

BIBLIOGRAPHY

PUBLISHED WORKS AND THESES

- ADAM, H. 1983. Ethnic politics and crisis management: comparing South Africa and Israel. (In Adam, H., ed. South Africa: the limits of reform politics. Leiden: E.J. Brill. p. 4-21.)
- ADAM, H. & GILIOME, H. 1979. The rise and crisis of Afrikaner power. Cape Town: David Philip.
- ANDERSON, C.A. 1961. Access to higher education and economic development. (In Halsey, A.H., Floud, J. & Anderson, C.A., eds. Education, economy, and society: a reader in the sociology of education. New York: Free Press, p. 252-265.)
- ANON. 1981a. Statistics. Educamus, XXVII(1):21, Februarie.
- ANON. 1981b. A statistical presentation of South Africa's national accounts for the period 1946 to 1980. Supplement to the South African Reserve Bank Quarterly Bulletin:A-1-85, September.
- ANON. 1983. South African Digest:5, September 9.
- ANON. 1984a. Vista University: Present, Past and Future. Vista Voice, 1(1):2-3.
- ANON. 1984b. South African Digest:4, August 3.
- ANON. 1984c. South African Digest:3-4, August 10
- ANON. 1985a. South African Digest:102, February 8.
- ANON. 1985b. South African Reserve Bank Quarterly Bulletin:S-1-112, March.
- ANON. 1985c. South African Digest:427, May 17.

- ANON. 1985d. The Star:1, May 25.
- ANON. 1985e. The Star:5, September 27.
- ASHLEY, M.J. The education of white elites in South Africa. Comparative Education, 7(1):32-45, August.
- ASSOCIATION OF COMMONWEALTH UNIVERSITIES. 1985. Commonwealth Universities Yearbook 1985, Vol. 1. London.
- AUERBACH, F.E. 1979. Measuring educational development in South Africa. Johannesburg: South African Institute of Race Relations.
- BARBAGLI, M. 1982. Educating for unemployment: politics, labor markets, and the school system--Italy, 1859-1973. (translated by Ross, R.H.). New York: Columbia University Press.
- BARKER, F.S. 1984. Manpower shortages in South Africa. Pretoria: Human Sciences Research Council.
- BECKER, G.S. 1967. Human capital and the personal distribution of income: an analytical approach. Ann Arbor: University of Michigan. Institute of Public Administration.
- BEHR, A.L. 1952. Three centuries of coloured education: historical and comparative studies of the education of the coloured people in the Cape and the Transvaal, 1652-1952. Potchefstroom. (Unpublished D.Ed. Thesis--P.U. vir C.H.O.)
- BEHR, A.L. 1980. New perspectives in South African education: a blueprint for the last quarter of the twentieth century. Durban: Butterworth.
- BEHR, A.L. 1984. New perspectives in South African education: a review of education in South Africa, 1652-1984, 2nd ed. Durban: Butterworth.
- BEHR, A.L. & MACMILLAN, R.G. 1971. Education in South Africa, 2nd ed. Pretoria: Van Schaik.

- BEHR, D. 1976. Women and Work--in psychological perspective. University of Durban-Westville Journal, 2(4):9-18, November.
- BERDAHL, R.O. 1959. British universities and the state. Berkeley: University of California Press.
- BERG, I. 1971. Education and jobs: the great training robbery. Boston: Beacon Press.
- BIESHEUVEL, S. 1965. The changing function of the universities. Pietermaritzburg: University of Natal Press.
- BOUCHER, M. 1973. Spes in arduis: a history of the university of South Africa. Pretoria: UNISA.
- BOSHOFF, F. 1972. The wage structure of highly qualified white employees as at 1 March, 1971. Pretoria: Human Sciences Research Council.
- BOTHA, D.E. 1981. The technical high school. (In Proctor-Sims, R., ed. Technical and vocational education in Southern Africa. Grant Park: Technical and Vocational Education Foundation of South Africa. p. 88-91.)
- BOUDON, R. 1974. Education, opportunity and social inequality: changing prospects in western society. (revised translation). New York: John Wiley.
- BOULLE, L.J. 1984. South Africa and the consociational option: a constitutional analysis. Cape Town: Juta.
- BROOKES, E.H. 1968. Introduction. (In Brookes, E.H. ed. Apartheid: a documentary study of modern South Africa. London: Routledge & Kegan Paul. p. xv-xxxvii.)
- BUCKLAND, P. 1982. The education crisis in South Africa: restructuring the policy discourse. Social Dynamics, 8(1):14-28.
- BUITENDAG, J.J. & VAN DER MERWE, H.W. 1971-72. The movement of Afrikaners into higher occupational levels. Humanitas, RSA, 1(4):297-303.

- CAPE OF GOOD HOPE (Province). Department of Public Education. 1947. Educational statistics 1941-1945. Cape Town.
- CAPE OF GOOD HOPE (Province). Superintendent-General of Education. 1947-1969. Report of the superintendent-general of education for the years 1946-1968. Cape Town.
- CAPE OF GOOD HOPE (Province). Director of Education. 1970-1984. Report of the director of education for the years 1969-1984. Cape Town.
- CAPE OF GOOD HOPE (Province). Department of Treasury. 1945-1985. Estimates of the revenue to be collected and expenditure (excluding capital expenditure) to be defrayed during the years ending 31st March, 1946-1986. Cape Town. (CP 1.)
- CHARTON, N.C.J. Afrikaners as viewed by English-speaking compatriots. (In Van der Merwe, H.W., comp. Looking at the Afrikaner today. Pretoria: Van Schaik. p. 40-51.)
- CHISHOLM, L. 1983. Redefining skills: black education in South Africa in the 1980s. Comparative Education, 19(3):357-371.
- COETZEE, C.J.S. 1978. The education of whites in the republic of South Africa, 2nd ed. Pretoria: Human Sciences Research Council.
- COETZEE, J.C. 1968. Christian national education. (In Tunmer, R. & Muir, R.K., eds. Some aspects of education in South Africa. Johannesburg: University of the Witwatersrand. African Studies Programme, Occasional Paper No. 4. p. 16-30.)
- COMMISSION OF ENQUIRY. 1973? Report of the commission of enquiry appointed by the council of the university of Fort Hare to enquire into the student unrest at Fort Hare in May 1972. Lovedale: Lovedale Press.
- DANZIGER, K. 1958. Value differences among South African students. Journal of Abnormal and Social Psychology, 57(3):339-346, November.
- DANZIGER, K. 1975. The psychological future of an oppressed group. (In Morse, S.J. & Orpen, C., eds. Contemporary South Africa: social psychological perspectives. Cape Town: Juta. p. 115-126.)

- DAVIES, J.L. 1978. Christian national education in South Africa: a study in the influence of calvinism and nationalism on educational policy (unpublished Ph.D. thesis--Univeristy of Wisconsin, Madison.) (Photocopy.-- University Microfilms International.)
- DEAN, W.H.B. & SMIT, D.V.Z., eds. 1983. Constitutional change in South Africa -- the next five years. Cape Town: Juta.
- DECLARATION OF THE LAGOS CONFERENCE. 1977. (In Damiba, A., ed. Education in Africa in the light of the Lagos conference (1976). Paris: UNESCO. p. 48-50.)
- DEGENAAR, J. 1977. The concept of a volksuniversiteit. (In Van der Merwe, H.W. & Welsh, D., eds. The future of the university in southern Africa. Cape Town: David Philip. p. 148-171.)
- DEGENAAR, J. 1978. Afrikaner nationalism. Cape Town: University of Cape Town. (Centre for Intergroup Studies. Occasional Paper No. 1.)
- DE KLERK, D. 1975. The wage structure of highly qualified whites as at 1 March, 1975. Pretoria: Human Sciences Research Council.
- DE KLERK, D. 1976. The profitability of occupations pursued by highly qualified persons in 1975. Pretoria: Human Sciences Research Council.
- DE KLERK, J.T. & NIEUWENHUIS, F.J. 1982. An evaluation of the school guidance system in Indian schools. Pretoria: Human Sciences Research Council.
- DE KLERK, W., VAN TONDER, J.J. & BOSHOFF, C.H. 1982. Die dwang van statistiek. Potchefstroom: P.U. vir C.H.O. (Instituut vir Suid-Afrikaanse Politiek. Aktualiteitsreeks, Nr. 23.)
- DE LANGE, J.P. 1982. Change and renewal in education. Education Journal, 92(3):31-42, November.
- DE LANGE, J.P. 1984. Educational and policy initiatives. Pretoria: Council for Scientific and Industrial Research. (Paper read at the Research for Development, Educational and Policy Initiatives Conference, 18-19 September.)

- DE STADLER, R.P. 1982. Research at the technikons. Praktikon: 23-24
- DONALDSON, L. 1975. Policy and polytechnics: pluralistic drift in higher education. Farnborough: Saxon House.
- DORE, R. 1975. The diploma disease: education, qualification and development. London: Allen & Unwin.
- DREIJMANIS, J. 1977. Political development and higher education. International Education, 7(1):39-42.
- DREIJMANIS, J. 1978. Weimar, Washington, and beyond: the plight of the intelligentsia. Educational Studies, 9(3):255-265, Fall.
- EBERSOHN, D. 1972. Graduate manpower of South Africa: an analysis of the national register of natural and social scientists as at 30 November, 1970. Pretoria. Human Sciences Research Council.
- ECKBERG, D.L. & HILL, L., JR. The paradigm concept and sociology: a critical review. (In Gutting, G., ed, Paradigms and revolutions: appraisals and applications of Thomas Kuhn's philosophy of science. Notre Dame, Ind.: University of Notre Dame Press. p. 117-136.)
- ERENS, G. & LOUW, J.B.Z. 1976. An analysis of a survey of some opinions of graduates of the academic year 1974. Pretoria: Committee of University Principals.
- ERENS, G. & LOUW, J.B.Z. 1978. The statistical facts concerning the extent of the problem of failure and more specifically first-year failures at universities and the distribution of failures between the different fields of study and subjects. (In Committee of University Principals. The transition from school to university, proceedings of the national symposium, Pretoria, 18-19 September. p. 33-74.)
- FAURIE, K.M. 1981. The wage structure of Asian, black and coloured graduates in 1981. Pretoria: Human Sciences Research Council.
- FREEMAN, R.B. The overeducated American. 1976. New York & London: Academic Press.

- GAGIANO, J. 1979. Why men rebel: towards a theory of protest behaviour. (In Van der Merwe, N.J. & West, M.E., eds. Perspectives on South Africa's future. Rondebosch: University of Cape Town. Centre for African Studies. p. 169-179.)
- GARBERS, J.G. 1960. Gradueringstendense in Suid-Afrika 1918-1957. Pretoria. (Unpublished D.Ed. thesis--University of Pretoria.)
- GILIOMEE, H. 1979. The development of the Afrikaner's self-concept. (In Hare, A.P., Wiendieck, G. & Broemsen, M.H. von, eds. South Africa: sociological analyses. Cape Town: Oxford University Press. p. 58-66.)
- GILIOMEE, H. 1982. The parting of the ways: South African politics 1976-1982. Cape Town: David Philip.
- GOLDING, G.J. & JOSHUA, F.P. 1953. The coloured community. (In Calpin, G.H., ed. The South African way of life: values and ideals of a multi-racial society. London: William Heinemann. p. 70-78.)
- GOOSEN, A. 1981. The wage structure of white male graduates in 1981. Pretoria: Human Sciences Research Council.
- GORDON, M.S. 1974. The changing labor market for college graduates. (In Gordon, M.S., ed. Higher education and the labor market. New York: McGraw-Hill. p. 27-81.)
- GREYLING, J.J.C. 1977. Employment opportunities for university trained Indians. Durban: University of Durban-Westville. Institute for Social and Economic Research.
- HSRC INVESTIGATION INTO INTERGROUP RELATIONS. 1985. The South African Society: realities and future prospects. Pretoria: Human Sciences Research Council.
- HANF, T. et al. 1981. South Africa: the prospects of peaceful change: an empirical enquiry into the possibility of democratic conflict regulation. (translated by Richardson, J.). Cape Town: David Philip.

- HARDY, J. 1981. Values in social policy: nine contradictions. London: Routledge & Kegan Paul.
- HIGGINS, E. 1970. Some career aspirations of a sample of full-time university college students. Journal of the University College, Durban, 2(1):35-40, March.
- HIRSCH, F. 1978. Social limits to growth. Cambridge, Mass.: Harvard University Press.
- HORRELL, M., comp. 1963. African education: some origins, and development until 1953. Johannesburg: South African Institute of Race Relations.
- HORWOOD, O.P.F. 1964. The financing of higher education in South Africa, with particular reference to the universities. South African Journal of Economics, 32(3):159-186, September.
- HUNTER, A.P. 1963. The reorientation of educational policy in South Africa since 1948 (unpublished Ed.D. thesis -- University of California, Los Angeles.) (Photocopy--University Microfilms International.)
- HURWITZ, N. 1964. The economics of bantu education in South Africa. Johannesburg: South African Institute of Race Relations.
- INSTITUTE FOR CHRISTIAN NATIONAL EDUCATION. 1965. Christian-national education policy as outlined by the institute for CNE of the FAK, 1948. (In Vatcher, W.H., Jr. White laager: the rise of Afrikaner nationalism. London: Pall Mall Press. p. 288-301.)
- IRIZARRY, R.L. 1980. Overeducation and unemployment in the third world: the paradoxes of dependent industrialization. Comparative Education Review, 24(3):338-352, October.
- JOINT MATRICULATION BOARD. 1963. A statistical study of the transition from school to university. Pretoria.
- KLOPPER, M.J. 1981. The technical college and technical institute. (In Proctor-Sims, R., ed. Technical and vocational education in southern Africa. Grant Park: Technical and Vocational Education Foundation of Southern Africa, p. 92-94.)

- KOGAN, M. 1971. The politics of education. Harmondsworth: Penguin Books.
- KOGAN, M. 1975. Educational policy-making: a study of interest groups and parliament. London: Allen & Unwin.
- KOGAN, M. 1978. The politics of educational change. Manchester: Manchester University Press.
- KOORNHOF, P.G.J. 1977. Opening Address. (In Van der Merwe, H.W. & Welsh, D., eds. The future of the university in southern Africa. Cape Town: David Philip. p. 1-3.)
- KUHN, T.S. 1970a. Reflections on my critics. (In Lakatos, I. & Musgrave, A., eds, Criticism and the growth of knowledge. Cambridge: Cambridge University Press. p. 231-278.)
- KUHN, T.S. 1970b. The structure of scientific revolutions, 2nd ed. Chicago: University of Chicago Press.
- LAMPRECHT, J.A. 1981. Quo Vadis--Fort Hare? Lovedale: Fort Hare University Press.
- LEMON, A. 1984. State control over the labor market in South Africa. International Political Science Review, 5(2):189-208.
- LILLIS, K. & HOGAN, D. 1983. Dilemmas of diversification: problems associated with vocational education in developing countries. Comparative Education, 19(1);89-107.
- LLOYD, P.J.D. & PLEWMAN, R.P. 1984. The supply of and demand for engineers, 1984. Johannesburg: Federation of Societies of Professional Engineers.
- LÖTTER, J.M. 1981. The South African population, its growth and expected trends. RSA 2000, 3(2):1-19.
- LOUW, J.B.Z. 1978. Owerheidsbeleid en -administrasie van universiteite in Suid-Afrika. Pretoria. (Unpublished D.Phil. thesis--University of Pretoria.)

- MAHABIR, B. 1977. Indian education in South Africa after nationalisation -- a metapedagogical perspective. Pretoria. (Unpublished M.Ed. dissertation--UNISA.)
- MALHERBE, E.G. 1925. Education in South Africa (1652-1922). Cape Town: Juta.
- MALHERBE, E.G. 1969. Bantu manpower and education. Johannesburg: South African Institute of Race Relations.
- MALHERBE, E.G. 1977. Education in South Africa, Vol. II: 1923-1975. Cape Town: Juta.
- MANN, M. 1984. Some reflections on the De Lange investigation into education in South Africa. Johannesburg: University of the Witwatersrand. (Department of Political Studies seminar paper, 13 June.)
- MARAIS, M.A. 1984. The allocation of resources to education in South Africa. South African Journal of Economics, 52(1):75-89, March.
- METROVICH, F.C. 1929. The development of higher education in South Africa, 1873-1927. Cape Town: Maskew Miller.
- MUIR, R.K. & TUNMER, R. 1965. The Africans' drive for education in South Africa. Comparative Education Review, 9(3):303-322, October.
- MOODLEY, K.A. 1980. Structural inequality and minority anxiety: responses of middle groups in South Africa. (In Price, R.M. & Rosberg, C.G., eds. The apartheid regime: political power and racial domination. Berkeley: University of California. Institute of International Studies. p.217-235.)
- NATAL (Province). Director of Education. 1948-1984. Report of the director of education for the years 1948-1984. Pietermaritzburg. (NP 6/1948, NP 5/1949, NP 5/1950, NP 6/1951-1969, NP 7/1970, NP 6/1971, NP 6/1974; no more NP numbers thereafter.)

- NATAL (Province). Department of Treasury. 1945-1985. Estimates of the expenditure to be defrayed from revenue to be collected during the years ending 31st March, 1946-1986. Pietermaritzburg. (NP 2.)
- NATIONAL INSTITUTE FOR PERSONNEL RESEARCH. 1983. The stimulation of formal, informal, and non-formal education in South Africa. Johannesburg. Special Report 355, May.
- NATIONAL PARTY'S 1952 PROGRAMME. 1960. (In Krüger, D.W., ed. South African parties and policies, 1910-1960: a select source book. Cape Town: Human & Rousseau. p. 95-100.)
- NEL, B.F. & GOUWS, D.J. 1956. Some aspects of maladjustment of first-year students in South Africa. International Review of Education, 11(2):174-187.
- NEWMAN, F. et al. 1971. Report on higher education. Washington, D.C.: U.S. Department of Health, Education, and Welfare.
- NKOMO, M.O. 1981. Contradictions of bantu education. Harvard Educational Review, 51(1):126-138, February.
- NOLUTSHUNGU, S.C. 1982. Changing South Africa: political considerations. Manchester: Manchester University Press.
- NOVEK, NOEL. 1977. Cooperation and conflict in dual societies: a comparison of French Canadian and Afrikaner nationalism. Québec City: International Center for Research on Bilingualism.
- NUFFIELD FOUNDATION & THE COLONIAL OFFICE. 1953. African education: a study of educational policy and practice in British tropical Africa. Oxford: Oxford University Press.
- O'MEARA, D. 1983. Volkskapitalisme: class, capital and ideology in the development of Afrikaner nationalism, 1934-1948. Cambridge: Cambridge University Press.
- OLCKERS, P.J. 1953. Report of a survey of employment facilities for engineers, engineering assistants and technicians in the union of South Africa. Journal for Social Research, 4(1):30-54, June.

- ORANGE FREE STATE. Education Department. 1946-1984. Reports for the period ending 31st December, 1945-1984. Bloemfontein.
- ORANGE FREE STATE. Department of Treasury. 1945-1985. Estimates of revenue and expenditure (including capital expenditure) for the years ending 31st March, 1946-1986. Bloemfontein. (PR 2/1945-1974, PR 1/1975, PR 2/1976, PR 1/1977-1983, PR 2/1984, PR 2/1985.)
- PELZER, A.N. 1980. Die Afrikaner-Broederbond: eerste 50 jaar, 2nd upd. ed. Cape Town: Tafelberg.
- PENNY, A.J. 1981. The relationship of academic aptitude and study habits to academic success: a study of first-year students' experience of academic life with specific reference to the university of Fort Hare. Humanitas, 7(2):163-175.
- PENNY, A.J. & MILLAR, C. 1979. Black students' perceptions of university education: a preliminary study. Scientia paedagogica experimentalis, XVI(1):58-66.
- PREMFORS, R. 1980. How much higher education is enough?; a comparison of public policy in France, Sweden, and the United Kingdom. Comparative Education Review, 24(3):302-322, October.
- PREMFORS, R. 1982. Values and higher education policy. Los Angeles: University of California. (Comparative Education Research Group, Working Paper No. 2.)
- RHOODIE, N.J., ed. 1980. Conflict resolution in South Africa: the quest for accommodationist policies in a plural society. Pretoria: University of Pretoria. Institute for Plural Societies.
- ROTBURG, R.I. & BARRATT, J., eds. 1980. Conflict and compromise in South Africa. Lexington, Mass.: Lexington Books.
- RUMBERGER, R.W. 1981. The rising incidence of overeducation in the U.S. labor market. Economics of Education Review, 1(3):293-314, Summer.

- RUMBERGER, R.W. 1982. The structure of work and the underutilization of college-educated workers. Stanford: Stanford University. (Institute for Research on Educational Finance and Governance. Program Report No. 82-B7, December.)
- RUPERTI, R.M. 1976. The education system in southern Africa. Pretoria: Van Schaik.
- SADIE, J.L. 1981. Labour force 2000. RSA 2000, 3(2):20-34.
- SANDGREN, L. 1973. The Swedish 1968 educational commission. Stockholm: Swedish Ministry of Education.
- SCHLEMMER, L. 1981. Epilogue. (In Hanf, T. et al. South Africa: the prospects of peaceful change: an empirical enquiry into the possibility of democratic conflict regulation. (translated by Richardson, J.). Cape Town: David Philip. p. 423-444.)
- SCHLEMMER, L. 1983. Build-up to revolution or impasse? (In Adam, H., ed. South Africa: the limits of reform politics. Leiden: E.J. Brill. p. 60-82.)
- SCHULTZ, T.W. 1961. Investment in human capital. American Economic Review, LI(1):1-17, March.
- SCHULTZ, T.W. 1963. The economic value of education. New York & London: Columbia University Press.
- SEEBER, A.V. & DOCKEL, J.A. 1978. The behaviour of government expenditure in South Africa. South African Journal of Economics, 46(4):337-351, December.
- SHINGLER, J.F. 1973. Education and political order in South Africa: 1902-1961 (Unpublished Ph.D. thesis -- Yale University.) (Photocopy -- University Microfilms International.)
- SMIT, F.J. & VAN DER WALT, B.E. 1982. Growth trends and business cycles in the South African economy, 1972 to 1981. South African Reserve Bank Quarterly Bulletin:41-57, June.

- SHIPPEY, T.C. 1973. The developing trend towards short-cycle tertiary education--a comparative study of this trend in selected countries including its links with other forms of tertiary education and its possible application in South Africa. Durban. (Unpublished Ph.D. thesis--University of Natal.)
- SMUTS, J.S. & TERBLANCHE, S.S. 1974. The private rate of return on investment in education in the republic of South Africa for 1960 and 1970. Pretoria: Human Sciences Research Council.
- SOUTH AFRICA (Republic) Department of Bantu Education. 1963-1978. Annual reports for the calendar years 1961-1977. Pretoria: Government Printer. (RP 26/1963, 37/1964, 29/1965, 32/1966, 55/1966, 45/1968, 44/1969, 32/1970, 18/1971, 94/1971, 31/1973, 93/1973, 75/1974, 45/1974, 36/1976, 27/1977, 14/1978.)
- Department of Education and Training. 1978-1985. Annual reports for the calendar years 1978-1984. Pretoria: Government Printer. (RP 52/1979, 101/1979, 103/1980, 72/1981, 88/1982, 65/1983, 91/1984.)
- Central Statistical Services. 1981-1985. Educational Statistics 1980 and 1981, 1982 and 1983, 1983 and 1984, 1984 and 1985: Summary, Statistical News Releases, 29 May, 1981, 26 May, 1983, 28 May, 1984, 4 June, 1985.
- Educational Statistics, Statistical News Releases, 22 June, 1982, 1 October, 1984.
- South African Statistics 1982. 1983.
- South African Statistics 1986. 1986.
- Committee of Enquiry into quinquennial revision of university subsidy formulae (1964-1968). 1963. Report. Pretoria: Department of Education, Arts and Science. (Chairman: A.C. Cilliers.)
- Revision of the subsidy formulae for the universities for the quinquennium, 1969-73. 1967. Report. Pretoria: Department of Education, Arts and Science. (Chairman: A.C. Cilliers.)

South Africa (Republic)

Department of Coloured Affairs. 1963-1970. Reports for the period 1962-1969. Pretoria: Government Printer. (RP 11/1963, 82/1964, 25/1966, 22/1967, 21/1968, 22/1969, 27/1970.)

Department of Coloured Matters and Rehoboth Matters. 1971-1981. Reports for the period 1970-1980. Pretoria: Government Printer. (RP 57/1971, 75/1971, 70/1972, 60/1973, 23/1974, 27/1975, 42/1976, 30/1977, 113/1977, 15/1979, 25/1980, 58/1981.)

Department of Internal Affairs. 1982-1984. Reports for the period 1981-1983. Pretoria: Government Printer. (RP43/1982, 31/1983, 47/1984.)

Controller and Auditor General. 1962-1984. Reports of the controller and auditor general for the financial years 1960-1984 on the appropriation accounts and miscellaneous accounts and the finance statements, Parts I and II. Pretoria: Government Printer. (RP 8 & 9/1961, 51 & 52/1962, 57 & 58/1963, 57 & 58/1964, 55 & 56/1965, 46 & 47/1966, 60 & 61/1967, 54 & 55/1968, 58 & 59/1969, 50 & 51/1970, 63 & 64/1971, 63 & 64/1972, 65 & 66/1973, 52 & 53/1974, 82 & 83/1975, 73 & 74/1976, 80 & 81/1977, 85 & 86/1978, 85 & 86/1979, 117 & 118/1980, 48 & 49/1981, 61 & 62/1982, 53 & 54/1983, 61 & 62/1984.)

Provision of education in the RSA. 1981. Report of the main committee of the HSRC investigation into education. Pretoria: Human Sciences Research Council. (Chairman: J.P. de Lange.)

Demography, education and manpower. 1981. Report of the work committee. Pretoria: Human Sciences Research Council.

Education financing. 1981. Report of the work committee. Pretoria: Human Sciences Research Council.

Education management. 1981. Report of the work committee. Pretoria: Human Sciences Research Council.

South Africa (Republic)

Education principles and policy. 1981. Report of the work committee. Pretoria: Human Sciences Research Council.

Guidance. 1981. Report of the work committee. Pretoria: Human Sciences Research Council.

Recruitment and training of teachers. 1981. Report of the work committee. Pretoria: Human Sciences Research Council.

Teaching of the natural sciences, mathematics and technical subjects. 1981. Report of the work committee. Pretoria: Human Sciences Research Council.

Technical and vocational education. 1981. Report of the subcommittee. Pretoria: Human Sciences Research Council.

Commission of inquiry into universities. 1974. Main report. Pretoria: Government Printer. (RP 25/1974.) (Chairman: J. van Wyk de Vries.)

Economic Planning Branch, Office of the Prime Minister. 1981. Ninth economic development programme for the republic of South Africa: 1978-1987, revised edition for 1981-1987. Pretoria.

Department of Education, Arts and Science. 1961-1967. Annual reports for the calendar years 1961-1967. Pretoria: Government Printer. (RP 24/1961, 68/1962, 13/1964, 77/1964, 70/1965, 69/1966, 77/1967.)

Department of Higher Education. 1968-1970. Annual reports for the calendar years 1968-1970. Pretoria: Government Printer. (RP 71/1968, 86/1969, 95/1970.)

Department of National Education. 1971-1984. Annual reports for the calendar years 1971-1983. Pretoria: Government Printer. (RP 21/1972, 78/1972, 57/1974, 30/1975, 117/1975, 107/1976, 118/1977, 38/1979, 18/1980, 34/1981, 28/1982, 30/1983, 16/1984.)

SOUTH AFRICA

Department of Education and Culture Administration, House of Assembly. 1985. Annual report for the calendar year 1984. Pretoria: Government Printer. (RP 30/1985.)

Department of Foreign Affairs. 1983, 1985. South Africa 1983, 1985. Johannesburg: Chris van Rensburg Publications.

Commission of inquiry into the training of white persons as teachers. 1969. Report. Pretoria: Government Printer. (RP 29/1969.) (Chairman: J.S. Gericke.)

Committee of inquiry into the training, use and status of engineering technicians in the RSA. 1978. Report. Pretoria: Department of National Education. (Chairman: R.C.J. Goode.)

House of Assembly. 1964-1965 (Afrikaans), 1967-1968 (Afrikaans), 1969, 1976-1977, 1980-1981, 1983-1985. Debates. Pretoria and Cape Town (as of 15 August, 1983): Government Printer.

House of Representatives. 1985. Debates. Cape Town: Government Printer.

Department of Indian Affairs. 1971-1980. Reports for the period 1961-1980. Pretoria: Government Printer. (RP 51/1971, 38/1972, 36/1973, 48/1974, 48/1975, 31/1976, 38/1977, 19/1978, 120/1978, 113/1979, 114/1980.)

Department of Labour. 1969-1977. Manpower surveys for the period 1969-1977. Pretoria. (Nos. 8-12.)

Department of Manpower. 1979-1983. Manpower surveys for the period 1979-1983. Pretoria. (Nos. 13-15.)

Department of National Education. 1981. Report on the quality of working life of the white educator in the republic of South Africa, Part I. Pretoria: Department of National Education. (SAPSE--104.)

Department of National Education. 1982a. An investigation of government financing of universities. Pretoria: Department of National Education (SAPSE--110).

SOUTH AFRICA (REPUBLIC)

Department of National Education. 1982b. Die kwalifikasie- en studieprogramme van universiteite in Suid-Afrika. Pretoria: Department of National Education (SANSO--115).

Department of National Education. 1983. Die doelwitte, struktuur en werking van die na-sekondêre opvoedingstelsel. Pretoria: Department of National Education (SANSO--108).

National Manpower Commission. 1980. Report of the national manpower commission on high-level manpower in South Africa. Pretoria: Department of Manpower Utilisation. (RP 113/1980.)

National Manpower Commission. 1984. Report for the period 1 January, 1983--31 December, 1983. Pretoria.

Rautenbach, W.L. 1981. The design of an effective educational system for science and technology for South Africa. (In Technical and vocational education, Appendix 1. Report of the subcommittee. Pretoria: Human Sciences Research Council. p. 52-89.)

Commission of enquiry into the financial relations between the central government and the provinces. 1964. Report. Pretoria: Government Printer. (RP 35/1964.) (Chairman: C.G. Schumann.)

Bureau of Statistics. 1964-1968. Statistical yearbooks 1964-1968. Pretoria: Government Printer.

Department of Statistics. 1971-1981. Education: whites, 1967-1978. Pretoria: Government Printer.

Department of Statistics. 1971-1981. South African statistics 1970-1980. Pretoria: Government Printer.

Commission of enquiry into the method of training for university degrees in engineering. 1969. Report, Parts I-III. Pretoria: Government Printer. (RP 74/1968.) (Chairman: R.L. Straszaeker.)

SOUTH AFRICA (REPUBLIC)

Department of Treasury. 1967-1984. Estimates of the expenditure and supplementary expenditure to be defrayed from revenue funds during the years ending 31st March, 1967-1984. Pretoria: Government Printer. (RP 1 & 65/1966, 1 & 45/1967, 1 & 50/1968, 2/1969-1974, 2 & 6/1975, 2 & 5/1976-1979, 2 & 4/1980-1984.)

White paper on the provision of education in the R.S.A., 1983. Pretoria. (WP1-1983.)

Commission of inquiry into labour legislation. 1979-1982. Report, Parts 1-6. The complete Wiehahn report. 1982. Johannesburg and Cape Town: Lex Patria Publishers. (RP 47/1979, 38/1980, 87/1980 (Parts 3 and 4), 27/1981, 28/1982.)

SOUTH AFRICA (UNION)

Bureau of Census and Statistics. 1953-1961. Official yearbooks of the union of South Africa and of Basutoland, Bechuanaland protectorate and Swaziland, 1950-1960. Pretoria: Government Printer.

Commission on technical and vocational education. 1948. Report. Pretoria: Government Printer. (UG 65/1948.) (Chairman: F.J. de Villiers.)

Department of Education, Arts and Science. 1950-1960. Annual reports for the calendar years 1948-1960. Pretoria: Government Printer. (UG 40/1950, 18/1952, 64/1951, 60/1952, 12/1954, 60/1955, 20/1956, 27/1957, 22/1958, 20/1958, 20/1959, 11/1960, 79/1960.)

Commission on native education 1949-1951. 1951. Report. Pretoria: Government Printer. (UG 53/1953.) (Chairman: W.W.M. Eiselen.)

Committee of enquiry into university finances and salaries, 1951. 1953. Report. Pretoria: Government Printer. Annexure 45, 2nd session of Parliament. 1953. Cape Town.

House of Assembly. 1953-1954, 1958-1959. Debates. Pretoria: Government Printer.

SOUTH AFRICA (UNION)

National Bureau of Education and Social Research. 1960. A survey of the training and employment of scientists and engineers in South Africa, Parts Three and Four. Pretoria: Department of Education, Arts and Science.

Senate. 1951. Debates. Pretoria: Government Printer.

Department of Treasury. 1954. Estimates of the expenditure and supplementary expenditure to be defrayed from revenue funds during the year ending 31st March, 1955. Pretoria: Government Printer. (UG 1 & 32/1954.)

Unie-onderwysdepartement. 1948. Bulletin van onderwys vir die unie van Suid-Afrika 1947. Pretoria: Staatsdrukker.

Union Education Department. 1948. Annual reports for the calendar years 1945-1947. Pretoria: Government Printer. (UG 39/1948, 41/1948.)

Union Office of Census and Statistics. 1950-1951. Official year-books of the union of South Africa and of Basutoland, Bechuanaland protectorate and Swaziland, 1948-1949. Pretoria: Government Printer.

Verwoerd, H.F. 1954. Bantu education: policy for the immediate future. Pretoria: Department of Native Affairs.

SOUTH AFRICAN INSTITUTE OF RACE RELATIONS. 1970. A survey of race relations in South Africa 1969. Johannesburg.

SOUTH AFRICAN INSTITUTE OF RACE RELATIONS. 1979. Education for a new era: report of the South African institute of race relations. Johannesburg.

STEENKAMP, W.F.J. 1980. Labour problems and policies of half a century. South African Journal of Economics, 51(1):58-87, March.

- STEYN, H.S. VENTER, R.H. & LOUW, J.B.Z. 1983. Gesigspunte vir die ontwikkeling van die universiteite tot die jaar 2000. RSA 2000, 5(1):17-26.
- STIMIE, C.M. 1970. Education in the republic of South Africa. Pretoria: Human Sciences Research Council.
- STIMIE, C.M. & GEGGUS, C. 1972. University education in the republic of South Africa, rev. ed. Pretoria: Human Sciences Research Council.
- STOKER, D.J. et al. 1985. Investigation into differential entrance requirements for tertiary educational institutions, abridged version. Pretoria: Human Sciences Research Council.
- STRYDOM, E.E. 1979? Ontwikkeling van onderwys vir swartes in die RSA tot 1978. (In RSA: sy mense en hulle toekoms, Die. 4. Pretoria: Raad vir Geesteswetenskaplike Navorsing. p. 1-33.)
- STRYDOM, G.S. & STRYDOM, A.E. 1980. Technical education for Indians. Pretoria: Human Sciences Research Council.
- TERBLANCHE, S.S. 1969. The occupational situation of a group of new graduates. Pretoria: Human Sciences Research Council.
- TERBLANCHE, S.S. 1971. The demand and supply of engineers in 1973 and 1980. Pretoria: Human Sciences Research Council.
- TERBLANCHE, S.S. 1981. An analysis of the macro manpower demand and supply situation (1977 to 1987) in the RSA: aid to manpower planning at organizational level. Pretoria: Human Sciences Research Council.
- TERBLANCHE, S.S. & EBERHSOHN, D. 1980. The job situation of the new graduate. Pretoria: Human Sciences Research Council.
- TERBLANCHE, S.S., JACOBS, J.J. & VAN PLETZEN, J. 1984. The manpower scene 1983. Pretoria: Human Sciences Research Council.

- THORNHILL, C. 1983. Administrative arrangements for change. (In Van Vuuren, D.J. et al., eds. Change in South Africa. Durban: Butterworth, p. 61-94.)
- THURLOW, L.C. 1974. Measuring the economic benefits of education. (In Gordon, M.S., ed. Higher education and the labor market. New York: McGraw-Hill. p. 373-418.)
- TRANSVAAL (Province). Education Department. 1951-1984. Report for the years ended 31st December, 1946-1983. Pretoria. (TP 6/1951, 3/1952, 4/1952, 9/1955, 5/1955, 5/1956, 6/1956, 5/1958, 7/1958, 3/1959, 2/1960; no more TP numbers thereafter.)
- TRANSVAAL (Province). Department of Treasury. 1945-1984. Estimates of the revenue to be collected and expenditure (excluding capital expenditure) to be defrayed during the year ending 31st March, 1946-1985. Pretoria. (TP 4/1947, 2/1948, 3/1949, 6/1952, 5/1953, 2/1954, 7/1955, 4/1956, 3/1957, 4/1958, 5/1959, 4/1960, 3/1961, 5/1962, 4/1963, 5/1964, 4/1965, 2/1966-1984.)
- TUNMER, R. 1969. African attitudes towards education. (In 1969 conference on bantu education. Johannesburg: South African Institute of Race Relations. p. 1-18, separate print.)
- TUNMER, R. 1973. The education of coloureds and Indians in South Africa. (In Rose, B., ed. Education in southern Africa, rev. ed. London: Collier-Macmillan. p. 93-120.)
- UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA. 1961. Conference of African states on the development of education in Africa. Addis Ababa, 15-25 May, 1961. Final report. Paris: UNESCO.
- UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION. 1983. Statistical yearbook 1983. Paris: UNESCO.
- UNIVERSITY COLLEGE OF FORT HARE. 1961. A short pictorial history of the university college of Fort Hare 1916-1959. Lovedale: Lovedale Press.

- UNIVERSITY OF FORT HARE. 1970. University of Fort Hare autonomy 1970. Lovedale: Lovedale Press.
- URTEL, H. & SMIT, R. 1978. The income structure of highly qualified white women on 1 July, 1976. Pretoria: Human Sciences Research Council.
- VAN DEN BERG, D.J. 1978. A pedagogical study of the black man's mathematical ability. Pretoria: Human Sciences Research Council.
- VAN DER MERWE, H.W. & ALBERTYN, L. 1972. Introduction. (In Van der Merwe, H.W. & Welsh, D., eds. Student perspectives on South Africa. Cape Town: David Philip. p. 8-12.)
- VAN DER MERWE, N.J. & WEST, M.E., eds. 1979. Perspectives on South Africa's future. Rondebosch: University of Cape Town. Centre for African Studies.
- VAN PLETZEN, J. 1981. The supply of and demand for engineers in 1987. Pretoria: Human Sciences Research Council.
- VAN PLETZEN, J. 1984. The wage structure of white male graduates in 1984. Pretoria: Human Sciences Research Council.
- VAN RENSBURG, C.A.J. & GREYLING, J.S. 1985. Technikon research in perspective. Research Bulletin, 15(3):1-4.
- VAN RENSBURG, F.A.J. 1974. Graduation trends for whites at South African universities 1956-1972, with projections to 1990. Pretoria: Human Sciences Research Council.
- VAN RENSBURG, F.A.J. 1977. Graduation trends for non-whites at South African universities 1960-1975, with projections to 1990. Pretoria: Human Sciences Research Council.
- VAN ROOYEN, J. 1982. Female career commitment (a life-span perspective). Haifa, Israel. (Paper read at the International Interdisciplinary Congress on Women, December 28, 1981-January 1, 1982.)

- VAN VUUREN, D.J. et al., eds. 1983. Change in South Africa. Durban: Butterworth.
- VAN ZYL SLABBERT, F. 1975. Afrikaner nationalism, white politics and political change in South Africa. (In Thompson, L. & Butler, J., eds. Change in contemporary South Africa. Berkeley: University of California Press. p. 3-18.)
- VAN ZYL SLABBERT, F. 1983. Sham reform and conflict regulation in a divided society. (In Adam, H., ed. South Africa: the limits of reform politics. Leiden: E.J. Brill. p. 34-48.)
- VAN ZYL SLABBERT, F. & OPLAND, J., eds. 1980. South Africa: dilemmas of evolutionary change. Grahamstown: Rhodes University. Institute of Social and Economic Research.
- VERMAAK, J.A., JACOBS, J.J., & TERBLANCHE, S.S. 1977. The demand for and supply of manpower, Part I: estimate of the demand for manpower by occupation and educational level for the four population groups. Pretoria: Human Sciences Research Council.
- VILJOEN, G.V.N. 1977. The Afrikaans universities and particularism. (In Van der Merwe, H.W. & Welsch, D., eds. The future of the university in southern Africa. Cape Town: David Philip. p. 172-187.)
- VOS, A.J. & BARNARD, S.S. 1984. Comparative and international education for student teachers. Durban: Butterworth.
- WATTS, A.G. 1980. Careers guidance under apartheid. International Journal for the Advancement of Counselling, 3(1):3:27.
- WELSH, D. 1969. Urbanisation and the solidarity of Afrikaner nationalism. Journal of Modern African Studies, 7(2):265-276, July.
- WELSH, D. 1974. The political economy of Afrikaner nationalism. (In Leftwich, A., ed. South Africa: economic growth and political change, with comparative studies of Chile, Sri Lanka and Malaysia. London: Allison & Busby. p. 249-285.)

WESSELS, D.M. 1981. Career orientation and work commitment of university-educated women. Pretoria: Human Sciences Research Council.

WILKINS, I. & STRYDOM, H. 1978. The super-Afrikaners. Johannesburg: Jonathan Ball.

WOLMARANS, C.P. 1974. The wage structure of highly qualified whites as at 1 March, 1973. Pretoria: Human Sciences Research Council.

WOLMARANS, K.M. 1979. The wage structure of graduate non-whites in 1979. Pretoria: Human Sciences Research Council.

CORRESPONDENCE AND INTERVIEWS

BARNARD, S.S., professor of comparative and contemporary education. 1984. Interview on 27 November at P.U. for C.H.E.

BARNARD, S.S., professor of comparative and contemporary education. 1985. Interview on 22 March at P.U. for C.H.E.

BEHR, A.L., professor of education. 1984. Letter of 3 August. University of Durban-Westville.

CENTRAL ECONOMIC ADVISORY SERVICE. 1985. Letter of 14 March. Pretoria.

CENTRAL STATISTICAL SERVICES. 1984. Letter of 18 April. Pretoria.

CLOETE, J.J.N., director of the South African Institute of Public Administration. 1984. Interview on 1 May. Pretoria.

COETZEE, J.C., internal auditor. 1984. Interview on 31 August at P.U. for C.H.E.

COETZEE, J.H., former head of the Anthropology Department. 1984. Interview on 4 June at P.U. for C.H.E.

COMMITTEE OF TECHNIKON PRINCIPALS. 1984. Letter of 9 April. Rondebosch.

DE LANGE, J.P., rector. 1984. Interview on 14 December at the Rand Afrikaans University.

DREYER, A.C., professor of pharmacology. 1985. Interview on 8 November at P.U. for C.H.E.

DU TOIT, B.J., assistant registrar. 1984. Interview on 23 May at the Potchefstroom Teachers' College.

DU TOIT, B.J. assistant registrar. 1985. Interview on 22 March at the Potchefstroom Teachers' College.

DEPARTMENT OF EDUCATION AND CULTURE. 1984. Letters of 15 and 22 October and 7 December. Pretoria.

DEPARTMENT OF EDUCATION AND TRAINING. 1984. Letter of 15 June. Pretoria.

DEPARTMENT OF EDUCATION AND TRAINING. 1985. Undated letter. Pretoria.

DEPARTMENT OF FINANCE. 1985. Letters of 7 May and 10 June. Pretoria.

HUMAN SCIENCES RESEARCH COUNCIL. 1984. Visit on 1 May. Pretoria.

JENKINS, E.R., director of Vista University's Mamelodi campus. 1985. Letter of 29 April. Mamelodi.

JOINT MATRICULATION BOARD. 1984. Letter of 5 June. Pretoria.

LOUW, J.B.Z., chief director, Macro-educational Policy Branch, Department of National Education. 1984. Letter of 5 April. Pretoria.

LOUW, J.B.Z., deputy director-general, Department of National Education. 1985. Interview on 19 March at P.U. for C.H.E.

ORANGE FREE STATE TECHNIKON. 1985. Letter of 28 June. Bloemfontein.

M.L. SULTAN TECHNIKON. 1984. Letters of 13 July, 9 August, and 22 October. Durban.

SOUTH AFRICAN ASSOCIATION OF PRIVATE SCHOOLS. 1985. Letter of 25 April. Houghton.

TECHNIKON PENINSULA. 1984. Letter of 10 August. Kasselsvlei.

UNIVERSITY OF FORT HARE. 1984. Letter of 7 June. Alice, Ciskei.

UNIVERSITY OF FORT HARE. 1985. Letter of 1 October. Alice, Ciskei.

VAN DER MERWE, E.J., assistant head, Economics Department, South African Reserve Bank. 1984. Interview on 8 August. Pretoria.

VAN DER WALT, J.L., professor of philosophy of education. 1985. Interview on 8 November at P.U. for C.H.E.

OPSOMMING

Hoewel die Suid-Afrikaanse regering 'n al groter rol in tersiêre onderwys speel, het sy begtrokkenheid daarby nie die nodige aandag ontvang nie. Die oogmerke met tersiêre onderwys is multi-dimensioneel op sowel die individuele as die samelewingsvlak, maar die doel in hierdie ondersoek was om dit te beskou in verhouding tot die mannekrag- en sosio-ekonomiese behoeftes van die land. Dit het beteken dat 'n analise gemaak moes word van hoe die regering probeer om in behoeftes op hierdie gebiede te voorsien; veral ten opsigte van sekere sleutelberoepe, soos die ingenieurswese en die onderwys.

Die volgende hipoteses is getoets:

HIPOTESE 1

Die prestige van die universiteite as deel van die tersiêre onderwyssisteem sal vir 'n langer tydperk voortduur as wat die ekonomiese werksaamhede en produktiwiteit van sy graduandi alleen sal regverdig.

HIPOTESE 2

Die uitbreiding van tersiêre onderwys vir die elite tot onderwys vir die massas sal lei tot 'n groter afhanklikheid van regeringsbefondsing en tot 'n toenemende behoefte aan beheer, koördinasie en nasionale standaarde.

HIPOTESE 3

Regerings sal onderbelê in tegniese onderwys.

HIPOTESE 4

In "swak" ekonomiese tye sal tersiêre onderwysinskrywings 'n dalende neiging toon.

HIPOTESE 5

Volgehoue universiteitsprestige sal daartoe lei dat die kollege vir gevorderde tegniese onderwys (KGTO) en technikoninskrywings, sowel as diplomas en sertifikate wat deur hulle toegeken word, 'n agterstand sal toon ten opsigte van universiteitsgrade en -diplomas.

HIPOTESE 6

In "swak" ekonomiese tye sal die inskrywingstal aan die KGTO en vir tegniese opleiding aan teknikons 'n dalende neiging toon.

HIPOTESE 7

Vrese vir 'n oorproduksie van universiteitsgraduandi, veral in die geesteswetenskappe, aan die een kan en tekorte aan sekere vorme van mannekrag aan die ander kant, sal lei tot regeringspogings om hierdie balans te herstel.

HIPOTESE 8

Daar sal betekenisvolle beperkinge gelê wees/word op regeringspogings om die vereiste soort en aantal mense in terme van opgeleide mannekrag te lewer, want sodanige ingryping is teenstrydig met individuele aspirasies.

Tersiêre onderwys sedert 1945 vir al die bevolkingsgroepe is ondersoek. Hoewel daar sekere gapings in die beskikbare inskrywings- en uitgawe-data is, is gevolgtrekkings daaruit nie om dié rede ongeldig nie.

In 'n plurale samelewing met diep klowe tussen die vier hoofbevolkingsgroepe en met kleiner intra-groep gapings, het aparte onderwysstelsels ontwikkel. Al die bevolkingsgroepe slaan akademiese onderwys baie hoog aan, veral die Swartes. Die keuse ten gunste van 'n akademiese onderwys is diepgewortel, toon baie fasette, en slaan terug op koloniale tye. In die Suid-Afrikaanse konteks is daar ook politieke,

sosio-ekonomiese, opvoedkundige en beroepsfaktore wat hierdie vooroordele bestendig.

Sedert die ontstaan van die Unie in 1910 is daar 'n deurlopende debat en stryd oor die verdeling van seggenskap oor die onderwys tussen die sentrale regering en die provinsiale owerhede. Dit was veral die geval met die onderwyskolleges vir Blankes. Die stryd sal binnekort tot 'n einde kom wanneer die sentrale regering hulle sowel as primêre en sekondêre skole vir Blankes oorneem.

Swart onderwys is in 1954 tot op universiteitsvlak van die provinsiale owerhede oorgeneem as deel van die beleid van afsonderlike ontwikkeling. Dieselfde is gedoen in die geval van Kleurlingonderwys in 1967, en teen 1970 ook met Indiëronderwys. In 1959 is die Universiteitskollege van Fort Hare deur die sentrale regering oorgeneem, en is die universiteitskolleges van Zoeloeland en die Noorde vir spesifieke etniese groepe opgerig. Sedertdien het die nie-Blanke universiteit studente-onluste beleef, veral dié vir Swartes. Regeringsbeleid het dus onbedoeld tot hulle verpolitisering bygedra.

Die administratiewe struktuur is insgelyks baie kompleks. Daar is een onverwysministerie vir elke hoofbevolkingsgroep, sowel as een vir algemene onderwyssake, benewens 'n ingewikkelde statutêre adviesstelsel van rade, komitees, ensovoorts. Daar is egter geen liggaam wat die regering van advies bedien in verband met tersiêre onderwys as 'n geheel vir enige van die bevolkingsgroepe nie.

Die huidige besteding aan univesiteite van 1953 tot 1985 is gedoen in terme van die Holloway-formule, wat bestaan uit die basiese subsidie, standaardvoorsiening, lewenskostoelaag, vrye inkomste en kapitaaluitgawe. Die nuwe formule plaas meer klem op produksie, met die helfte van die fondse beskikbaar in Junie en die ander helfte in Desember. Die natuurwetenskappe ontvang ook ietwat meer as die geesteswetenskappe.

Universiteitstoelatings het baie vinniger gegroei as onderwyskollege-, KGTO- en technikoninskrywings. Een van die gevolge van hierdie

fenomenale groei was 'n beduidende driipsyfer, veral onder eerstejaarstudente. Hierdie groot uitbreiding in tersiêre onderwys het gelei tot 'n groter afhanklikheid van regeringsbefondsing, soos voorspel in hipotese 2. Hipotese 3 is ook aanvaarbaar, want daar was vir 'n lang ruk onderbesteding aan universiteitsopleidng, alhoewel dit nie meer die geval is ten opsigte van nie-blankes nie. Hipotese 4 tot 6 ontbreek aan beduidende ondersteuning en kon dus nie bevestig word nie. Oorkoepelende inskrywingin tersiêre onderwys word nie normaalweg tot enige duidelike mate ekonomies bepaal nie. Hipotese 5 is gestaaf, want KGTO- en technikoninskrywings en -sertifikate en -diplomas toegeken, in teenstelling met universiteitsinskrywings en grade en diplomas toegeken, het agtergeraak by die totale aantal toekennings en toon dus 'n afname in verhouding. Die laaste gedeelte van hipotese 1 is gestaaf; tegnisi verdien byna soveel as onderwysers en soms selfs meer as graduandi, maar dit ontbreek hulle aan prestige.

Menslike kapitaalteorie het sedert die sestigerjare teoretiese regverdiging verskaf vir die groot uitbreiding in tersiêre onderwys. Die teorie kom daarop neer dat investering in onderwys groot dividende sal oplewer aan sowel individue as die ekonomie in terme van 'n hoër groeikoers. Sedert die vroeë sewentigerjare het daar egter toenemende kritiek van sosiale wetenskaplikes op die terrein gekom. Baie het beweer dat daar 'n afnemende positiewe korrelasie tussen onderwysinskrywings en groeikoerse mag bestaan en dat selfs negatiewe korrelasies gevind mag word. Party het selfs aangevoer dat daar sosiale perke aan groei is -- en dit sluit dan onderwys in.

Groeiende oorskotte aan universiteitsgraduandi oorsee, voortdurende tekorte aan ingenieurs en tegnisi, en die toenemende aantal sekondêre skoolverlaters, waarvan die meeste 'n akademiese opleiding het, het tot kommer in regeringskringe en die skep van die De Lange-kommissie gelei. Hipotese 7 is dus ook gestaaf. Die De Lange-kommissie het aangevoer dat onderwys gekoppel moes word aan die mannekrag- en ekonomiese ontwikkelingsbehoefte van die land. Vorige regeringskommissies het die probleme van tegniese en onderwyspersoneeltekorte ontleed. Baie van hulle aanbevelings is geïmplementeer, dog tekorte aan tegniese personeel het gebly.

Die regering het probeer om die doelwitte van mannekrag- en ekonomiese ontwikkelingsbehoefte van die land te bereik, maar soos in hipotese 8 veronderstel, het daar haakplekke gekom omdat sy doelwitte teenstrydig was met individuele doelstellings. Baie studente neem tersiêre onderwys om suiwer gebruiks- of sosio-ekonomiese redes. Daar is ook 'n minderheid wat dit nastreef ter wille van selfontwikkeling of van die uitbreiding van kennis, afgesien van ekonomiese oorweging. Die prestige van universiteitsopleiding skep ook 'n sterk sosiale behoefte daarvoor.

Vraag- en aanbodprojeksies ten opsigte van ingenieurs en tegnisi dui op voortgesette tekorte oor die korttermyn. Wat onderwysers betref, sal daar genoeg Blanke-, Kleurling- en Indiëronderwysers wees, miskien selfs 'n surplus oor die mediumtermyn. In die geval van Swartes sal die huidige tekorte voortbestaan.

Die aantal nie-blanke universiteitstudente mag teen 1990 gelyk wees aan dié van blankes. Die Blanke bevolking alleen is nie meer in staat om voldoende hoëvlakmannekrag te lewer nie. Oor die korttermyn lyk die vraag na universiteitsgraduandi goed, maar dit beteken nie dat daar nie oor die langtermyn probleme gaan wees nie. Werkloosheid onder universiteitsgraduandi was tot dusver laag, maar onderbenutting, veral in die geesteswetenskappe, was baie groter. Daar sal 'n toenemende aantal van onderbenutte universiteitsgraduandi wees, met die gepaardgaande potensiaal vir politieke ontevredenheid onder hoogs-opgeleide en gefrustreerde mense, veral die Swartes.

Moontlike oplossings vir die tekorte aan ingenieurs en tegnisi sluit in die toekenning van grade deur teknikons, die akkreditering van technikon-kursusse, en die toekenning van grade deur 'n eksterne liggaam. In die geval van onderwysers sal die verhoging van hulle salarisse en die samesmelting van onderwyskolleges met die fakulteite van opvoedkunde aan die universiteite uitloop op 'n verhoging van hulle prestige, en sal meer mans tot die onderwysberoep gelok word.

Wat werkloosheid en die onderbenutting van universiteitsgraduandi betref, lê die oplossing in die verbinding van individuele handeling met

maatskaplike behoeftes. Aansporings of ontmoedigings van die een of ander aard skyn nodig te wees, soos gedifferensieerde tarieweskale en 'n beperking op toelatings in dié vakrigtings wat oorskotte lewer. Die regering behoort ook werk te verskaf aan werklose universiteitsgraduandi en moet die privaatsektor aanmoedig om dieselfde te doen. Al hierdie oplossings het nadele sowel as voordele, maar op die duur toon hulle ten minste die potensiaal om selfs ernstige gevolge te vermy.

SUMMARY

Although the South African government plays an increasing rôle in tertiary education, its involvement has not received the attention that it deserves. The goals of tertiary education are multi dimensional at the individual and societal levels, but the guiding paradigm was viewing it in relation to the manpower and socio-economic needs of the country. This meant analysing how the government attempted to deal with these needs, especially in certain key professions, such as engineering and teaching.

The following hypotheses were tested:

HYPOTHESIS 1

The prestige of the universities within the tertiary education system will persist for a longer period than the economic rewards of its graduates alone would justify.

HYPOTHESIS 2

The expansion from élite to mass tertiary education will lead to greater dependence on government funding and increased need for control, co-ordination, and national standards.

HYPOTHESIS 3

Governments will underinvest in technical education.

HYPOTHESIS 4

In "bad" economic times tertiary education enrolments will decline.

HYPOTHESIS 5

Continuing university prestige will cause the college of advanced technical education (CATE) and technikon enrolments and diplomas and certificates awarded to lag behind university degrees and diplomas.

HYPOTHESIS 6

In "bad" economic times CATE and technikon technical enrolments will decline.

HYPOTHESIS 7

Fears of surpluses of university graduates, especially in the arts, on the one hand and shortages of certain types of manpower on the other hand will lead to government efforts to redress the balance.

HYPOTHESIS 8

There will be significant limitations on government efforts to create the desired numbers and types of skilled manpower, for interventionism of this sort will run counter to individual aspirations.

Tertiary education for all of the population groups since 1945 was covered. Whilst there are some gaps in the available enrolment and expenditure data, they do not invalidate the conclusions.

In a plural society with deep cleavages amongst the four main population groups and lesser intra group cleavages, separate education systems developed. All population groups value academic education very highly, especially the blacks. The biases in favour of an academic education are deep rooted and multi faceted, going back to the colonial times. Within the South African context, there are also political, socio-economic, educational, and vocational factors reinforcing these biases.

Ever since the creation of the Union in 1910 there has been an ongoing debate and controversy about the division of authority in education between the central government and the provincial governments. This has been especially the case with the colleges of education for the whites. It will soon end, however, when the central government will take them over, as well as primary and secondary schools for the whites.

Black education was taken over from provincial governments in 1954 up to the university level as part of the separate development policy. The same was done in the case of coloured education in 1967, and by 1970 with Indian education. In 1960 the University College of Fort Hare was taken over by the central government, and the University Colleges of Zululand and North were also created in 1959 for specific ethnic groups. Since then all of the non-white universities have experienced student unrest, especially the black ones. The government policy had the unintended consequence of contributing to their politicisation.

The administrative structure is a complex one. There is one education ministry for each major population group, plus one dealing with general education matters. An elaborate statutory advisory system of boards, committees, and councils exists. There is, however, no body offering advice to the government on tertiary education as a whole for any of the population groups.

The current expenditures for universities from 1953 until 1985 were under the Holloway formula, consisting of the basic subsidy, standard provision, cost of living allowance, free income, and capital expenditure. The new formula provides more emphasis upon outputs, with half of the funds being made available in June and the other half in December. Those in the natural sciences also receive somewhat more than those in the human sciences.

University enrolments have grown much faster than the college of education, CATE, and technikon enrolments. Thus, the first part of Hypothesis 1 was substantiated. One of the consequences of this phenomenal growth has been a significant failure rate, especially amongst first-year university students. This great expansion of tertiary edu-

cation has led to greater dependence on government funding, as predicted by Hypothesis 2. Hypothesis 3 also holds true, for there was underinvestment in CATE and technikon education for a long time as opposed to university education, although this is no longer true for the non-whites. Hypotheses 4 and 6 lacked significant supporting evidence and thus they were not confirmed. Tertiary education overall enrolments are not normally economically determined to any marked degree. Hypothesis 5 was upheld, because CATE and technikon enrolments and certificates and diplomas awarded as contrasted to university enrolments and degrees and diplomas awarded have lagged behind total awards and constitute a declining proportion. The last part of Hypothesis 1 is confirmed; technicians earn almost as much as teachers and sometimes even more than university graduates. Yet, they lack their prestige.

Human capital theory, beginning in the 1960s, provided the theoretical justification for the great expansion of tertiary education. It maintained that investment in education will yield rich dividends to the individuals and to the economy in terms of higher growth. Since the early 1970s, however, it has come under increasing criticism from social scientists. Many maintained that there might be a declining positive correlation between education enrolments and growth rates and even negative correlations. Some even maintained that there are social limits to growth, including in education.

Developing surpluses of university graduates abroad, continuing shortages of engineers and technicians, and the rising number of secondary school graduates, most of them with an academic education, led to government concern and the creation of the De Lange Commission. The government tried to redress the balance between university graduates in general and the shortages of technical and teaching personnel in particular. The De Lange Commission maintained that education must be linked to the manpower and economic development needs of the country. Earlier government commissions addressed the problems of technical and teaching personnel shortages. Many of their recommendations were implemented, but shortages of technical personnel have remained. Hypothesis 7 was thus confirmed.

The government has tried to pursue the goals of manpower and economic development needs of the country, but as hypothesised (Hypothesis 8) it has run into difficulties because its goals run counter to individual aspirations. Many students pursue tertiary education for purely utilitarian or socio-economic reasons. There is also a minority which desires it for self-development or the advancement of knowledge regardless of the economic consequences. Moreover, the prestige of university education creates a strong social demand for it.

Supply and demand projections for engineers and technicians indicate continuing shortages in the short-range at least. As far as the teachers are concerned, there will be enough white, coloured, and Indian ones, perhaps even some surpluses in the medium-range. In the case of the blacks, shortages will remain.

The number of non-white university students by 1990 might equal white university students. The white population alone is no longer able to provide sufficient numbers of high level manpower. In the short-range the demand for university graduates looks good, but this does not mean that there will be no problems in the long-range. Unemployment of university graduates has been low, but underemployment, especially in the arts, has been far more significant. There will be increasing numbers of underemployed university graduates, with the potential for political discontent amongst highly educated and frustrated people, especially the blacks.

Possible solutions to engineer and technician shortages include the granting of degrees by technikons, validation of technikon courses, and the awarding of degrees by an external authority. In the case of teachers, increasing their remuneration and the merging of the colleges of education with the university faculties of education would result in increasing their prestige and attracting more men to the profession.

As far as unemployment and underemployment of university graduates are concerned, the solution lies in relating individual actions to societal needs. Incentives or disincentives of one sort or another appear to be necessary, such as differentiated fee structures and the limiting of

enrolments in those disciplines which produce labour market surpluses. The government could also provide employment for unemployed university graduates and encourage the private sector to do the same. All of these solutions have disadvantages as well as advantages, but in the long run they have the potential of avoiding even more serious consequences.