

**TURKEY****World-class universities key to knowledge economy plan****Yojana Sharma****13 July 2013 University World News Global Edition Issue 280**

Turkey is attempting to rise from being the world's 17th to the 10th largest economy within a decade – but can only break out of the 'middle-income trap' by becoming a knowledge economy. That means nurturing world-class universities, science and innovation and links with industry, Davut Kavranoglu, deputy minister for science, industry and technology, told a conference in Istanbul in early July. Turkey is attempting to rise from being the world's 17th largest economy to the 10th largest within a decade – but can only break out of the 'middle-income trap' by becoming a knowledge economy. That means nurturing world-class universities, science and innovation and links with industry, Davut Kavranoglu, deputy minister for science, industry and technology, told a conference in Istanbul in early July.

Ten years ago Turkey was the world's 28th largest economy. Since then it has moved up 11 places. The government's ambitious targets for the next decade include surpassing Canada, currently the world's 10th largest economy, by 2023.

"We are fully aware that we can't become one of the top 10 economies in the world without a world-class university system and without world-class scientists and engineers," Kavranoglu told the conference, organised by Turkey's Council for Higher Education and the British Council and titled "Generating Knowledge, Innovation and Growth".

"We have to have smarter machines, smarter schools, smarter universities, a smarter economy and smarter companies," he said, and added that universities "must play a central role in the development of Turkey and transformation into a high-tech, high-value economy,"

**New higher education bill**

However, Kavranoglu admitted in his keynote speech on 3 July that there was a need for real reform of the higher education system to be able to meet the 2023 targets. "We cannot expect our universities to deliver with the current university system that we have in Turkey."

The current higher education system was put in place after the 1980 military takeover, he noted. "The aim of this university system was not to have a high-tech, high value-added, world-class academic and scientific environment, it was to be able to control the university, its faculty and its students.

"What they had was a security-based university [system], not a science and technology-based university [system]. And we are still suffering from it."

A new Turkish higher education law, currently open for public consultation, is expected to be passed by the end of the year, including a quality assurance system more appropriate to the growing sector. It also encourages foreign universities to establish branches in Turkey.

The number of Turkish universities has more than doubled in the past 10 years, reaching a total of 170.

According to Gökhan Çetinsaya, president of the Council for Higher Education known by its

Turkish acronym YÖK, this number will continue to increase, with 100 more Turkish higher education institutions expected to be accredited by 2023 – a pivotal year for Turkey, when the republic will be celebrating its 100th anniversary.

## Rapid expansion

But Mehmet Ali Alpar, a professor of astrophysics at Sabanci University in Istanbul and chair of the non-governmental Turkish Science Academy – made up of scientists who broke away from the state-controlled Turkish Academy of Sciences – told *University World News*:

“We need a general reform of the education system, including secondary education to put more emphasis on science in schools.” The number of universities had expanded rapidly “for populist reasons”, he explained, with “a university in almost every little town”.

“They all have pretensions to being a fully fledged university, having graduate schools and so on...but they can't all be full research universities.”

Quality was a concern, he said, and universities were still under the same hierarchical government-controlled system. The current version of the higher education bill “is just reinforcing that”.

Indeed, according to Alpar – one of few academics who are willing to speak out openly – the system proposed in the new bill is even more hierarchical. “It tries to uniformly rule all the universities in the country, going into a lot of petty detail – so there is a contradiction between the stated aims [of the government] and how they try to go about them.

“What should happen is for YÖK to do the central coordination and let each individual university make its own decisions.”

## Science spending target

Yücel Altunbasak, president of the Science and Technology Research Council of Turkey known as TÜBİTAK, noted that the number of researchers was previously 24,000. Now it is 72,000. The number of scientific publications had increased from 10,000 to around 30,000 in a decade while the number of patent applications had increased more than five-fold.

“Our [overall] numbers may not be impressive, but the change is absolutely impressive. We are coming up to the top extremely fast,” Altunbasak told the conference, adding that Turkey was number two in the world in terms of the change in spending on R&D year on year.

“Just a few points ahead of us in terms of pace of spending is China. We are spending more money than Switzerland. We are spending more money than Finland, we are allocating more money than Israel to R&D.”

Despite the pace of change, a target set by the government for R&D spending – to rise from the current 0.87% of gross domestic product (GDP) to 3% of GDP by 2023 – could be elusive.

“I would be very, very happy if they achieve that, but I am very sceptical of these kinds of pronouncements,” Alpar said. “Even to go over 2% I would be very happy but I see difficulties.”

Targets also include an increase in the number of full-time researchers from the current 72,000

to around 300,000 by 2023.

Increasing the number of full-time researchers almost four-fold “would be a very good development, but it is not just the number of scientists and engineers who are employed in research, it is what they do and the quality of the research, and how it is evaluated and funded”, commented Alpar.

### **Criticism of government emphasis**

According to Alpar, the current government through TÜBİTAK has been de-emphasising science, including cutting the number of science scholarships for students.

“TÜBİTAK stopped publishing popular science books and there are other instances. So there is a lot of spending, there are all these pronouncements of intentions to go to a knowledge economy, all of that. Probably on the part of some people there are good intentions, but the way to do this is not by cutting down on science.”

Alpar was most critical of the government’s emphasis on applied science to the detriment of basic research.

Some major initiatives have been announced to promote innovation and links with industry.

For example, TÜBİTAK's Altunbasak said technology transfer offices would be established in every university in Turkey. Last year the higher education board had provided grants to 10 universities, and 10 more are to be provided grants this year – “until all the universities in Turkey have technology transfer offices established”, Altunbasak said.

Kavranoglu said in his speech, in support of more research-industry links and innovation – including a rise in the contribution from industry from 50% of R&D spending to two-thirds by 2023 – that a ‘science for science's sake’ approach by universities was not acceptable anymore:

“Taxpayers’ money wherever it is spent should be spent for the development of the country.”

Alpar countered that the minister was “making a black and white distinction between science and technology – there’s no understanding here of curiosity-driven research, which is what science is about. All of the major innovations have come out of basic science.

“It is true there has been in the last couple of decades an international trend emphasising applied research, innovation, and industry. But it is a total misunderstanding – that is unfortunately very prominent in Turkey – to think that support for technology has to be at the expense of science or excluding science.

“Unfortunately, it’s a basic paradox that will undermine even the partial achievement of what the deputy minister is stating.”

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