

Scientific research in the developing countries: the challenges we need to overcome

Opinion

With a growing international students' mobility more and more students are leaving their countries to study in other countries either according to exchanges and international programs or as a personal initiative mainly to have an education that they could not have in their own countries. Indeed, the main problems facing the scientific development of the developing countries are the lack of equipments in the laboratory and the lack of practical experiences especially in fields that are important in the modern sciences such as cell culture¹ proteomics²⁻⁴ and drug development.^{5,6} Therefore, the scientific knowledge tough in the developing countries is in mainly theoretical. Although many developing countries are rich, the budgets invested in the scientific education and the scientific research remains limited. The reasons may be that the political leaders put "money" only in the project with which they will come with financial benefits quickly rather than projects that will provide the country with experts after at least two decades. This may be due to the economic and the social situations that make scientific research not a priority within the national objectives.

In addition, the limited involvement of the private companies makes the situation worse. Indeed, in the developing countries the private companies rarely provide funding for scientific research or allow the student to have internships within those companies. Generally, the private companies in the developing countries do not have research centers but only production unites.

This situation has to change so the developing countries can go ahead toward a scientific research that would contribute in the development of those countries. Practical solutions have to be applied in collaboration with the developing countries that have enough experience to give a practical assistance. The regional and the international organizations have an important role to play in term of planning and continuous evaluation. The private grants and contracts should be considered as well.⁷ However, the starting points would be to convince the decisions-makers^{8,9} how important is linking the scientific research with the development to the future of the country. It will allow result in a better health care^{10,11} and more crops productions¹² in addition to a well-planned industry.

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Conflict of interest

The author declares no conflict of interest.

References

- Ghanemi A. Cell cultures in drug development: applications, challenges and limitations. *Saudi Pharmaceutical Journal*. 2015;23(4):453–454.
- Husi H, Albalat A. Proteomics. In: Padmanabhan S, editor. *Handbook of Pharmacogenomics and Stratified Medicine*. 1st ed. USA: Academic Press; 2014. p. 147–179.

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- Wastling JM, Xia D. Proteomics of *Toxoplasma gondii*. In: Weiss WM, Kim K, editors. *Toxoplasma Gondii*. 2nd ed. USA: Academic Press; 2014. p. 731–754.
- Xu F, Yang T, Fang D, et al. An investigation of heat shock protein 27 and P-glycoprotein mediated multi-drug resistance in breast cancer using liquid chromatography–tandem mass spectrometry–based targeted proteomics. *J Proteomics*. 2014;108C:188–197.
- Ghanemi A. Targeting G protein coupled receptor–related pathways as emerging molecular therapies. *Saudi Pharmaceutical Journal*. 2015;23(2):115–129.
- Ghanemi A, Boubertakh B. Shorter and sturdier bridges between traditional Chinese medicines and modern pharmacology. *Saudi Pharmaceutical Journal*. 2015;23(3):330–332.
- Beaudry C, Allaoui S. Impact of public and private research funding on scientific production: The case of nanotechnology. *Research Policy*. 2012;41(9):1589–1606.
- Khodr H, Uherova HK. The dynamics of energy policy in Lebanon when research, politics, and policy fail to intersect. *Energy Policy*. 2013;60:629–642.
- Polacheck T. Politics and independent scientific advice in RFMO processes: A case study of crossing boundaries. *Marine Policy*. 2012;36(1):132–141.
- Moscone F, Elisa T, Marco C, et al. The impact of scientific research on health care: Evidence from the OECD countries. *Economic Modelling*. 2013;32:325–332.
- Garcia PF, Pablo Esteban LR, Ellian TH, et al. Where to look for information when planning scientific research in Psychology: Sources and channels. *International Journal of Clinical and Health Psychology*. 2014;14(1):76–82.
- Forster D, Noah A, Monika MM, et al. Organic Agriculture–Driving Innovations in Crop Research. In: Bhullar G, Bhullar N, editors. *Agricultural Sustainability*. 1st ed. USA: Academic Press; 2013. p. 21–46.