pacific region.

What are its responsibilities/functions?

The Compliance Department is responsible for providing an in-house compliance service that effectively supports all business areas in their duty to comply with relevant laws, rules and regulations (regulatory requirement), contractual requirements and internal policies and procedures. The Compliance Department is responsible for developing, maintaining and implementing an effective compliance program, i.e. coordinating and performing audits/reviews to test compliance with regulatory requirements, contractual requirements, and company policies and procedures; developing and implementing anonymous reporting mechanisms including a non-retaliation promise (whistle-blower policy); and investigating reports of misconduct, illegal acts and unethical conduct. It is responsible for developing corrective actions and feedback plans, where necessary, seeking final resolution to business conflicts and reporting matters to senior management.

The Chief Compliance Officer and/or Assistant Chief Compliance Officer are the main points of contact regarding compliance, with responsibility for day-to-day administration and oversight of compliance issues.

The Compliance Department's functions include but are not limited to:

1. Developing and implementing a Code of Conduct as well as compliance related policies and procedures. (Development)
2. Educating and communicating with employees. (Awareness)
3. Identifying the risks that our business faces and offering advice about mitigation. (Identification)
4. Designing and implementing controls to protect our business from risks. (Prevention)
5. Monitoring exposure to risks and reporting on the effectiveness of controls to Senior Management. (Monitoring and Detection)
6. Resolving compliance difficulties as they occur. (Resolution)
7. Advising the business on rules and controls. (Advisory)

Mission Statement of Compliance Department:

The Compliance Department strives to ensure that the company conducts its business in compliance with legal, contractual and organizational policies and procedures by providing the highest quality of education and monitoring of the implementation of an effective compliance program.

Motto of Compliance Department:

"Compliance is Everyone's Responsibility"

Attitude of Compliance Department:

The only thing worse than not having a policy is having a policy and not following it.

Daw Nu Nu Lwin
Chief Compliance Officer, CCO

Daw Nu Nu Lwin as the Head of Department is responsible to ensure that the organization is being managed and operated in compliance with legal, financial, and regulatory requirements and that our employees are conforming to our internal policies, procedures, and standards of conduct.

Daw Nu Nu Lwin assumed the role of Chief Compliance Officer ("CCO") of MPRL E&P in early 2014. Prior to joining MPRL E&P, she held various positions in finance and accounting in both Myanmar and Singapore. Her last position was as Chief Accountant of Texcamp Investment Pte., during which she was based in Singapore.

Daw Nu Nu Lwin is a Certified Public Accountant, licensed by the Myanmar Accountancy Council, which is headed by the Union Auditor General of the Republic of the Union of Myanmar. She graduated from the Yangon Institute of Economics in 1988. In 2000, she obtained a Diploma of Managerial Principles from the London Chamber of Commerce & Industry. ■

U Zaw Lwin
Asst. Chief Compliance Officer, ACCO

U Zaw Lwin is primarily in charge of overseeing and managing compliance issues within the organization. He is responsible for providing direction and oversight of the compliance program including but not limited to preparing and distributing the written Code of Conduct setting forth the company's ethical principles and policies; identifying and assessing areas of compliance risk; developing and implementing education programs that address compliance and the code of conduct; implementing a retaliation-free internal reporting process, including an anonymous reporting system; ensuring collaboration between Business Units and Executive Management to effectively incorporate the compliance program within MPRL E&P's business structure; and reporting to the Chief Compliance Officer, the Compliance Committee, Executive Management and the Board of Directors.

U Zaw Lwin assumed the role of Assistant Chief Compliance Officer ("ACCO") of MPRL E&P in April 2016. He joined Myint & Associate Co., Ltd., which is one of the of the MPRL E&P Group of Companies, in 1990 as an Accountant and later on served in MPRL E&P as Finance Manager and Assistant Chief Financial Officer before being re-assigned as ACCO. Prior to joining MPRL E&P, he worked for the Office of the Auditor General as an Auditor.

U Zaw Lwin is a Certified Public Accountant, licensed by the Myanmar Accountancy Council, which is headed by the Union Auditor General of the Republic of the Union of Myanmar. He graduated from the Yangon Institute of Economics in 1981. ■

The Importance of Sustainability Reporting

Thal Sandy Tun

The Era of Sustainability Reporting

What Sustainability Reporting is and why it is important to the businesses

What is Sustainability Reporting?

Sustainability reporting is the publication of information reflecting the performance of the organization against environmental, social and governance benchmarks. The adoption of sustainability reporting by companies differs from country to country.

Understanding the Benefits of Sustainability Reporting

The benefits of sustainability reporting are linked to the fact that it prompts performance monitoring, which may otherwise be lacking within an organization, thus bringing about subsequent benefits such as business improvements, increased trust, enhanced brand reputation, and assessment of non-financial risk.

Reporting can help companies set goals and determine Key Performance Indicators (KPIs). Even in the case where companies fail to meet those goals, the process of setting them can help companies reduce risk, identify opportunities and build resilience into their core business.

Reporting can also increase the efficiency of business operations because it embeds discipline, thus raising awareness of sustainable practices in the whole organization, and encourages a company to think about its long term vision. As a result, the biggest benefit is a clear cost reduction in several aspects of day-to-day operations.

Meanwhile, an organization profits from its communication with stakeholders through its reporting. Its data collection and strategy behind the reporting can increase its ability to communicate with stakeholders with respect to social impacts and performance achievements. This reporting process can also be an essential tool to engage and communicate with persons and organisations beyond the directly affected stakeholders, such as employees, other firms, and regulators. Furthermore, it will help the company attract talent, because today's generation is more concerned than ever before with sustainability issues of businesses and society.

Understanding the Reporting Process

Planning the report, identifying and engaging stakeholders, producing the report, and the verification and continuous monitoring of performance are all necessary steps to be taken in preparation of the report.

Who does it? The company's sustainability committee or the corporate communications or investor relations departments will be the ones that usually develop the report.

In essence, the reporting process include setting improvement targets which in turn drive efficiencies, improving the company's long term thinking, while identifying and engaging with stakeholders.

In addition, a company should have a clear purpose for what it is reporting and why it is reporting it and this should be clearly communicated throughout the organization. It is important that the management acquires ownership of the process as it indicates a clear commitment to the process.

Role of Sustainability Reporting Frameworks

Based on the fact that reporting has the most benefits for a business when it is carefully planned and reports specific achievements, such as reducing workplace injuries or cutting greenhouse gases emissions, a poor understanding of the objectives of reporting may lead to the production of reports with limited value to stakeholders. Having said that, the adoption of suitable reporting frameworks can provide a valuable benchmarking tool for both businesses and stakeholders.

However, while frameworks can be useful, there is often confusion over the number and variety of frameworks. Worse, companies tend to just compile a list of indicators within a certain framework and miss providing information about the overall guidance pertaining to the management approach to sustainability disclosure.

Basically, the two things stakeholders look for in a report developed using a certain framework are whether the management understands and supports the sustainability reporting process and whether the report can be used to compare the company against other companies in terms of managing risk and identifying opportunities. Therefore, the management should give stakeholders a clear idea of how and why the company is reporting what is in the report and this is not something that is simply conveyed with a few numbers and pictures.

Prominent Sustainability Reporting Guidance Creating a New Era of Sustainability Reporting

Although many different approaches to reporting sustainable performance exist within individual organizations, there are certain reporting standards initiated by non-profit-independent organizations that have attained a degree of universal acceptance, e.g. G4 Sustainability Reporting Guidelines by the Global Reporting Initiatives, the OECD Guidelines for Multinational Enterprises, the ISO 26000 (International Standards for Social Responsibility), the Voluntary Reporting Guidance by the IPIECA (International Petroleum Industry Environmental Conservation Association) and the Ten Principles from the United Nations Global Compact.

The above-mentioned guidance has been used widely by different industries and has gradually helped create a new era of sustainable and responsible business. Later, strategic partnerships and alliances began to leverage more effective and impactful reporting standards such as the collaborative initiative of the GRI and the United Nations Global Compact on 'Reporting on the United Nations Sustainable Development Goals.' This evolution of reporting standards is ushering in a new era of global development objectives that attempts to address some of the world's most pressing problems.

Existing Barriers

The perceived cost of reporting may be considered a barrier by many companies. If a company does not see the reporting as something that adds value to their business, then it will be considered a cost. On the other hand, if it is seen as adding value, then it will be considered an investment. The problem is the perceived cost can be easily quantified, while the benefits can be harder to quantify. As a result, many companies rarely see the true benefits from reporting. For this to happen actions must be taken on material issues identified in the reporting process, meaning that the sustainability practices must be fully integrated into the long term goals of the company.

Another perceived barrier often felt is a discomfort with transparency. Companies fear they lose face or competitiveness through the disclosure. However, they need to learn to accept that anything they disclose can be ultimately beneficial to them and that greater transparency brings about a higher level of public trust and confidence in the business.

Mandating the Sustainability Reporting

It is assumed, if regulators mandate reporting, it could be beneficial for those companies who have good sustainability practices but are yet to publicize them. However, on the other hand, in a culture lacking demand, awareness or practice of sustainability reporting, if all the companies are required to report, it will decrease the value and essence of the reporting as companies will produce the reports without considering their purpose or relevance to their business strategies. Consequently, the reports will then provide limited application for both reporters and stakeholders.

Conclusion

Sustainability reporting offers benefits but currently companies in Myanmar are not moving towards increased reporting due to both the corporate culture and a perceived lack of demand from stakeholders. For this situation to change, it requires companies, stakeholders and regulators to increase their awareness of the relevance of sustainability issues and of the process of reporting.

On the other hand, Myanmar has a (relatively small) number of active members engaged in the world's largest corporate sustainability initiative, the UNGC, and this could lead to the next level of commitment in achieving sustainable business. Clearly defined strategic ownership and a full understanding of the objectives of sustainability reporting are a prerequisite for it to be effective for a business while its stakeholders must be able to monitor and compare its performance with others. ■

Our Community: Kyar Kan Village

Thal Sandy Tun

Kyar Kan village is situated in the eastern part of Mann Field in Minbu (Saku Township). It has a population of 1337 and the main livelihood is agriculture, as it was since before the oil field was explored and developed. There are also people working in government offices and trading commodities as well as those who go to Minbu to work.

One of the basic needs of the community is access to water. Starting from 2015, water pipelines and water storage tanks were set up on the four roads in the village, at a cost of MMK 6.15 million, which increased its access to water not only for household uses but also for fire prevention in summer. In 2016, a water purification unit costing MMK 2.35 million was installed in the local school to give students access to clean drinking water. In the same year, training was provided to villagers in the making low-cost water storage containers to expand household water storage capacity and help develop a livelihood skill for income generation among the community members, for which a further MMK 2.7 million was allocated.

These Corporate Social Responsibility initiatives were a product of coordination, communication and partnership between the Village Development Committee, the village residents, MOGE and MPRL E&P, which involved making initial needs assessments, implementing the projects and reviewing the processes. Indispensable to making every project successful was the conducting of surveys during which systematic tools were used to measure the quality and sustainability of the projects, as well as the benefits the local community gained and their level of satisfaction.

Unity is strength. This is also true when it comes to local development. For instance, the village was initially only going to contribute two lakhs to the water access project. Later, through their own motivation towards supporting the project, their contribution increased to five lakhs. Then a village fund was set up and put in the bank to earn interest, which was used to support poor families and ailing people in the community. Due to the training on low-cost water storage pots, the community members can buy those pots and collect more water. The trainees also created an appropriate income from practicing their newly gained skill.

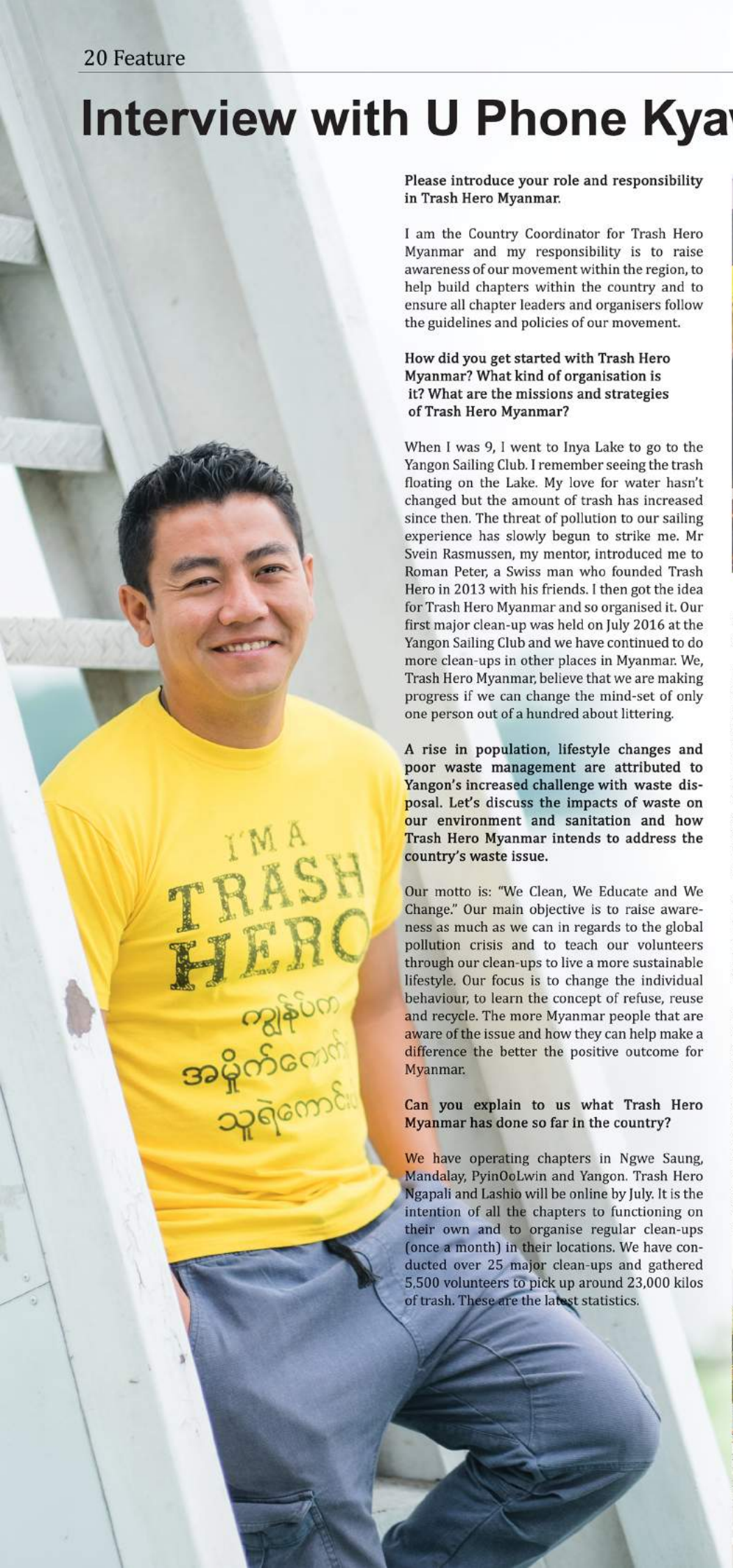
Ma Kyi Kyi Myaing, Community Volunteer

Ma Kyi Kyi Myaing is a 27-year-old community volunteer for Kyar Kan village. She finished her matriculation examinations and makes her living by sewing. She talks about her role in the CSR projects for her village.

"I became a community volunteer because of my own interest and as a result of a vote by the community. As a community volunteer, I provide support, alongside the village administrator, Village Development Committee, villagers, MOGE and MPRL E&P's CSR team, for the implementation of the CSR projects such as the school water purification unit, and the low-cost water storage facility training. I was also a trainee in the low-cost water storage facility training and sold the pots we made in the village. The money gained is being kept as a village fund.

Personally, I feel satisfied with the role I have played in these projects – I gain both new knowledge and experience through these activities. I am also happy to contribute to my community development. As a community volunteer, I believe community development has never been more important than now. Through community development, which involves solving common problems by taking collective actions, we will achieve better living standards and a better quality of life. In this regard, MPRL E&P's CSR projects, which are implemented based on our needs and initiative for mutual benefits, allow us to do so in a sustainable manner." ■

Interview with U Phone Kyaw Moe Myint



Please introduce your role and responsibility in Trash Hero Myanmar.

I am the Country Coordinator for Trash Hero Myanmar and my responsibility is to raise awareness of our movement within the region, to help build chapters within the country and to ensure all chapter leaders and organisers follow the guidelines and policies of our movement.

How did you get started with Trash Hero Myanmar? What kind of organisation is it? What are the missions and strategies of Trash Hero Myanmar?

When I was 9, I went to Inya Lake to go to the Yangon Sailing Club. I remember seeing the trash floating on the Lake. My love for water hasn't changed but the amount of trash has increased since then. The threat of pollution to our sailing experience has slowly begun to strike me. Mr Svein Rasmussen, my mentor, introduced me to Roman Peter, a Swiss man who founded Trash Hero in 2013 with his friends. I then got the idea for Trash Hero Myanmar and so organised it. Our first major clean-up was held on July 2016 at the Yangon Sailing Club and we have continued to do more clean-ups in other places in Myanmar. We, Trash Hero Myanmar, believe that we are making progress if we can change the mind-set of only one person out of a hundred about littering.

A rise in population, lifestyle changes and poor waste management are attributed to Yangon's increased challenge with waste disposal. Let's discuss the impacts of waste on our environment and sanitation and how Trash Hero Myanmar intends to address the country's waste issue.

Our motto is: "We Clean, We Educate and We Change." Our main objective is to raise awareness as much as we can in regards to the global pollution crisis and to teach our volunteers through our clean-ups to live a more sustainable lifestyle. Our focus is to change the individual behaviour, to learn the concept of refuse, reuse and recycle. The more Myanmar people that are aware of the issue and how they can help make a difference the better the positive outcome for Myanmar.

Can you explain to us what Trash Hero Myanmar has done so far in the country?

We have operating chapters in Ngwe Saung, Mandalay, PyinOoLwin and Yangon. Trash Hero Ngapali and Lashio will be online by July. It is the intention of all the chapters to functioning on their own and to organise regular clean-ups (once a month) in their locations. We have conducted over 25 major clean-ups and gathered 5,500 volunteers to pick up around 23,000 kilos of trash. These are the latest statistics.

How would you like to reflect on the progress of the initiative until now?

It is going to be a very long war against pollution because we have only just begun battling the problem. It will not be solved overnight and it's important to remain strong, patient and to persevere with this movement regardless of the challenges, which are many. At times, there have been moments when I want to give up and live the ordinary lifestyle I used to enjoy only a year ago but I know I cannot turn back anymore, especially knowing how far "Heroes" has progressed. We are making positive headway and moving forward at a reasonable pace.

Trash Hero aims to 'educate and change the world'. How successful are you with this ambition so far? What is the initiative's long-term outlook like, for example, in a three-year period?

The movement itself is only 4 years old so it's very young compared to some other organisations around the world. However, it is picking up at a tremendous pace and we are now operating in five different continents around the world! In Myanmar, it is my goal to establish as many chapters as I can, which must function according to our guidelines. Furthermore, it is our goal to do weekly clean-ups in all the chapters. You see, we are not making a dent in pollution through our current clean-ups because the amount of trash being thrown away in Yangon is simply too enormous. However, it is our goal to do weekly

clean-ups in the long run to ensure that we are raising awareness through repetition. That is the only way people will change ... hopefully.

Recently, you mentioned on your Facebook page that you cleaned a particular street only a month ago to find the same result. How effective do you think has the initiative been in its goal of creating inspiration and changing behaviour?

I think it is effective but like I said, it requires a lot of patience and time. Before, people avoided the topic of waste but now I believe the Yangon population is becoming more aware of the problem and it is gaining recognition on the news and social media. Other organisations like "Clean Yangon" have been pushing hard in their own way to raise awareness too. We are at least moving forward. People know that this is a problem but at least now we are talking about it and together figuring out ways to solve the issue.

What do you think are the underlying causes for Myanmar having difficulty keeping its public places free of waste? What needs to be done to tackle them and who is responsible?

Everyone is responsible is this respect and humanity is to blame. We created the problem and it's up to us to solve it. The government and the municipality do not have the power or the budget to solve this issue on their own and it's only with the help of the civilian and business populations that we can we address it. One can list 100 different possible ideas and solutions about what needs to be done but, at the end of the day, it comes down to each and every individual. Everyone needs to play their part and be responsible about their own waste in terms of disposing, reducing or reusing.

Are you reaching out to other Trash Hero initiatives in other countries such as Trash Hero Thailand and Trash Hero World or are there other projects or organisations with which you are joining hands to further broaden your goals?

We are a very tight family and we support each other the best way we can. We constantly communicate with our Founder, Roman Peter, and we are always following each other on social media to pick up new ideas to make our own chapters better.

How can the Myanmar public or private organisations or individuals or groups start their own Trash Hero chapters if they want to?

I spend a lot of my time together with my team, to teach people how they can initiate their own clean-ups and chapters in their neighbourhoods or communities. We have guidelines both in English and Myanmar to help people understand the movement and how it works and we also assist, as much as we can, those who want to run clean-ups. We are continuously finding ways that makes it easier for people to start something on their own but we want to ensure everyone follows the movement's policies and guidelines.

Recently, the first ever waste-to-energy plant was opened in Yangon as a pilot project by the governments of Myanmar and Japan to handle waste and produce electricity. What do you think about such developments?

This is just one of the many ways to begin tackling this issue down stream. Trash Hero focuses on the upstream of the problem starting with the individual. We collect as much waste as we can only to send them to landfills but much effort needs to be taken by business and the government to recycle the waste in order to reuse, recycle or even make energy. However, it needs to be sustainable and cost effective. I am not going to comment on this particular idea as I really don't have any knowledge about how it works.

What is/are the key message/s or insights Trash Hero Myanmar want to share from here?

It will be important for the MPRL GoC companies to begin to incorporate sustainability and environmental awareness as a key component of our business philosophy. I would love to work with Vantage Tower and all the residents of the building so that our property can become plastic free and recycle whatever we can. It would be amazing to see our building take a green initiative and do our part to reduce our carbon and waste footprint. Stay tuned for that! ■

Successful 20-Well Stimulation Campaign in a Mature Oil Field in Myanmar

Thae Aei Khinn Zaw

MPRL E & P commenced conducting a hydraulic fracturing campaign as a pilot project in 2014.The production profile after the hydraulic fracturing of the wells showed an increasing flow rate during 2H 2015 and early 2016. Presently the decline rate is flat, but, if one assumes a conservative decline rate of 4% going forward, the hydraulic fracturing is set to bring on stream some 257,000 bbl more oil by early 2034 than if the HF had not been attempted.

In 2016, MPRL E&P prepared an SPE conference paper about this, together with Fenix Delft, and presented the paper at IADC/SPE Asia Pacific Drilling Technology Conference and Exhibition in Singapore. As a further development, the team submitted the paper to the SPE board of editorials in order for it to be published in one of the SPE peer-reviewed journals, "SPE Production & Operations." Subsequently, the editorial board accepted the paper for publication and it was included in the journal in April 2017 under the title of "Successful 20 well stimulation campaign in a Mature Oil Field in Myanmar" (please see attached quick abstract).

The article states that, by employing the hydraulic fracturing treatments, cumulative production has been increased and reserves have been boosted. Significantly, the daily production rate from the 20 wells in the mature Mann Field is actually constant rather than declining as one might expect. One of the significant contributory factors leading to this result lies in the importance of a proper well candidate-selection method to choose which wells should be hydraulically fractured.

For further information about the Well Stimulation Campaign using Hydraulic Fracturing in Mann Field in Myanmar, see the SPE Journal using the following link:
https://www.onepetro.org/journal-paper/SPE-180551-PA

Successful 20-Well Stimulation Campaign in a Mature Oil Field in Myanmar ☆☆☆☆☆

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Summary

Hydraulic-fracturing technology is widely used to facilitate and enhance the recovery process from oil and gas reservoirs. Much worldwide experience has been gained in stimulating conventional and shale oil reservoirs; however, achieving good stimulation results in mature (depleted) oil fields with moderate permeability can be challenging and results can easily fall below expectations for a variety of reasons.

To narrow the gap between expected results and actual well performance after a successful fracturing treatment, it is very important to understand the reservoir characteristics and the actual reservoir potential. Despite the common opinion that stimulating mature, depleted wells is unprofitable, experience shows that stimulating such wells can still result in substantial and profitable production increases.

Twenty hydraulic-fracturing treatments were performed on wells in a mature onshore oil field in Myanmar, in Southeast Asia. These wells had never been fracture stimulated in the past, because of the moderate-to-high permeability of the reservoir. The stimulated wells have shown significant increases in initial incremental oil-production rate—on average, by a factor of two, which was still below the expectations. The treatments have effectively increased cumulative production and added to reserves. At the time of writing, the daily production rate from the 20 wells is actually increasing, rather than declining. This is likely caused by some kind of cleanup effect related to fracture stimulation in this highly depleted reservoir.

This paper discusses the challenges seen and the results obtained using hydraulic-fracture stimulation in a mature oil field. This case shows the importance of a proper candidate-selection method, which has contributed to successful stimulation and has improved oil recovery in this case.

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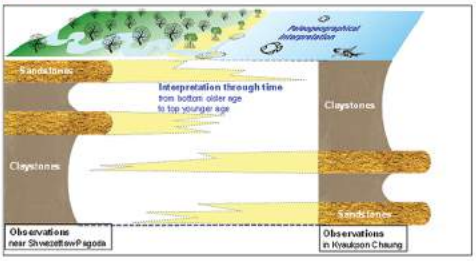

Fig. 3: Vertical and lateral changes of lithology (very simplified) from two series of outcrops some 30 miles apart in a NW-SE direction.

traces of waves, burrowing by worms, or irregular boundaries between various layers. The sandstones are described in more detail, from the millimetric scale of grain to the metric scale of the bed and finally their assemblage. The shape and size of the grains, how well sorted and rounded they are tell stories about how far they have travelled. The cement between the grains may tell something about the climate at the time of deposition of the sands. Fossils or their traces are tell-tales of a swamp, a beach or deeper fresh or salty waters. The rocks are also sampled for further studies, such as to isolate heavy minerals that may tell from which area of Myanmar the sandstones were eroded. A total of 51 rock samples (each between one and four pounds) were collected during this field trip in around 600 man-hours.

The description of successive outcrops along a chaung, known as a "traverse", allows constructing vertical sections (two very simplified ones are represented in Fig. 3). By comparing three of these vertical sections, the participants were able to reconstruct a history of deposition through time and space, a kind of ancient geographical map evolving through history (Fig. 3). Directly looking at the real succession of the rocks also allow us to compare what we indirectly see in wells, from rock cuttings transported to surface while drilling, or subsequently while logging (taking physical measurements of rock properties in the well) .

In conclusion, this field trip was a unique team-building and learning experience, whether between geologists and engineers of MPRL E&P or with ENI whose broad experience from other continents allowed fruitful exchanges with the deep local knowledge of MPRL E&P geoscientists. ENI's team expressed their wholehearted appreciation for the perfect geological itinerary, and the rare opportunity to share in MPRL E&P's long experience and deep knowledge. ■

MPRL E&P Participants	
1. Mr. Eloi Dolivo	Exploration Manager
2. U Ko Ko	Technical Manager
3. U Thein Win	Consultant Geologist
4. U Kyaw Soe Win	Geoscience Manager
5. U Aung Zayar Myint	Asst. Geoscience Manager
6. Daw Nay Che Thwee	Geologist
7. U Zaw Win Aung	Exploration Geologist
8. U Chan Myae Aung	Asst. Geologist
9. U Kyaw Naing Oo	Asst. Geologist
10. U Thant Zin Aung	Asst. Geologist
11. U Kyaw Zin Oo	Asst. Geologist
12. U Min Zaw Oo	Asst. Geologist
13. Daw Hay Man Ye' Lwin	Asst. Geologist
14. Daw Hnin Aye Aye Phyo	Jr. Geologist
15. U Aye Maung Maung Aung	Asst. Production Manager
16. U Moe Thu	Asst. Engineer
17. U Soe Si Thu	Asst. Engineer
18. U Pyay Zaw Htet	Asst. Engineer
19. U Myat Ko Zan	Asst. Engineer
ENI Participants	
1. Mr Ivan Staine	Exploration Manager
2. U Kyaw Kyaw Swe	Staff Geoscientist
3. Miss Amy Gough	Sedimentologist at Royal Holloway College - London on contract for ENI
MOGE Geologists	
1. U Htun Nyunt Oo	Field Geologist
2. U Myo Myint Oo	Field Geologist

A Family Trip to Rakhine State

Aung Ko Ko Oo

> " The world is a book, and those who do not travel read only one page. "
>
> – *Saint Augustine*

U Aung Ko Ko Oo, HSE Officer, tells us about his recent family trip to Rakhine State and how important it is to devote some time for travelling with one's family.

A family trip was something for which I had been hoping during the last few months. I enjoy travelling with my family to places where we have not been before so that we can spend time together on our own. Therefore, when there was a chance for us, we recently travelled to Mrauk U, Kyauk Taw and Ngapali beach, all situated in Rakhine State for the first time.

Mrauk U is a historically significant town and a modest tourist destination. It was the capital of the Mrauk U Kingdom from the 15th Century until it was conquered by the Burmese Konbaung Dynasty in 1784. Some scholars say the name Mrauk U means 'the first accomplishment' in the ancient Rakhine language. Mrauk U's main attractions are its ancient temples and its ruined pagodas, the scope and grandeur of which reflect the mighty past of the town.

I was amazed when paying homage to those pagodas, which are over 800 years old and built with stone. This is why Mrauk-U is known as the "Stone City." It is home to 1552 ancient stone pagodas that withstand the weather while dotted over the tops of many hills. Mrauk-U has many prominent heritage sites such as the palace, Shit-thaung (80,000 Buddha images) Pagoda, Htukkanthein Pagoda, Koe-thaung (90,000 Buddha images) Pagoda and Laungbanpyauk Pagoda. However, it has yet to achieve international stardom like Bagan. In order to attract more international tourists, preparation works are underway to make it a UNESCO world heritage site.

Kyauktaw is located around 27 miles away from Mrauk U and is a town of sugar mills and sugar plantations. The famous Mahamuni Buddha Image in Kyauktaw is a popular and well-celebrated sacred site, which is worth visiting in order to pay homage. You will surely not want to miss the breath-taking views of Kyauktaw Mountain and the Kispanadi Bridge crossing the Kaladan River too.

Ngapali Beach was the final leg of our tour around the Rakhine State. It is hailed as a 'premier beach getaway' and lived up to our expectation with its immaculate palm-tree-fringed, white sand beach and clear blue water. We would never forget having such a great time just taking in the scenery. However, there is another special thing that should be experienced at Ngapali beach and that is the fresh and delicious variety of seafood such as fish, prawns, crabs and snails. My most memorable time was going out into the river when the tide fell, picking up a handful of mussels and transforming them into a delightful dish without any extra condiments added. Harvesting mussels from the river was a very enjoyable experience for me too.

During the trip, we witnessed different natural scenery, from over 3,000-feet-high mountain ranges, to ancient pagodas erected with stones, to blue waters and white beaches. Our country is amazingly beautiful and rich with diverse landscapes to enjoy and capture for our memories. It was a long trip but all the places were so stunning that we could forget our tiredness and feel completely blissful and rejuvenated. We took photographs endlessly throughout the journey and seemed like we would never have enough!

"Travelling in the company of those we love is home in motion," said Leigh Hunt, English writer and critic. There are a number of reasons why we should travel with the ones close to our heart. Travelling is basically all about spending quality time with one's family that cannot occur at home. Today we are constantly on the go – work, school, after school activities, and social life. There is very little time to sit down and have a proper conversation about what happens during the day between parents and children.

Travelling allows one and one's family to pause their watches for a while, to put one's daily routines aside, and to relax and recharge one's spiritual and relational batteries. Fond memories can later be recalled by turning the pages of a photo album or viewing a video of one's travels.

Whether you and your family follow a well-trodden road or travel to exotic places, there is no doubt you will experience and learn new things. For me, I am looking forward to another time in the future when I will be able to travel with my family together again! ■

Vietnam Sailing Open 2017 | Hoi An, Vietnam