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## **Catalogue of the papers of R.J. Smith**

**Date range of material: 1897-1963**

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March 2025

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## Preface

Creation of catalogue  
EAD by Jane Hogan

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## Introduction

*Collection title:* Smith, R.J.

*Reference code:* GB-0033-SAD

*Dates of creation:* 1897-1963

*Extent:* 7.5 boxes

*Repository:* Durham University Library, Archives and Special Collections

*Creator:* Smith, R.J.

*Language of material:* English

### R. J. Smith

(fl. 1902-1966)

1925-1927	Assistant Sub-Divisional Engineer, Wad Medani
1928-1929	Assistant Sub-Divisional Engineer, Abu Ushar (Wad Medani Division)
1929	Assistant Sub-Divisional Engineer, Tabat (Wad Medani Division)
1930-1931	Sub-Divisional Engineer, Merebeia (Wad Medani Division)
1931-1933	Sub-Divisional Engineer, Tabat (Abu Ushar Division)
1933-1934	Sub-Divisional Engineer, Sennar (Sennar Dam Division)
1935-1940	Sub-Divisional Engineer / Chief Engineer, Aroma (Secoded Gash Board)
1941-1945	Divisional Engineer, Wad Medani (Projects Division)
1945-1946	Assistant Director (Development, Wad Medani)
1946-1950	Director of Irrigation, Wad Medani
1951-1953	Irrigation Adviser and Director of Irrigation, Khartoum

### Accession details

Presented by Smith, 1966

### Arrangement

1. Sudan Irrigation Department Official Papers
2. Maps and Diagrams
3. Printed Material

### Form of citation

Material in the Sudan Archive is given a reference number, which is unique across the collections of papers. Usually it is not necessary to give the name of the person or organisation within which collection the item is found, although it may be convenient to do so.

The short form of citation should be GB-0033-SAD.*reference number*

Most printed references take the form: SAD.*reference number* .

To order items in the searchroom, use the collection reference code(s), derived by removing the repository code (GB-0033-), followed by the reference number. Citing the section of the finding aid is useful.

# 1. Sudan Irrigation Department Official Papers

## Administrative Files (R.J. Smith's private files)

- SAD.495/1/1-43 1929 Oct 20-1951 Mar 3  
Papers relating to the Sudan Irrigation Department:  
Office: memorandum on allocation of work, 1949; list of telephone extensions, 1950; distribution sheets  
Drawing Office: list of instruments and equipment  
Field: levelling instructions, 1929; note on canal sketches, 1930  
Equipment: lists of stationery, 1944; lists of furniture and equipment, 1931-1941
- SAD.495/2/1-83 1949 Dec 31-1953 Apr  
Papers relating to the Sudan Irrigation Department:  
Memorandum by Smith on the origins and development of the Sudan Irrigation Department [S.I.D.], 1950 (SAD.495/2/2-8); memorandum by W.N. Allan on the provision of technical advice on irrigation in the Sudan, 1949 (SAD.495/2/9-17); notes and memoranda by Smith, A.L. Chick, Financial Secretary, and H.A. Morrice on the reorganisation and Sudanisation of the S.I.D., 1950-1953 (SAD.495/2/18-49,53-56,59-63,65,70-71,73-83); memorandum by Smith on retention terms for staff, 1952 (SAD.495/2/50-52); note on proposed engineering staff for maintenance divisions below the rank of Divisional Engineer (SAD.495/2/68-69)
- SAD.495/3/1-35 1928 Apr 28-1947 Nov 24  
Papers relating to the Sudan Irrigation Department:  
Duties: letter to Smith from F.M. Chinn on the responsibility for field payments, 1929 (SAD.495/3/2); questionnaire on duties performed in a sub-division works, 1932 (SAD.495/3/4-7); tables for Tabat Sub-Division showing gross cultivable areas, area limits of canals, annual water consumption, weeding, canal lengths, housing, indents, records maintained and water control staff, 1932 (SAD.495/3/8-21); note by A.N.M. Robertson, Director of Irrigation, on the Western Gezira Division (SAD.495/3/22-24); memorandum on S.I.D. Planning Office (SAD.495/3/26-29); note by Smith on duties of Assistant Engineers, Projects Division, 1943 (SAD.495/3/30-32); note by Smith on organisation of Projects and Construction Divisions, 1947 (SAD.495/3/33-35)
- SAD.495/4/1-78 1931 Feb 15-1949 Mar 19  
Papers relating to the Sudan Irrigation Department:  
Record: indexes of files, Sudan Government (SAD.495/4/2-23); Gash Board (SAD.495/4/24-34), Projects Division, 1925-1931 (SAD.495/4/35-58)  
Forms: Projects Division list of printed books and forms (SAD.495/4/60-61); memorandum by Smith about stationery, 1942 (SAD.495/4/62-63)  
Sudan Government: circular letter from H.A. MacMichael, Civil Secretary, concerning delegation of routine matters to *ma'murs* and sub-*ma'murs* (SAD.495/4/65-66)  
Manual of orders: notes on amendments to S.I.D. manual of orders (SAD.495/4/68-70)

- Circulars: concerning daily paid labour, local leave, employment of government employees for private purposes and submission of technical proposals (SAD.495/4/72-78)
- SAD.495/5/1-51 1929 Feb 6-1952 May 22  
Papers relating to personnel:  
Circulars: circular letter from R.G. Howe, Governor-General, to all British officials regarding relations with Sudanese staff, 1947 (SAD.495/5/2-3)  
Pay: circular letters regarding pay scales, additional pay and acting pay (SAD.495/5/6-14)  
Allowances: circular letters regarding the care of riding animals, travelling allowances, S.I.D. field allowances and cost of living allowances (SAD.495/5/16-45)  
Leave: circular letters concerning leave of absence (SAD.495/5/47-51)
- SAD.495/6/1-55 1925 Mar 23-1952 Nov 26  
Papers relating to personnel:  
Postings: circular letter from C.A.E. Lea, Acting Director of Establishments, on the transfer of officials between departments, 1949 (SAD.495/6/2-3)  
Promotions: circular letters concerning promotions, 1946-1949 (SAD.495/6/5-12)  
Terms: circular letters concerning terms of service for Sudanese employees and educational requirements (SAD.495/6/14-37); Establishments circular no 1 on non-pensionable terms of service for non-Sudanese officials, 1947 (SAD.495/6/38-40); note by Smith on the technical staff (civil) position of the S.I.D., 1950 (SAD.495/6/41-46); note by I.J. Dunn, Director, S.I.D., on proposals for segmenting the staff of the S.I.D. in accordance with the Mills Report, 1952 (SAD.495/6/47-55)
- SAD.495/7/1-78 1929 Jan 23-1950 Nov 7  
Papers relating to personnel:  
Cadre: circular letters concerning establishment changes, instructions for the preparation of the 1951/52 budget (SAD.495/7/10-24), implementation of the Mills scaling system, 1953 (SAD.495/7/25-39) and tables showing S.I.D. establishment of posts (SAD.495/7/42-48)  
Training: circular letters concerning qualifications of boys from the School of Engineering, 1929-1938 (SAD.495/7/51-57), sample questions for departmental exams (SAD.495/7/58-59), memoranda on technical education, training of engineers abroad and Public Works Department Training School (SAD.475/7/61-78)
- SAD.495/8/1-64 1938 Jun 6-1951 Apr 22  
Papers relating to personnel:  
Recruitment: memoranda and circular letters concerning recruitment of non-Sudanese officials (SAD.495/8/2-21)  
Forms: application forms for Sudan Government positions, with general information for candidates, sample contracts and standard letters of appointment (SAD.495/8/23-50)  
Mechanical: sample adverts for mechanical engineers

- (SAD.495/8/52-57)  
Civil: sample adverts for civil engineers (SAD.495/8/59-64)
- SAD.495/9/1-32 1927 May 29-1951  
Papers relating to labour:  
S.I.D. staff lists (no names) (SAD.495/9/1-4)  
Saidi labour: rules of employment (SAD.495/9/6-7); notes on Saidi labour, 1937 (SAD.495/9/8-10); copy contract between the Gash Board and Mr Y. Stavrakis for supervision of Saidi labour (SAD.495/9/11-13); terms and conditions of employment of labourers engaged in Egypt to work with the Gash Board (SAD.495/9/14-18)  
Training: summary of the initial recommendations for the development of technical education in the Sudan (SAD.495/9/20-21)  
Terms of service: sample contract for individual employed in the Gezira Irrigation Scheme, leave sheet and record of service (SAD.495/9/9/23-27)  
Allowances: S.I.D. lists of staff eligible for clothing, 1949-1953 (SAD.495/9/29-32)
- SAD.495/10/1-51 1939 Dec 31-1952 Jan 5  
Papers relating to labour:  
Cadre: nominal roles of staff, 1948-1952 (SAD.495/10/2-8)  
Pay: S.I.D. scales of pay for unclassified staff (SAD.495/10/10-42); notes by L.J. Dunn and Smith on overtime pay (SAD.495/10/43-45); circular letter from J. Carmichael on co-ordination of wage structures (SAD.495/10/49-50)
- SAD.495/11/1-28 1948 Mar 10-1952 Apr  
Papers relating to labour:  
Trade unions: notes on works committees (SAD.495/11/3-5); S.I.D. constitution of district committees and departmental association (SAD.495/11/6-8); note by L.J. Dunn on workers' representation in the S.I.D. (SAD.495/11/9-13); letters from Smith to the Workers' Affairs Association concerning agreements between the latter and the S.I.D. (SAD.495/11/14-16); Sudan Irrigation Trade Union rules (SAD.495/11/17-22)  
Expenditure: Finance Department circular letters concerning control over public expenditure (SAD.495/11/23-25); letter from Smith to A.L. Chick, Financial Secretary on proposed reorganisation of the S.I.D. (SAD.495/11/26-27); Sudan Finance Department: *Consolidated loans regulations* (Khartoum, April 1952) (SAD.495/11/28)
- SAD.495/12/1-71 1927 Mar 3-1951 Oct 9  
Papers relating to accounts and budgets:  
Procedure: instructions regarding submission of estimates, 1927 (SAD.495/12/2-6); note on preparation of budget (SAD.495/12/7-15); memorandum on procedure to be adopted for recording expenditure against approvals (SAD.495/12/16-19); Finance Department circular letters on termination of free service system for Stores and Ordnance Department issues and mechanical transport (SAD.495/12/23-29); Finance Department instructions for preparation of the 1951/52 budget and classification of revenue (SAD.495/12/30-42)

- Budget and charge heads: list of chargeable headings for allocation of receipts and expenditure (SAD.495/12/44-53); index of S.I.D. free and non-free services (SAD.495/12/54-55)  
 Development: memorandum on Northern Extension works accounts (SAD.495/12/57-60); memorandum on classification of post war expenditure (SAD.495/12/61-63)  
 Renewals: notes on plant valuation list and deferred maintenance and renewals (SAD.495/12/65-70)
- SAD.496/1/1-56 1938 Jan 17-1939 Mar 6  
 Papers relating to estimates:  
 Gezira Western extension: estimate of working expenses (SAD.496/1/2)  
 Abdel Magid Scheme: analysis and comparison of capital estimates 1936-1937 by W.N. Allan (SAD.496/1/4-15)  
 Gash bridge: estimate for road bridge over the River Gash at Kassala by Smith, with note on design and erection and summary of tenders (SAD.496/1/17-35)  
 Umm Gerr [Garr] Pump Scheme: estimate of capital expenditure, 1939 (SAD.496/1/37-56)
- SAD.496/2/1-48 1942 Jan 30-1951 Nov 15  
 Papers relating to estimates:  
 White Nile Pump Schemes: estimate of costs (SAD.496/2/2)  
 Dubasi Supply Channel: notes on costs, 1942, with attached plan showing the location of the preliminary proposal (SAD.496/2/5-15)  
 Wad en Nau wheat extension: preliminary estimates and introductory note by Smith (SAD.496/2/18-25)  
 Bergeig Pump Scheme: estimate for canalisation and extension, with introductory note on design, 1943, and attached plan showing the location (SAD.496/2/27-42)  
 Guneid Pumping Station: estimates, 1951 (SAD.496/2/44-48)
- SAD.496/3/1-62 1948 Jul  
 Papers relating to estimates:  
 Project 4C, extension to Gezira canalisation revised estimate
- SAD.496/4/1-49 [1948]  
 Papers relating to estimates:  
 Report on extension to Gezira canalisation, appendices I-XI
- SAD.496/5/1-34 [1948]  
 Papers relating to estimates:  
 Report on extension to Gezira canalisation, appendices I-V, containing estimates of costs
- SAD.496/6/1-4 [1948]  
 Papers relating to rates and costs:  
 Analysis of budget and actual cost per feddan, S.I.D. and White Nile Pump Schemes, 1935-1948
- SAD.496/7/1-66 1926 Dec 28-1950  
 Papers relating to rates and costs:  
 Alphabetical index of costings for various parts of irrigation schemes:

## A - M

- SAD.496/8/1-44 1927 Jan 20-1950  
Papers relating to rates and costs:  
Alphabetical index of costings for various parts of irrigation schemes:  
N - Z
- SAD.496/9/1-28 1941 Jul 14-1949  
Papers relating to stores:  
Memorandum regarding claims in respect of goods (SAD.496/9/1-4);  
S.I.D. memorandum on stores and finance, 1948 (SAD.496/9/5-6)  
Supply: Finance circular No 138 on ordering of stores by departments  
and provinces (SAD.496/9/8-9)  
Disposal: memorandum from A.E. Griffin, Assistant Director of  
Irrigation, on steel and iron scrap, 1941 (SAD.496/9/11); table showing  
estimate of ferrous scrap in derelict plant in the Gezira (SAD.496/9/12)  
Scales: tables showing S.I.D. unclassified staff eligible for clothing,  
1949-1951/52 and clothing scales (SAD.496/9/14-18)  
Instruments: list of Drawing Office instruments and equipment  
(SAD.496/9/20-23)  
Office: list of Drawing Office stationery (SAD.496/9/25-28)
- SAD.496/10/1-53 1928-1953  
Papers relating to plant:  
Notes on token rates for dragline excavation and the use of tractors  
(SAD.496/10/3-6)  
Supply: note on case for additional draglinepower, 1944  
(SAD.496/10/8-9); table showing maintenance earthwork, Gezira and  
White Nile, 1944 (SAD.496/10/10); note on D.V. Middleton's visit to  
the U.S.A., 1947 (SAD.496/10/11-13); note by Smith on supply of  
excavators, 1947 (SAD.496/10/14-21); note by Smith to the Financial  
Secretary on additional dragline excavators, 1950 (SAD.496/10/22-27);  
list of Sennar plant for disposal (SAD.496/10/30-45)  
Dragline: dimensions of dragline excavators, 1928-1951  
(SAD.496/10/48-53)
- SAD.496/11/1-54 1932-1952  
Papers relating to plant:  
Tables showing fuel and lubricants consumption, 1932-1939  
(SAD.496/11/2-5); statistical returns on dragline excavators, 1936-1948  
(SAD.496/11/7-16); analysis of the estimated performance of dragline  
excavators, 1949-1952 (SAD.496/11/17-23)  
Tractors: tables recording numbers of tractors, 1941-1951  
(SAD.496/11/25-30)  
Performance: records of work done by tractors, 1937-1940  
(SAD.496/11/32-36); statistical returns for tractors, 1938-1948  
(SAD.496/11/37-38)  
Pumps: statistical returns and estimates for pumps (SAD.496/11/42-50)  
Construction: records of portable concrete mixers and other  
construction equipment (SAD.496/11/52-54)
- SAD.496/12/1-49 1925-1943  
Papers relating to materials:

Memorandum by A.A. Fursdon, Divisional Engineer, on materials (SAD.496/12/2-4)

Bricks: Gezira Canalisation Scheme diagram of brickwork, 1925 (SAD.496/12/6)

Cement and lime: some notes on local limes and their use for building, by J.L. Chapman, 1943 (SAD.496/12/9-18)

Concrete: return of gauge boxes for concrete and mortar (SAD.496/12/21); guide to good concreting (SAD.496/12/22-23)

Steel: brochure from H.H. Robertson & Co steelworks (SAD.496/12/25-28); note on the sizes of steel joists, 1937 (SAD.496/12/29)

Timber: note on the design of timber structures by Prem Nath Khanna (SAD.496/12/31-37); extracts from *Engineering News*, 1939 on the strength of bolted timber joints (SAD.496/12/38-42)

Bitumen: notes on bituminous products (SAD.496/12/45-49)

SAD.496/13/1-250 1930-1939

Sudan Irrigation Department [S.I.D.] design sheets:

SAD.496/13/1 Index to sheets A - R

SAD.496/13/2-37 Design sheets A - R

SAD.496/13/38-42 Index to sheets 1-144

SAD.496/13/43-252 Design sheets 1-144

- SAD.497/1/1-68 1936-1950  
Papers relating to contracts and specifications:  
Notes on contracts and caution money, 1936-1945 (SAD.497/1/1-7)  
Regulations concerning purchase of stores, 1950 (SAD.497/1/9-17)  
General 1927: note on preparation of contract documents  
(SAD.497/1/19-20); sample contract (SAD.497/1/21-26); memorandum  
on general conditions of tender and contract (SAD.497/1/27-68)
- SAD.497/2/1-27 1936  
Papers relating to contracts and specifications:  
1936 General: S.I.D. general specifications for materials  
(SAD.497/2/1-21)  
Housing: General specifications for housing (SAD.497/2/23-27)
- SAD.497/3/1-78 1949  
Papers relating to contracts and specifications:  
1949 General: note on the procedure for the preparation of major and  
minor contracts, examples of forms, notes on general and specific  
conditions and specifications for contracts
- SAD.497/4/1-60 1927-1950  
Papers relating to technical notes:  
*Report of the Ad Hoc Agricultural Publications Committee*, Ministry of  
Agriculture Miscellaneous Publication No 1, 1948 (SAD.497/4/2-5);  
paper read at the Nairobi Conference on Hydrology and Water  
Resources, 1950 on "Data needed for irrigation projects", by C.G.  
Hawes (SAD.497/4/15-24); paper on levelling (Part 1: Field Survey)  
(SAD.497/4/27-49); Permanent Committee on Geographical Names  
for British Official Use: *First list of names in the Anglo-Egyptian Sudan*,  
1927 (SAD.497/4/55-60)
- SAD.497/5/1-58 1944-1952  
Papers relating to buildings:  
S.I.D. Technical Note No 1/45: Housing for staff, by A.A. Middleton  
(SAD.497/5/1-21); notes on possible housing requirements for Wad  
Medani and Sennar, 1944-1952 (SAD.497/5/23-58)
- SAD.497/6/1-52 1931-1946  
Papers relating to buildings:  
Rents: correspondence concerning rent proposals, 1932  
(SAD.497/6/2-6); Public Works Department circular on valuations of  
buildings, 1946 (SAD.497/6/7-9)  
Standards: extracts from minutes of meetings of the Public Works  
Committee on the improvement of native housing  
(SAD.497/6/11-13,21-23); report of the Special Committee of Enquiry  
into health requirements of schools in the Sudan, 1942  
(SAD.497/6/14-17)  
Semi-permanent structures: notes on specifications and construction  
of *tukls* (SAD.497/6/24-42)  
Permanent structures: note on design of houses to be erected on  
cotton soil, by J.L. Chapman (SAD.497/6/44-52)
- SAD.497/7/1-8 1931-1949  
Papers relating to communications:

- H.A. Morrice: "The development of Sudan communications", repr from *Sudan Notes and Records*, 30 pts 1 & 2 (1949) (SAD.497/7/1); C.Y. Stevenson: *Notes on roadwork*, Tanganyika Territory Public Works Department, Dar es Salaam, 1931 (SAD.497/7/3); S.G. Stubbs: "Earth roads", paper no 137 from *Punjab Engineering Congress*, 18, 109-135 (SAD.497/7/4); notes on wire roads, roads on banks of canals and unmetalled roads (SAD.497/7/5-8)
- SAD.497/8/1-57 1928-1953  
Papers relating to communications:  
Motor transport: statistics, notes of costs, returns, notes on allocation of cars and on termination of free service system, circular letters on hire and maintenance charges for vehicles, 1950 and accidents and damage to government vehicles, 1951
- SAD.497/9/1-26 1938-1950  
Papers relating to communications:  
Posts and Telegraphs: S.I.D. list of telephone numbers for Wad Medani, 1948 and note of telephone charges (SAD.497/9/2-5)  
Air transport: notes on establishment of Sudan Airways, 1947 and on procedure for booking air travel for government officials (SAD.497/9/7-14)  
Water transport: note on cost of river transport, 1938; estimates for barges to be built, 1941 (SAD.497/9/17-22)  
Rail transport: notes on loading of S.G.R. trucks by contractors and capacity of 50 ton trucks, 1938 (SAD.497/9/25-26)
- SAD.497/10/1-6 1935-1951  
Papers relating to canals:  
*Alphabetical list of canals in the Gezira and on the White Nile*, Sudan Irrigation Department, 1951 (SAD.497/10/1); excavation figures, 1948 (SAD.497/10/2); graphs of silt content of canal water and slopes of canals cut (SAD.497/10/3-4)
- SAD.497/11/1-53 1929-1941  
Papers relating to canals:  
Graphs illustrating canal scouring and discharges, 1932-1934 (SAD.497/11/2-12,22-23); Gerald Lacey: *Stable channels in alluvium*, from minutes of the proceedings of the Institution of Civil Engineers, 1929 (SAD.497/11/13); notes on canals, 1933-1941 (SAD.497/11/14-21), S.I.D. Technical Note No 1/52 on "Night storage in minor canals" (SAD.497/11/24-33); papers by I.S.G. Matthews on "Investigation of stable channels in the Gezira canalisation scheme" (SAD.497/11/34-43) and H.A. Morrice on "A note on the practical application of Lacey's silt theory in the Gezira" (SAD.497/11/44-53)
- SAD.497/12/1-36 1927-1952  
Papers relating to canals:  
Losses: correspondence and data on canal seepage losses (SAD.497/12/2-5)  
Layout: notes, diagrams and correspondence on layout of canals; notes on villages within the Gezira scheme, 1934 (SAD.497/12/21-23); notes on expropriation limits in the canalised area, 1932

(SAD.497/12/24-28); note and diagram by A.E. Griffin, the Director of Irrigation, on the future layout in the Gezira, 1944 (SAD.497/12/29-30)  
Field channels: diagrams showing layouts for White Nile pump schemes, 1938

SAD.497/13/1-58 1928-1943

Papers relating to canals:

Upkeep: notes on canal silt clearance, 1932-1943 (SAD.497/13/2-31)

Weeds: notes on clearing of weeds in Gezira canals, 1928-1943, including data on weeding performance, 1932-1933

(SAD.497/13/33-51,57); Research Farm notes on water weeds

(SAD.497/13/52-54); abstract of article by C.E. Inglis and V.K. Gokhale on "Water weeds and their eradication from canals", 1942

(SAD.497/13/55-56); note on mosquitoes in the Gezira scheme

(SAD.497/13/58)

SAD.497/14/1-46 1930-1938

Papers relating to drains:

Alphabetical list of Gezira drains (SAD.497/14/1-6)

Country: notes on design and clearance of drains (SAD.497/14/10-26); note on proposed Central Gezira drainage scheme, 1938

(SAD.497/14/27-46)

SAD.498/1/1-103 1927-1950

Papers relating to structures:

Dams: A.D.D. Butcher and J.D. Atkinson, "The causes and prevention of bed erosion, with special reference to the protection of structures controlling rivers and canals", from *Proceedings of the Institution of Civil Engineers* (SAD.498/1/2-26)

Regulators: notes on regulators in the Northern Extension

(SAD.498/1/28-35); data on regulator gates and pipes, 1948-1950

(SAD.498/1/37-38); H.A.W. Morrice, "The location of head regulators in the Gash Delta", S.I.D. Technical Note No 1/39 (SAD.498/1/39-49);

note on suggested emergency lifting gear for rack gates, by W.N.

Allan, 1940 (SAD.498/1/51-52); A.A. Middleton, "Design of regulators on permeable foundations", S.I.D. Technical Note No 1/44

(SAD.498/1/53-59); H.A.W. Morrice, "A theory for the design of control works on deep permeable foundations", S.I.D. Technical Note No 2/45

(SAD.498/1/62-103)

SAD.498/2/1-27 1925-1951

Papers relating to structures:

Pipes: notes on concrete and regulator pipes, 1941-1950

(SAD.498/2/2-4)

Field outlets: note by Smith on casting of F.O.V. bodies and doors, 1942 (SAD.498/2/6-7)

Movable weirs: notes on movable weirs, 1949-1950 (SAD.498/2/10-13)

Flumes: extract from *Engineering News Record*, 6 June 1940 on "A quarter century of aqueduct maintenance" (SAD.498/2/18-19)

Bridges: notes and diagrams on Gezira bridges, 1925-1946

(SAD.498/2/21-25); note by Smith on "The provision of canal foot-bridges for the Gezira Scheme", 1951 (SAD.498/2/26-27)

- SAD.498/3/1-48 1926-1951  
 Papers relating to water duty and measurement:  
 Note on water duty (SAD.498/3/1-4)  
 Pumps: tabular statement of approximate working discharges of pumps, 1942 (SAD.498/3/6)  
 Gezira: note on water consumption and peak demand in the Gezira, related to crop area, 1936 (SAD.498/3/10-25); statistics on water consumption, 1941-1947 (SAD.498/3/26-31); tables showing daily rates of water discharge, 1925-1974/75 (SAD.498/3/32-33)  
 Water measurement: note by A.E. Griffin on water measurement, 1943 (SAD.498/3/35-37)  
 Gate: notes on discharge of a Sennar sluice by H.E. Hurst, 1926 and flood regulation of Sennar Dam, by R.M. MacGregor, 1928 (SAD.498/3/40-44); table showing discharge through regulators without gates or timbers, 1941 (SAD.498/3/47)
- SAD.498/4/1-44 1926-1942  
 Papers relating to water duty and measurement:  
 Flume: C.C. Inglis, *A short note on how to design a standing wave flume*, (n.d., Bombay) (SAD.498/4/2-6); notes on rigid flume modules, 1941 (SAD.498/4/7-14)  
 Weir: tables and diagrams concerning weirs (SAD.498/4/17-20)  
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Press cuttings from a variety of publications, including the *Daily Telegraph*, *The Times* and *The Economist*, on the Nile waters dispute between Egypt and the Sudan, the relocation of the temple of Abu Simbel and other steps to protect the antiquities of Lower Nubia against the effects of the High Dam and the regime of General Abboud (SAD.500/7/1-3,14-27,32-35); draft article by W.N. Allan entitled "Note on the ultimate sharing of Nile waters between Egypt and the Sudan", Feb 1957 (SAD.500/7/4-13); article by Gordon Gaskill from *The Reader's Digest* on "The troubled waters of the Nile" (SAD.500/7/28-31)

SAD.500/8/1-54 1941-1953

Papers relating to projects:

Aswan High Dam: notes by Smith on the Greater Aswan Project, 1952-1953 (SAD.500/8/4-8,11-14,16-17); copy article from the *Sudan Star* entitled "Dam south of Aswan projected", 1952 (SAD.500/8/9);

- copy letter from W.N. Allan to Smith concerning the Greater Aswan proposal, 1953 (SAD.500/8/18-21); note on proposed High Dam for over year storage at Aswan, 1953 (SAD.500/8/23-31); correspondence relating to the proposed High Dam above Aswan, 1953 (SAD.500/8/32-36,39-45); note by H.E. Hurst on "The High Dam Aswan reservoir project", 1953 (SAD.500/8/37-38)  
 4th Cataract: note by H. Suleiman on the fourth cataract reservoir, 1950 (SAD.500/8/47-48); letters from Smith concerning the fourth cataract dam, 1953 (SAD.500/8/49-52)  
 Atbara: note by W.N. Allan on the Atbara River survey, 1941 (SAD.500/8/54-55)
- SAD.500/9/1-38 1951-1953  
 Papers relating to projects:  
 Sennar: "Note on the provision of additional supplies of Nile water for the Sudan by the raising of Sennar reservoir", by W.N. Allan, 1950 (SAD.500/9/2-5); draft amendments to the working arrangements for raising the level in Sennar reservoir, by Smith, 1951 (SAD.500/9/6-11), with copy of the agreed amendments (SAD.500/9/14-16)  
 Roseires: correspondence relating to a dam on the Blue Nile near Roseires, with terms of reference, 1951-1953 (SAD.500/9/18-38)
- SAD.500/10/1-46 1932  
 Papers relating to projects:  
 Lake Tsana: note by R.M. MacGregor and A.D. Butcher, with four appendices, on the Lake Tsana reservoir scheme proposed joint operation, 1932
- SAD.500/11/1-51 1938-1952  
 Papers relating to projects:  
 Lake Tsana: Lake Tsana Agreement of 20 May 1935, draft by W.N. Allan of modifications and additions proposed, 1938 (SAD.500/11/1-3); notes on papers and despatches since June 1942 relating to Lake Tsana, 1945 (SAD.500/11/4-6); memorandum by W.N. Allan on the position of Sudan with regard to Lake Tsana, 1945 (SAD.500/11/7); "Report on utilisation of Lake Tsana" by E.R. Wilkinson, October 1946, with covering letter to Rt Hon Ernest Bevin, S/S for Foreign Affairs (SAD.500/11/8-35); note by H.A. Morrice on "The control of water stored in Lake Tana", 1950 (SAD.500/11/36-44); notes for file by Smith on Lake Tsana, 1952 (SAD.500/11/45-51)
- SAD.500/12/1-13 1953  
 Papers relating to projects:  
 Jabal Auliya: notes for file and correspondence by Smith on operation and regulation of the Jabal Auliya reservoir, 1953
- SAD.500/13/1-81 1932-1953  
 Papers relating to projects:  
 Equatorial Nile Project: letters to the Egyptian Irrigation Department and the Financial Secretary on the Jonglei Scheme, 1932-1940 (SAD.500/13/2-13); substance of a note on the Jonglei Scheme by the Assistant Director of Irrigation, 1940 (SAD.500/13/14-15); note by the Director of Irrigation on the Jonglei Scheme, 1940

(SAD.500/13/16-18); note on technical procedure for scrutinising the Jonglei canal scheme in relation to its physical effects in the Sudan, by A.E. Griffin, Assistant Director, 1940 (SAD.500/13/19-21); note on the Equatorial Nile Project dated 1 July 1948 by W.N. Allan, Irrigation Consultant (SAD.500/13/25-42); note by J.F. Glennie, 1952, on Ministry of Public Works publication *The modified Jonglei canal and overyear storage schemes*, by Dr Amin Bey and H.G. Bainbridge, 1949 (SAD.500/13/44-58); report by the Jonglei Investigation Team on "The Equatorial Nile Project and its effects in the Anglo-Egyptian Sudan" (SAD.500/13/59-68); "The Equatorial Nile Project", reprinted from *Sudan Monthly Record*, Feb-Mar 1952, with draft copy (SAD.500/13/69-75); notes for file by Smith on the Equatorial Nile Project, 1952-1953 (SAD.500/13/76-81)

SAD.500/14/1-30 1939-1953

Papers relating to projects:

Jonglei: sketch map of Jonglei canal area to illustrate parts III and V, 1946 (Scale: 1 to 3,000,000, 33 x 20.5cm, SAD.500/14/2); sketch map of the canal area to illustrate part IV, 1946 (Scale: 1 to 1,100,000, 33 x 20.5cm, SAD.500/14/3); annexe A to Jonglei Scheme report on investigation of proposals by the Sudan (SAD.500/14/6-7); report by the Jonglei Investigation Team on "The Equatorial Nile Project and its effects in the Anglo-Egyptian Sudan" (SAD.500/14/8-17); note by Smith on "Development in Upper Nile Province and the future of the Jonglei Investigation Team", 1952 (SAD.500/14/18-19); notes by Smith on the Jonglei Investigation Team (SAD.500/14/20-23); diagrams of Nile discharges and filling of storage, mean 1912-1937, W.N. Allan, 1939 (SAD.500/14/26); diagrams of normal reservoir operation, discharges of the Nile and its main tributaries and normal time of travel of fluctuation along the Nile between various sites and Aswan, 1943, SID/43-1/883-885 (SAD.500/14/27-29); diagram showing discharges of the Nile and its main tributaries in the irrigation year, mean 1912-1937, SID/45-1/1027, 1945 (SAD.500/14/30)

SAD.500/15/1-62 1929-1938

Handing-over notes:

Zenanda Extension, by R.J. Smith to G.A. Robinson, 1938 (SAD.500/15/2-25); Abu Ushar sub-division, 1929 (SAD.500/15/26-40); Tabat sub-division, by R.J. Smith to N. Simansky, 1930 (SAD.500/15/41-62)

SAD.500/16/1-67 1931-1933

Handing-over notes:

Tabat sub-division by R.J. Smith to G. McIntosh, 1931 (SAD.500/16/1-38); Tabat sub-division by R.J. Smith to N. Simansky, 1932 (SAD.500/16/39-52); Tabat sub-division by R.J. Smith to A.E. Gattley, 1933 (SAD.500/16/53-67)

SAD.500/17/1-85 1933-1936

Handing-over notes:

Sennar Dam division by R.J. Smith to H.L. Torr, 1933 (SAD.500/17/1-10); Wad El Nau sub-division by R.J. Smith to A.A.

- Fursdon, 1934 (SAD.500/17/11-26); Gash Board (Engineering) by R.J. Smith to P. Hall, 1935 (SAD.500/17/27-49); Gash Board (Engineering) by R.J. Smith to R.B.W. Bannerman, 1936 (SAD.500/17/50-85)
- SAD.500/18/1-83 1937-1939  
Handing-over notes:  
Gash Board (Engineering) by R.J. Smith to H.A.W. Morrice, 1937 (SAD.500/18/1-22); Gash Board 1937 flood, watering instructions, general and special (SAD.500/18/23-35); Gash Board (Engineering) by R.J. Smith to H.A.W. Morrice, 1938 (SAD.500/18/36-46); Gash Board 1938 flood, watering instructions, general and special (SAD.500/18/47-59); Gash Board (Engineering) by R.J. Smith to H.A.W. Morrice, 1939 (SAD.500/18/60-83)
- SAD.500/19/1-64 1941-1944  
Handing-over notes:  
White Nile Alternative Livelihood Board, Acting Secretary's handing-over note from J.L. Chapman to R.J. Smith, 1941 (SAD.500/19/1-5); White Nile Alternative Livelihood Board, Acting Secretary's handing-over note from R.J. Smith to W.N. Allan, 1941 (SAD.500/19/6-10); reports of transfer of projects by R.J. Smith to L.J. Chapman and G.G.D. La Touche to R.J. Smith, 1941 (SAD.500/9/11-12); Wad Medani Division from R.J. Smith to H.L. Torr, 1941 (SAD.500/19/13-19); Wad Medani Division from H.L. Torr to R.J. Smith, 1942 (SAD.500/19/21-26); Wad Medani Division from R.J. Smith to H.L. Torr, 1942 (SAD.500/19/27-33); Projects Division from R.J. Smith to J.L. Chapman, 1942 (SAD.500/19/34-38); Projects Division from J.L. Chapman to R.J. Smith, 1942 (SAD.500/19/39-43); Projects Division from R.J. Smith to A.A. Middleton, 1943 (SAD.500/19/44-52); Projects Division from A.A. Middleton to R.J. Smith, 1943 (SAD.500/19/53-57); Projects Division from R.J. Smith to H.A.W. Morrice, 1944 (SAD.500/19/58-64)
- SAD.501/1/1-26 1927-1945  
Annual reports:  
Irrigation Department (part), 1927 (SAD.501/1/2-4); Projects Division by R.J. Smith, 1941-1944 (SAD.501/1/5-26)
- SAD.501/2/1-45 1939-1947  
Annual reports:  
Draft paragraphs on the Sudan Irrigation Department [S.I.D.] for the Governor-General's annual report, 1939-1944, 1945, 1946 (SAD.501/2/1-4,15-17,31-33); S.I.D. annual report for 1944 by W.N. Allan (SAD.501/2/5-14); S.I.D. annual report for 1945 by R.J. Smith (SAD.501/2/19-30); S.I.D. annual report for 1946 by R.J. Smith (SAD.501/2/34-45)
- SAD.501/3/1-38 1948-1949  
Annual reports:  
Draft paragraphs on the Sudan Irrigation Department for the Governor-General's annual report, 1947 (SAD.501/3/1-3); S.I.D. annual report for 1947 by R.J. Smith (SAD.501/3/4-18); draft paragraphs by

Smith on the S.I.D. for the Governor-General's annual report, 1948 (SAD.501/3/19-21); S.I.D. annual report for 1948, by Smith (SAD.501/3/22-38)

- SAD.501/4/1-41 1950-1952  
Draft paragraphs on the Sudan Irrigation Department for the Governor-General's annual report, 1949 (SAD.501/4/1-3); S.I.D. annual report for 1949 by R.J. Smith (SAD.501/4/4-18); draft paragraphs by Smith on the S.I.D. for the Governor-General's annual report, 1950-1951 (SAD.501/4/19-21); S.I.D. annual report for 1950-1951, by Smith (SAD.501/3/22-38); draft paragraphs by Smith on the S.I.D. for the Governor-General's annual report, 1951-1952 (SAD.501/4/39-41)
- SAD.501/5/1-35 1955  
Annual reports:  
*Annual report* (Sudan: Ministry of Irrigation & H.E.P.). [Khartoum] : 1954/55
- SAD.501/6/1-26 1946-1952  
Hydro-electric power:  
Letters from G.F. Foley, J.W. Cummins and Smith on hydro-electric power, 1946 (SAD.501/6/1-5)  
Broadcasts:  
Scripts for broadcasts by E.J.N. Wallis, Assistant Civil Secretary, on local government (SAD.501/6/7-12)  
Rural Water Supplies and Soil Conservation Board:  
Terms of reference of the Rural Water Supplies and Soil Conservation Board, 1952 (SAD.501/6/13-20); report of a committee appointed to consider the composition and terms of reference of the Rural Water Supplies and Soil Conservation Board, 1952 (SAD.501/6/21-26)

## 2. Maps and Diagrams

- SAD.477/1 1925 Jul 1  
Gezira canalisation scheme general plan, showing arrangements for water control. G.D.I.6164. Printed on linen.
- SAD.477/3 1932 Jan 19  
Map of Gezira canalisation scheme, by H.V.C. Johnstone, Chief Engineer, S.I.D. Reproduced by the Sudan Survey Department, Khartoum, Feb 1932.
- SAD.477/2 1934 Jan 4  
Gezira canalisation scheme administration plan (vide Regulation Handbook 1934). Drawn and traced by N. Papayannou.
- SAD.430/22/37 1942 Dec  
(location SAD.PF 21/1) Channel discharge diagram for the solution of Manning's formula, by J.L. Chapman, Divisional Engineer, Projects. SID 42-10,400
- SAD.430/22/38 1943 Apr 20  
(location SAD.PF 21/1) Channel discharge diagram for the solution of Lacey's formulae for regime flow in alluvium, by A.E. Griffin, Director of Irrigation. SID 43-10,431A
- SAD.430/22/39-40 1943 Jul 3  
(location Planfile B bottom shelves) Gezira canalisation scheme development key plan. [s.l.] : [s.n.], [1943]. Map of the Gezira scheme area between Khartoum and Sennar, showing layout of irrigation system. Signed by R.J. Smith.  
SAD.430/22/39: marked with names of areas and concessionaries.  
Copy SAD.430/22/40: coloured to indicate land quality. SID 43-10,447
- SAD.430/22/41 1945 Nov 1  
(location SAD.PF 21/1) M.E.S.C. [Middle East Supply Corporation] irrigation pump reference chart (taken from blue print of M.E.S.C.) by Prof H. Addison and Maj G. Spencer, R.E. SID/45-10,619
- SAD.430/22/7 1946 Oct  
(location SAD.PF 19/2) Map of southern Sudan. Sudan Survey Department, Khartoum. Topo no.; S 741-46
- SAD.430/22/6 1950 Jan  
(location SAD.PF 19/1) Map of north eastern Sudan. Sudan Survey Department, Khartoum. Topo no.; S 832-50
- SAD.430/22/13 1951  
(location SAD.PF 19/3) Map of Sudan Northern Gezira board blocks. Sudan Survey Department, Khartoum
- SAD.430/22/15 1951  
(location SAD.PF 19/3) Map of Sudan Southern Gezira board blocks. Sudan Survey Department, Khartoum

SAD.430/22/42 [195-]  
(location SAD.PF Khartoum street plan. Single sheet from a larger map of Khartoum,  
21/1) showing the centre of the city on the south bank of the Nile, probably  
produced by the Sudan Survey.

### 3. Printed Material

(a) In Archive

- SAD.501/7/1-18 1939  
Sudan Government, *Nile Pumps Control Ordinance 1939. Ordinary pumping licence*, interfiled with preliminary application form and note of the particulars to be shown on maps and plans required with final application for a pump licence
- SAD.501/8 1928  
*Gibb's module for irrigation canals*, etc. [Lahore] : Punjab Irrigation Dept., 1928. Series Technical paper (Punjab (India). Irrigation Department) ; no.13-A
- SAD.501/9 1933  
Lacey, G., *Notes on the determination of velocity-rod coefficients* / by G. Lacey and M.L. Garga. Allahabad : Superintendent, Printing and Stationery, United Provinces, 1933. Series Technical paper (United Provinces (India). Public Works Department. Irrigation Branch) ; no.3  
Note At head of title: United Provinces, P.W.D., Irrigation Branch.
- SAD.501/10 1933  
Lacey, G., *The distribution of velocity in an open channel* / by G. Lacey and M.L. Garga. Allahabad : Superintendent, Printing and Stationery, United Provinces, 1933. Series Technical paper (United Provinces (India). Public Works Department. Irrigation Branch) ; no.4  
Note At head of title: United Provinces, P.W.D., Irrigation Branch.

(b) Separated printed material now in Durham University Library

Printed material deposited with collection; now integrated into the library's printed collections and catalogued on the Open Public Access Catalogue