

Iraq Research Fellowship Programme

SUMMARY OF ROUND 1 PROPOSALS & TEAM PROFILES December 2009

'Use of Molecular Methods for Better Understanding of Tuberculosis in Iraq'

Research Summary

The overall goal of this project is to apply recently developed molecular methods for the diagnosis of tuberculosis in Iraq and to characterize its causative agents in terms of species and subspecies grouping and anti-mycobacterial resistance.

This may eventually lead to better understanding of the tuberculosis epidemiology in Iraq, which is a mandatory step before designing a control program or evaluating a pre-existing one. In Iraq, tuberculosis is a leading cause of morbidity and mortality and comprises a major public health problem. However, the real figure of tuberculosis in Iraq is not clear due to many reasons including lack of reliable case records or case registration, consecutive wars and political instability, shortages in qualified laboratories and well-trained staff, etc. Rapid and accurate diagnosis and effective treatment of tuberculosis are cornerstones in the prevention of this worldwide infectious disease. Smears lack both sensitivity and specificity for *Mycobacterium tuberculosis*, and cultures usually require weeks before the species is definitively identified. In Iraq, AFB staining is of much lower sensitivity and specificity due to the uncontrolled use of antibiotics. In line with this, culturing the micro-organism is not practical as almost all Iraqi patients are on antibiotic therapy before they seek medical care. The advent of DNA-based technologies such as PCR-dependent methodologies has been a great advantage in the detection of the genetic component of microorganisms including *M. tuberculosis*. PCR amplification can be rapidly performed by using primers for a highly conserved sequence within a gene common to all mycobacterial species to amplify minute amounts of DNA.

Research Team Composition

Principal Investigator: Professor Mike Barer, College Director of Research, Deputy Head of the Department of Infection, Immunity and Inflammation, Professor of Clinical Microbiology and Honorary Consultant Microbiologist at the University of Leicester.

Research interests: the physiology of *M. tuberculosis* during infection, TB genomics applied to public health and strain characterisation in real time, the nature of bacterial viability and its practical detection, the biological properties of enteric bacteria that underpin their transmission, methods to determine the properties of bacteria in their natural environments and culture-independent approaches to determining the aetiology and pathogenesis of bacterial diseases.

Principal Author/Co-Investigator: Dr Mohanad Mohsin Ahmed, faculty member, Department of Medical Microbiology, College of Medicine, University of Karbala. Vice-Dean of the College of Applied Medical Sciences. Formerly Head of the Department, Clinical Laboratory Science of the College of Pharmacy, University of Karbala.

Research interests: Identifying genes in prokaryotes that may confer drug resistance and may play a major role in the bacterial pathogenesis and gene products that could be a potential target for antibody therapy. Previous work on new immunological methods for the diagnosis of Visceral leishmaniasis, analysis of different multidrug resistance related gene products in schistosome associated and non-associated urothelial bladder cancer, and new methods for isolation, purification and characterization of single chain antibodies.

Co-Investigator: Professor Ali Al-Zaag, Biotechnology specialist. PhD in Microbiology & Molecular Genetics from the University of Queensland, Australia in 1987.

Research interests: Microbial Genetics and Molecular Epidemiology, Biosafety and Biosecurity as well as Forensic DNA. Currently engaged in the development of cooperative international programs to promote the safe, secure and responsible use of biological materials and training in biosafety, biosecurity and infection prevention e.g. surveillance of infectious diseases, molecular diagnostics and laboratory capacity building. He has also recently initiated and is now Senior Technical advisor on a project to establish a new centre of excellence for Forensic DNA training in Iraq. He is a reviewer for the Qatar Foundation, the UREP and NPRP programmes and the ASTF grant programme.

Co-Investigator: Dr Hassan Ali Abood Nasrullah, Assistant Professor in Karbala College of Medicine. Consultant Physician, Al-Hussein Hospital, Karbala City. Chief of the advisory board of the General Directorate of Health in Karbala Governorate. Member of the CME committee in the General Directorate of Health in Karbala Governorate.

Research interests: risk factors for chronic non-communicable diseases among the population in Karbala governorate, the prevalence of obesity among the population, prognosis of Ventricular Fibrillation complicating acute myocardial infarction, hypothyroidism, and drug induced Hypokalemia, and the incidence of renal osteodystrophy in patients with ESRD on maintenance haemodialysis.

‘Female Iraqi Academics in Post-Invasion Iraq: Roles, Challenges & Capacities’

Research Summary

This proposed research will explore the crisis in Iraqi higher education through a gendered lens by focusing on the specific roles, challenges and problems of female academics. The main objective is to document the specific social, cultural, political and economic challenges female academics face within the current context while also analyzing relevant historical factors which have contributed to the current situation. While recognizing that the roles and problems of female academics need to be looked at in light of the wider crisis and challenges of Iraqi higher education, our research will aim to disentangle gender-specific issues and look at possible intersections of gender, generation, religion, ethnicity, political affiliation and social class in terms of appointments, job descriptions, actual tasks, training, access to resources, facilities and enumeration. A specific angle will revolve around the experiences of, and the relationships and tensions between different generations of female academics. We will include female academics who have fled Iraq post-2003 in our research, especially those based in Amman, Damascus and London as many are hoping to return to Iraq once the security situation and general living conditions have stabilized.

At the same time, the proposed research aims to assess gaps and needs in terms of qualifications, teaching and research skills, administrative and organizational abilities as well as resources. In addition to providing an analysis of the current situation of female academics, we aspire to draw up a concrete list of suggestions to contribute to skill development and capacity building.

Main Research Questions:

- What is the role of female academics within Iraq’s higher education system?
- What are the different trajectories of entering academia in the current context as well as historically under the previous regime?
- Which qualifications do female academics of various generations have?
- What kind of training (both in terms of teaching and research) have female academics of different generations received?
- What skills and resources are needed to improve teaching and research?
- How do younger and older generations of female academics perceive and relate to each other?
- Do female academics feel discriminated against or disadvantaged *vis a vis* their male colleagues? If so why and how?

- In how far are female academics involved in collaborations, exchanges and networks with academics outside Iraq?
- What are obstacles for greater international involvement?
- Do female academics experience sectarianism within the workplace? If so, how does it manifest itself?
- How do gender, generation, political affiliation (or not), religious, ethnic and class identities intersect within the university context?

Research Team Composition

Principal Investigator/Author: Dr Nadjé Al-Ali, Reader in Gender Studies and Chair for the Centre for Gender Studies, SOAS, University of London.

Research interests: Gender theory; feminist activism; women and gender in the Middle East; transnational migration and diaspora mobilization; war, conflict and reconstruction.

Selected Publications: *What kind of Liberation? Women and the Occupation of Iraq* (2009, University of California Press, co-authored with Nicola Pratt); *Iraqi Women: Untold Stories from 1948 to the Present* (2007, Zed Books); *New Approaches to Migration* (2002, Routledge, co-edited with Khalid Koser); *Secularism, Gender and the State in the Middle East* (2000, Cambridge University Press) and *Gender Writing – Writing Gender* (1994, The American University in Cairo Press) *Women and War in the Middle East: Transnational Perspectives* (2009, Zed Books, co-edited with Nicola Pratt).

Co-Investigator: Huda Al-Dujaili, formerly taught Economics Development and Principles of Economics, and former Head of the Department of Planning, al-Mustansyria University.

After 2003, she started working for several NGOs and Iraqi Foundations as the coordinator for a variety of projects related to education, civil society, election, constitution, women's and human rights with a particular focus on the role of women in democratic societies. She is currently working for the JRS Project in Amman as the Educational Coordinator for Iraqi refugees.

Co-Investigator: Lecturer, University of Baghdad. Previously worked with the Iraqiat Centre for Women's Studies in Baghdad.

In addition to teaching and research experiences, has been working as a journalist and a creative writer, and has published several short stories and scripts for documentary films.

Co-Investigator: Dr Inass A. A. Al-Enezy, Lecturer in Political Science, University of Baghdad.

She also works as a researcher in a research centre related to the College of Political Science. In addition to her teaching and research experience she has also worked as a trainer in preparation for elections.

'Analytical Study of Curricula of Education in Iraq'

Research Summary

The date April 8 2003 was a dramatic moment of transition in the history of modern Iraq. The question which has remained unanswered, however, is whether there was a real epistemological transformation of knowledge towards a different method of education, or whether Iraq is going in the direction of a purely ideological/political transformation whilst retaining the same cognitive approaches, especially in light of the hegemony of the Islamic parties.

The research aims to examine four subjects in the curricula of primary, elementary and secondary schools in Iraq through analyzing the content of Arabic language textbooks (grammar, literature and reading books);

religious education books (Islamic Education, Sciences of Koran); history books (specifically Islamic and modern history), and books on political education, concepts of human rights and principles of democracy.

As well as a field study of the methods that teachers use to deal with the curricula data and the impact of their ethnic, religious and sectarian affiliations in dealing with their students, the research will attempt to define the philosophical basis from which the objectives and contents of curricula were derived by addressing the following questions:

1. What is the image of women in school curricula?
2. What is the image of the *Other* (ethnic, religious and sectarian) in the curricula of education?
3. What are the terms of reference and criteria for formatting the curricula of Islamic and modern history?
4. To what extent is the over-governing of Islamic ideological vision in different education curricula?
5. Do the educational curricula encourage violence, intolerance and extremism?
6. Do the educational curricula enhance the principles of tolerance, the notions of differences and do they encourage respect for political, ethnic or religious difference?
7. How do the curricula deal with controversial issues concerning the variety of religions and sects? Do they have a single or pluralist vision?
8. Is there any discrimination or stereotyping in the curricula?
9. In what terms is the concept of citizenship presented in educational curricula?

The field study will be based on questionnaire forms, to be administered to teachers in different regions. The research questions will include:

1. what is the extent of freedom in dealing with the educational curriculum?
2. Are the terms of teaching the same as before?
3. Is there any adaptation of curricula with the new political situation, and, if so, what are the terms of reference and criteria for this adjustment?
4. Do the teachers teach some of the curricula that they believe don't cohere with these references?
5. How do the teachers deal with differences in giving knowledge to the students?
6. Do the teachers discuss the curricula with the different departments of schools or other departments belonging to educational institutions?
7. How do the teachers deal with the controversial subjects in the final class in national examinations?
8. Is teaching of educational subjects submissive to other considerations such as the affiliations of the students?

Research Team Composition:

Principal Investigator: Roger Slee, Professor of Inclusive Education, Department of Learning, Curriculum and Communication, Institute of Education, University of London. Formerly Dean of the Faculty of Education at Canada's McGill University and formerly the Deputy Director General of the Ministry of Education in Queensland.

Research interests: disability studies, education policy, social theory, education leadership, and student behaviour. He is the author of numerous books and refereed papers on inclusive education and is the Founding Editor of the International Journal of Inclusive Education.

Principal Author/Co-Investigator: Researcher in Amman. Has long teaching experience at a number of Arab universities, and has published a number of studies and translations in journals, Iraqi and Arab Newspapers and for the UN. Latest work involves participation in two projects and seminars: the first of these focuses on the political role of tribes in Iraq and the second on Islamism and civil society in Iraq.

Co-Investigator: Lecturer in an Iraqi University.

Research interests: Democracy, civil society, political violence and history.

Co-Investigator: Assistant Professor, University of Babylon.

Research focus: Literary criticism.

Advisor: This participant has worked for over 20 years in teaching and as a researcher has focused on Anthropology, Sociology and Islamic studies. He has published several studies in magazines as well as Iraqi newspapers. He is a member of the Iraqi Writers and Authors Union and the Iraqi Journalists Union.

‘Potential use of Trees in Phytoremediation and Phytostabilisation of Heavy Metals in Iraq’

Research Summary

Metal contamination of food grown in Iraq is known to exceed WHO levels in some regions. Furthermore, there is serious concern about the presence of depleted uranium in Iraq. Consequently, any mechanism for reducing the environmental exposure to depleted uranium will greatly reduce the risk of human exposure.

The aims of this project are to determine the heavy metal tolerance of a range of *Acacia* species that can be used for phytoremediation and phytostabilisation.

We will expose a number of *Acacia* species to cadmium, lead, copper and zinc as well as uranium and investigate the growth of these species and the uptake of the metal into roots and shoots. In further experiments, we will develop techniques for inoculation of *Acacia* with both ecto and arbuscular mycorrhizas in an attempt to improve the growth and metal tolerance of the trees. In addition, we will determine the effect of heavy metals on formation of nitrogen fixing nodules on the *Acacia* roots.

In field investigations, areas contaminated with depleted uranium will be selected and planted with *Acacia*. We will then investigate the uptake of metals into the trees and phytostabilisation of metal in soils at these experimental sites.

Research Team Composition:

Principal Investigator/Co-Author: Douglas Godbold, Professor of Forest Sciences, Bangor University.

Research interest: heavy metals and trees, root and rhizosphere biology.

Principal Investigator/Co-Author: David Jones, Professor of Soil and Environmental Sciences, Environment Centre Wales, Bangor University.

Research interests: land remediation, root and rhizosphere biology.

Co-Author/Co-Investigator: Iraqi Environmental Researcher.

Co-Investigator Iraqi Environmental Researcher, Lecturer at an Iraqi university.

Co-Investigator: Iraqi Biologist, Assistant Professor at an Iraqi university.