Based on primary data gathered from scientists working in research institutes, in a university and in an agricultural college located in the province of KwaZulu-Natal, this chapter presents the features of scientific research as it exists in today’s South Africa. Specifically, the research projects of both collaborative and non-collaborative kinds of respondents, their distinctive collaborative facets and the factors that predict collaborative research in South Africa are discussed.

Scientists and academics

Provided in this and in the subsequent chapter is the report of an intensive investigation of collaboration, research communication and productivity of scientists and academics working in one of the provinces, namely, KwaZulu-Natal. KwaZulu-Natal is the second-largest populated province in South Africa, after Gauteng, with 19.8 per cent of the country’s total population (10,267,300) but only 7.6 per cent of the country’s total area (Census, 2011). In this survey, carried out in 2007–08, 204 scientists and academics working in 16 teaching/research departments and 10 research institutes situated in 5 major centres—Cedara, Durban, Mount Edgecombe, Pietermaritzburg and Umhlanga—were interviewed. As part of the transformation that is underway in the higher education sector of the country, new institutions were formed, merging and incorporating small universities, which were formerly white or black universities, into larger institutions. Currently, there are 26 universities in South Africa including one new medical university. As regards research institutions, South Africa has a number of statutory science councils that carry out research for social, scientific and technological development (Scholes et al., 2008). They include the African Institute of
South Africa, Agricultural Research Council, the Council for Scientific and Industrial Research (CSIR), the Council for Geosciences, the Human Sciences Research Council, the Medical Research Council, the Council for Mineral Technology, the Nuclear Energy Corporation of South Africa and the National Research Foundation. Each of these, except the National Research Foundation, operates through several research institutes situated through the entire length and breadth of the country. A few of these—the Agricultural Research Council, the CSIR, the Council for Geosciences, and the Human Sciences Research Council—were chosen for our research institute sample. The academic sample was drawn from one of the three categories—traditional universities, comprehensive universities and technikons. This classification existed at the time of the study in 2007–08 but is no more relevant now.

Face-to-face interviews covered a total of 204 respondents from the selected departments of a university and an agriculture college (n = 141), and national and regional research institutes (n = 63). Attempts were made to interview all willing and available respondents in the departments and institutes representing the fields of biology (15%), physics (15%), mathematics (14%), chemistry (10%), zoology (9%), agriculture (7%), engineering (2%) and others. They were all full-time academics or scientists on the permanent roll. Respondents on study leave, sabbatical and seconded to other areas were not considered eligible participants for the study. In this analysis the term ‘scientists’ is interchangeably used for both academics and researchers in the institutes, unless a distinction is warranted.

Two major sectors—university and research institute—represented approximately two-thirds and one-third respectively of the sample (Table 6.1). Gender is distributed in the same way—two-thirds men and one-third women. Women choose to work at research institutes rather than in the academia. They preferred to be scientists rather than academics as 40 per cent of the total women respondents were employed in research institutes. Within sectors this gender differentiation was more pronounced: 36 per cent of academics as against 40 per cent of scientists in research institutes were women. Respondents were predominantly whites. Next to them were Indians, closely followed by Africans: 53 per cent of the respondents were whites and 20 per cent Africans. Not much deviation from this pattern is apparent within sectors. This proportion of race is to be contrasted with the country’s total population where whites formed only 9.5 per cent and Africans 79 per cent (at the time of data collection in 2007–08). Married people, a key variable in research productivity studies, were in the majority. That about one-third of the