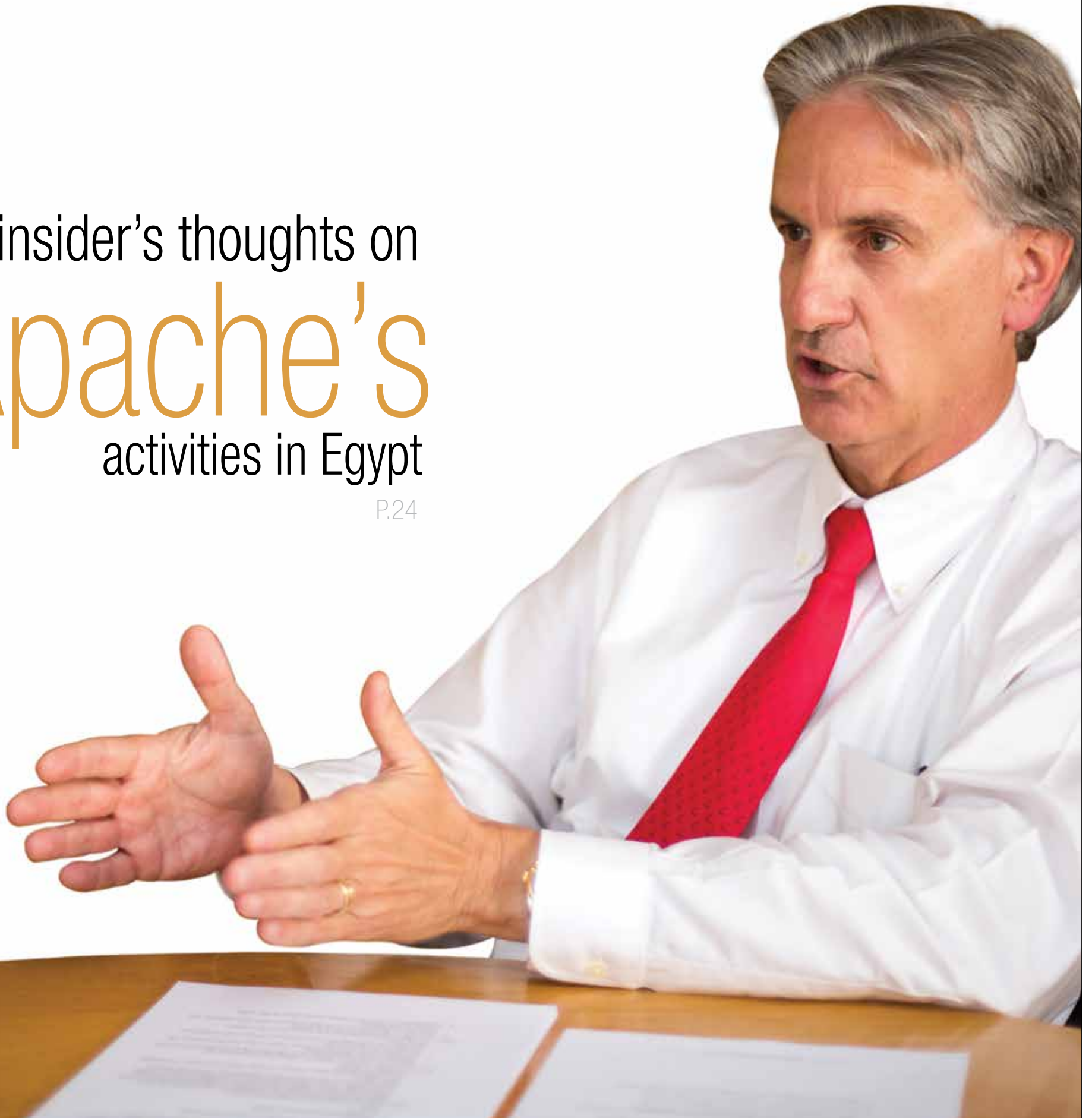


The Future of Egypt's
Brownfield Development Convention:
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On the Politics of Power Cuts

Eng. Tarek El-Barkatawy

Chairman and Managing Director of Tanmia Petroleum Company

By Laura Raus



Tanmia aims to take over some of the fields that have development agreements with international oil companies (IOCs) expiring between 2010 to 2025. Was this the main rationale for establishing Tanmia in 2008?

Yes, these brownfields were the main objective in the mind of the former Minister [of Oil Sameh Fahmy] who decided to establish Tanmia and, in my opinion, this is the best decision he ever made, particularly at that time.

Back in 1973, the war between the Arab countries and Israel resulted in oil prices rising from \$3 to \$42 per barrel. Such a big jump in prices made petroleum in the Middle East attractive for other countries, so companies from abroad moved to this part of the world. During the 1980s, most exploration agreements were launched and several discoveries showed up in the next few years. As development agreements usually last for 20-30 years, most of them expire between 2010 and 2025.

Some had expired already by the early 2000s, and Egypt found that the only way was just to extend them, since at that time we didn't have enough operating arms that could take the fields over from IOCs.

Then in 2008 a decision was made to establish Tanmia, with the main objective to pick up fields after the expiry of their concession agreements and develop them if they can. If they can't — for example because it requires specific knowledge or a lot of finances — then at least EGPC will have a good negotiating platform with IOCs as it can tell them; 'okay, if you don't want to operate with those conditions, then we have a backup option.' That is why Tanmia has been established and why it is very important for Egypt.

Is Tanmia already operating any brownfields?

Unfortunately we have been left without getting any agreements to operate fields. I have heard that it was an "egg or chicken" problem: does Tanmia first need to get all the resources ready before it can operate a field, or can it get a field and then acquire the required resources. I think there was no one at that time to sort out this puzzle.

We are now trying hard to take over some of these fields that have expired from IOCs. Unfortunately some of the fields have been assigned to other national companies.

So there is no common vision in the public sector that Tanmia should take over those fields?

It's just a matter of "not yet". For example, the EGPC chairman, at my meeting with him, expressed very much support and definitely is pushing Tanmia to take over some of those brownfields. And following an email explaining the vision of Tanmia, the Minister of Petroleum Sherif Ismail called me and gave me very much moral support, saying that 'you are on the right track and we definitely need to have something done'.

To sort out the puzzle, I have signed a few memorandums of understanding with companies to study some fields together. I cannot disclose the names of the companies due to confidentiality agreements, but we are currently studying nine fields with them. Once we have support from EGPC and the ministry and we get the first field, then definitely we can pull through any resources and know-how that is required for developing it.

These memorandums of understanding are with international companies?

Mostly with international companies that are well known for developing brownfields. Some of them have just announced big successes in Asia for similar fields and we would like to build on these successes.

Their role will be to provide most of the suite of services and know-how. Tanmia will be the contract-holder and will offer some expertise of the area itself, the local knowledge. We are forming a kind of integrated services provision, but we don't intend to get very involved in day-to-day operations unless it is absolutely necessary.

These companies will invest, and will get their investments covered and a percentage of the revenue that we generate, which is linked to the production rate. But neither Tanmia nor subcontractors have the right to the oil itself — we are keeping all the oil for EGPC. All we talk about is a service agreement, providing services for money.

There have been lots of meetings, data rooms, proposals and draft contracts, but nothing other than the memorandums of understanding have been signed yet.

Where are the fields that are being studied located?

We have three fields in the Sinai, two at the Gulf of Suez and four in the Western Desert. Some of these fields are very old. Some on the other hand are not really brownfields since they can still produce naturally, but we see that with some unconventional intervention it would be possible to achieve much higher production.

There are also some opportunity fields that are extensions to existing producing fields. Based on some seismic work and exploration logging, the structure that contains oil and/or gas seems to extend outside the concession agreement acreages. We are offering to EGPC that perhaps we can be awarded those open areas to develop them and in the meantime have a kind of unitization with the IOCs that have the original concessions.

When do you think Tanmia will get its first field to operate?

I have done several proposals and I keep studying... The decision makers would be best placed to answer this question.

In the future, could it be feasible that Tanmia focuses on brownfields and EGPC, GANOPE and EGAS focus only on newer fields?

The role of EGPC, GANOPE and EGAS actually needs to be that of a regulator and maybe an owner, but they are not supposed to operate at all. That is why other entities, joint ventures, are created, which are taking care of operations and have some representatives from EGPC and some

representatives from IOCs. EGPC will continue to regulate and own fields, but they utilize us as an operating arm focusing on brownfields instead of having joint ventures with IOCs as operators.

We look at Tanmia as a freehand operating arm to EGPC since we have been established under the investment law number 159. This is a kind of liberated law that allows a lot of freedom for taking decisions and enables us to get things done more easily and quickly than it generally occurs in the public sector.

What kind of recovery techniques could be successfully used for Egypt's brownfields?

The techniques depend on the geology, age, past performance and behavior of the field. So the first step is to study those factors, which gives us an idea about which techniques we can use as primary and then secondary and then tertiary methods.

But you can start from a very simple operation by re-perforating the existing well that is producing. The perforation that is passing oil through the well-bore may even be blocked, so re-perforating is a very simple action that can increase production.

Then you can do more sophisticated operations such as hydraulic and/or acid fracturing to allow more artificial permeability and increase passages for oil and gas into the well-bore. There are lots of new technologies for increasing recovery, including pumping polymers downhole and a method called steam assisted gravity drainage (SAGD), just to give a few examples. A big SAGD project has been done in Oman and we have very good access into how it has been done. SAGD means that you assist the mobility of the fluid that is immobile or quite attached to the formation using steam. You may drill two horizontal wells, pump steam into

In 2008 a decision was made to establish Tanmia, with the main objective to pick up fields after the expiry of their concession agreements and develop them if they can.

one of them and leave it to soak, which will help oil fall down by gravity into another bore that is underneath and then you can produce or pump out.

We are also going to share a lot of knowledge from the Faculty of Petroleum Engineering at Cairo University. It's not so that we will only be relying on the know-how of the subcontractor, but we also have a memorandum of understanding with the faculty to perform some studies and build some laboratories. We believe that we are well suited to take over the responsibility for developing the brownfields and apply relevant technologies to make it a success.

How big is the potential of brownfields in Egypt?

Egypt in my opinion doesn't even have the option of ignoring brownfields or failing to develop them. We don't have the luxury of big energy resources, which would give us the privilege of leaving those brownfields for the future generations to develop. We need to do it now so that the next generation can live.

Could Egypt, with the help of brownfields development, reverse the trend of falling oil production like, for example, Oman did?

At this question if am kind of obliged to talk about energy strategy as a whole. Yes, brownfields will have a certain role. But let us take into consideration that energy is like a ball – you cannot have a hole on one side and say it's fine, we can still play with it, because the hole will affect all sides of the ball.

The problem in Egypt is not in production, but in consumption. Rationalization of energy consumption is an instrumental factor. Here the price that people pay for electricity and fuel plays a big role because it really doesn't hurt them a lot to waste it if they don't pay for its [full] cost.

Secondly, we need to increase the efficiency of power plants, which in some cases requires rehabilitation of existing plants plus it requires a decision to stop building any new power plants that rely on gas.

The whole strategy is a bit strange. It has been formed so that about 90% of power plants in Egypt are run by gas and fuel oil. Egypt's oil and gas reserves are not more than 5-10% of what countries like Qatar, Iran or Russia have. Nevertheless, we still rely on gas as if we were one of the big reserve countries. While for example in China 70% of electricity is generated by coal, in Germany 40%; France gets more than 70% of its power from nuclear.

No more than 40% of primary energy generation – for vehicles, houses, industries and power generation – should rely on oil and gas, but in Egypt 97% of primary energy relies on oil and gas. We are producing much more than many other countries that don't reveal big shortages in energy supply, but they do have an energy mix strategy that allows them to utilize their production in much more profitable ways than we do.

In Egypt we could build more petrochemical factories that add value to gas and enable us to get more foreign currency by exporting their final or semi-finished products. There is no comparison between using gas as a raw material and burning gas just to lighten up some houses and coffee shops.

This requires a full strategy, a lot of cooperation and some patience because there is no such energy mix strategy that would put an end to the shortages and can be implemented through a short-term plan. However, the thousand-mile road starts with a first step in the right direction and it would help Egypt generate foreign currency that can be directed to overdue payments to IOCs, which would encourage investments. Brownfields as well unconventional development is tough, costly and risky, it requires high investments and new technologies. And an investor always has the one million dollar question in mind: why would we go for it if we are not sure whether we can get our money back, and whether we can sell products with unregulated prices and hence earn reward from the risk that we have taken?

There are lots of reasons why Egypt will prevail to be a target for investment; just all those un-rounded corners need to be sorted out.

Tell a bit about Tanmia's oilfield services business. How is it different from that of Petrojet?

Petrojet focuses mainly on downstream and Tanmia mostly on upstream. There is some history I am not responsible for, so I'll talk about the present and future. Tanmia as a whole works on three axes.

Firstly – field development; namely brownfields, greenfields that can achieve higher production by some unconventional interventions, and newly discovered fields that have not been developed yet like our Sea Bird field.

The second axis is field services. My main aim currently is to make sure that even our services are directed toward the first axes, the development of fields. We are concentrating on services like early production facilities; well testing; multiphase metering; power generation for producing fields; geological, geophysical and engineering studies; and workover. We currently have one drilling rig that SinoTharwa uses based on a revenue sharing agreement. We also plan to have some workover rigs very soon, and we end up with a suite of field development services that we aim to concentrate on.

In addition there will be some specific services, which form the third axes. These include project management, namely for importing gas. We have been awarded a contract by EGAS for some engineering work at Ain Sukhna port where an LNG import facility is being planned. We have just finished HAZOP and HAZID hazard studies there, and we are also working with EGAS to offer a project management contract and act as an operating arm on their behalf. Besides, we are currently studying some services provision related to flared gas. Egypt has plenty of locations that burn wet gas, our aim is to extract as much liquid form it as possible – such as condensates, LPG and LNG – and direct the remaining dry gas for generating electricity for the fields. We plan to conduct the first trial shortly. We are also providing commissioning to production facilities and conducting studies. Lastly, we have contracts with several companies for providing manpower, expats as well as locals.

You have formed alliances with companies from many countries – the US, Japan, Italy, China, Malaysia etc. Is Tanmia a mediator between them and companies who need services in Egypt that Tanmia cannot provide itself?

We don't want to be a mediator. Our aim is to provide a one-stop-shop solution. For example, if a company here in Egypt requires services X, Y and Z, then we can combine X from Tanmia, Y from one company and Z from other company to provide an integrated solution. But not so that we bring a company, let it work and we get our percentage. This is not our aim at all. It was in the past, but we don't plan it to be so in the future.

How difficult it is for Tanmia to compete with international oilfield service companies?

There is no doubt that international oilfield service companies have many more strengths since they have worked in multi-disciplinary environments and in hundreds of locations all around the world. They can have better pricing and faster services. Tanmia is a young company, we try to walk before we run, and we really don't need to compete with those international companies. We are just filling in the gaps left from them, in cases when they find it more attractive to have their equipment and personnel utilized somewhere else.

We are not aiming to create any threat to international service companies. On the contrary, we have agreements with some of them to merge our efforts in several locations. For example, we have worked in 26 locations in early production facilities and just four of them were only Tanmia, whereas in 22 locations we collaborated with international service companies. And our main role is to develop fields – we don't want to be just a service

You can start from a very simple operation by re-perforating the existing well that is producing.



company.

Tanmia plans several investments – acquiring workover rigs, building its own early production facilities services fleet, developing fields. Where do you hope to get finances for that?

We earned good profits last year thanks to the field services we have provided and Tanmia's shareholders agreed to retain this profit to be invested in the near future. Besides, some banks have agreed in principle to provide us financing, although these agreements have not been finalized yet. And the shareholders are set to grant us more capital. These are the three main sources of financing.

Having said that, we also have agreements with some companies for certain projects, mainly in field development; that they provide a big chunk of investment in the beginning and their costs will be recovered once we start generating revenues.

Tanmia does not see activity in the petroleum sector slowing down due to political instability?

Actually operations in the petroleum sector have not been adversely affected by the unrest that has occurred since the revolution of 2011. Yes, the sector has been affected by the whole situation in Egypt, for example the shortage of foreign currency, but the volume of business is nearly the same. Having said that, some companies have reduced their footprint and we have filled this gap.

We have purchased some equipment that we were previously renting from subcontractors and have hired some people who used to work at our locations as third party employees. Such people are mostly skilled mid-career Egyptians that have come back to Egypt after working overseas and we have been able to offer them good remuneration packages. Having such people and equipment directly instead of getting them via contractors of course increases the margins we generate. These are some of the actions we have taken lately that have affected our profit dramatically.

You became the Chairman of Tanmia in September 2013. Are you implementing a new strategy of just continuing what your predecessors had started?

No doubt that there is a new strategy I'm putting in place, but I cannot ignore the great efforts started by the previous chairman. He has done wonderful job to U-turn the company from big losses to nearly breaking even.

I outlined kind of a roadmap to build CV for the company based on the three axes that all relate to field development. If I had been here in the past, then for example I wouldn't have bought a drilling rig. I would have bought a workover rig because

this is much more relevant to field development. And I had really concentrated on lining up with some companies that are good at brownfields and kept presenting it to EGPC, GANOPE and EGAS. If this step had been taken five years ago, we would have been in a much stronger position by now. In my opinion Tanmia needs to align itself with the strategy it has been established for and direct its investments not only in whatever can generate profit, but to generate profit and build our CV as well.

Is it difficult for Tanmia to find qualified workers in Egypt?

Yes, that is one of the big challenges. No doubt that differences in remuneration attract most skilled personnel from Egypt to work abroad, and there are some difficulties when dealing with Egyptians that have returned from overseas. They are very skilled and have been dealt with as expats in other countries. When you bring them back, there are certain regulations and salary structure that doesn't meet their liking. He might have for example ten years of very strong work experience from abroad and when he comes back, he needs to be equalized with a guy that theoretically also has ten years of experience, but the truth of matter it is one month of experience multiplied by 120. He has just done the same thing for ten years while the other one has gained new experience every day. This is one of the issues that I am sure many other companies in Egypt are facing too.

You have worked in several high-level positions, including many years as Vice President of Weatherford. How does your current position compare with the previous ones?

The beauty about this position is that I'm feeling a kind of national sense, that I'm laying one of the corner stones for Egypt's development. It just gives me pride and happiness that is different from just achieving for myself. In the past, I was building up a certain organization and my own reputation, but now I am also building a country.

Are you hopeful about the future of this country and its development?

I always have hope, and I am still really hopeful that maybe after June or so things will differ in Egypt.

Tanmia's Financial Results (EGP)

	2013	2012
Income	178,995,333	114,281,825
Operating expenses	(144,461,197)	(90,988,491)
Gross profit	34,534,136	23,293,334
Administrative expenses	(24,358,952)	(21,759,937)
Net profit (loss) before taxes	11,135,105	2,282,524
Net Profit (loss) after taxes	9,459,636	(168,946)
Shareholders' equity	92,105,551	82,645,915
Number of employees	212	N/A

Source: Tanmia Petroleum Company Annual Report 2013