Research studies are usually devoted to providing or refuting a hypothesis that explains a phenomenon or observations reported by a research group.

When the interest of the research student is geared to study a particular problem, the student will start a sequence of investigative steps that can be delineated as follows:

- Literature survey
- Design & Methods of research
- Data processing
- Writing
Researchers should demonstrate an adequate awareness and familiarity with the key sources of literature of the main libraries of

- Universities
- Governmental
- Non-governmental
  (FAO/WHO/UNESCO)
- Online facilities
Primary key sources of literature are:
- Card catalogues (periodicals/books/reports).
- Periodical indices or indices of abstracts.
- Bibliographies and Monographs.
- Abstract journals.
- Archives, manuscripts and theses
Literature Survey: Card catalogues

- References are listed in cards
  - in book form
  - in microfilms
  - in CDs

- Cards catalogues are classified as:
  - author catalogues
  - subject catalogues

- Main entries in catalogues usually include
  - a classification symbol
  - a shelf mark to indicate the item location
Guides to literature cited in articles of periodicals thus providing important keys to research literature.

- Articles are listed by subjects and authors.
- Science Citation Index
- Ulrich's International Periodicals Directory
  - Published / Two years
  - Additional Ulrich's Quarterly published
Literature Survey:
Science Citation Index

- SCI Published by Philadelphia, Institute for Scientific Information, 1961
- A literature index, including citations of journals, books, meetings, dissertations, reports, contracts, patents, circulars and personal communications every major subject category in Science.
- Citations are arranged alphabetically by author
- SCI issued quarterly
Literature Survey: Bibliographies & Monographs

- This index provides a data base to current literature, collected from worldwide sources, relevant to research and development in the food and agriculture sector and allied fields.

- Examples
  - FAO Current Bibliography.
  - FAO Cumulative Index.
  - AGRIS International / AGRINDEX
  - CAB
Literature Survey: Bibliographies & Monographs

- **FAO Current Bibliography.**
  - Annual print index FAO publications
  - **FAOSTAT**
    - FAO statistics database covering production, trade, food balance sheets, food aid, fertilizers, pesticides, land use, irrigation, forest products, fisheries and agricultural machinery.
  - Available online from University of Florida Library
Literature Survey: Bibliographies & Monographs

**AGRIS International / AGRINDEX**
- FAO published agricultural index
- covering FAO and other international serials, agricultural journals, technical reports, books, and dissertations (1975 to the present).
CAB

- An agricultural index
- Published by Commonwealth Agricultural Bureaux
- World's agricultural literature, including FAO publications and FAO distributed publications
Biological and Agricultural Index

- issued monthly with cumulation
- subject index to periodicals in fields of biology, agriculture, and related sciences
Literature Survey: NLM publications

NLM Recurring Bibliography

- Lists of citations of articles in medical journals periodically produced by the National Library of Medicine in U.S.A.

- E.g. Bibliography of Acute Diarrhoeal Diseases
  - a quarterly publication distributed by the Diarrhoeal Diseases Control Program, WHO.

- E.g. Quarterly Bibliography of Major Tropical Diseases
  - distributed by WHO TDR Special Programme
E.g. Index Medicus

- published monthly by the National Library of Medicine in the U.S.A
- a bibliographic listing of references to current articles from approximately 2600 of the world's biomedical journals.

Index Medicus is supplemented by Cumulated Index Medicus
Literature Survey: Abstract Journals

These are similar to periodical indices but they only differ in

- having summaries of their contents plus their lists of articles.

These include for example:

- Biological Abstracts
- Excerpta Medica
- Chemical Abstracts
The publication of these abstracts began in 1926.

Students of science, medicine and agriculture find valuable key information in these abstracts.

They contain about 140,000 abstracts a year, from 8,000 journals.
Literature Survey: Excerpta Medica

- Published by Excerpta Medica Foundation
- (An international organization based in Amsterdam).
- Excerpta Medica began in 1947
- Screens about 3500 journals
- Covers research activity in medical and related professions.
The first volume appeared in 1957,
Abstracts provide a complete coverage of chemical literature
Currently screen about 8000 journals
Publish 500000 abstracts every year.
Internet is arguably one of the most significant technological developments of the late 20th century.

- a global estimate of > 50 million users,
- the Internet = an increasingly important medium of communication
Literature Survey: Electronic Search engines

- **BIOME**
- A collection of gateways which provide access to evaluated, quality Internet resources in the health and life sciences, aimed at students, researchers, academics and practitioners.
- University of Nottingham Greenfield Medical Library, in partnership with key organizations
- BIOME is a hub within the Resource Discovery Network (RDN) and is funded by the Joint Information Systems Committee (JISC).
Electronic sources: Biome search engines

- Biome ➔ Bioresearch gateway:
  - a free catalogue of evaluated Internet resources,
  - covering the biological and biomedical sciences
Electronic sources: Biome search engines

- Genetics / Microscopy / evolution / Bioethics
- Anatomy / Physiology / Cell biology
- Biochemistry / Endocrinology
- Molecular Biology / Biotechnology
- Neuroscience / Microbiology & immunology / Toxicology
Biome:
Electronic Search engines

- Biome → AgriFor gateway
- A free catalogue of hand-selected and evaluated Internet resources in agriculture, food and forestry.
Electronic Search engines
BIOME

- Agriculture/ Crops/ Horticulture/ Plant Diseases / Pest Control
- Natural Resources and Plant Science/ Environmental protection
- Forestry Food / Forest products / Agroforestry/ Food science / Foodsafety / Food products / Farming methods / Fertilisers / Soil Science/ Soil chemistry/
- Livestock diseases/ Economics, Trade & Rural Development
- Commercial fishing/ Aquaculture
2. **HighWire Library of Science and Medicine**
   - A collaboration between [HighWire Press](#), ASBMB & Stanford University
   - A new portal that facilitates access to all the research literature in the biological sciences and medicine.
   - Virtual library allows barrier free access to scientific literature
Electronic Search engine
High wire Press

HighWire Library of Science and Medicine

- Largest collection of on-line, free, full text biomedical research reports in the world.
- In addition to free access to full text research reports, access to nearly 12 million articles from 4500 Medline journals are also facilitated through the Portal.
1. **Link to full text journals (200 publishers worldwide).**
   - Linking is achieved through article metadata and DOI deposited by publishers with Cross Ref
   - Access to full text needs institutional subscription.
   - Institutional subscription for a particular journal will be automatically authenticated to users

2. **Link to PubMed and PubMed Central**
   - Link to full text on open access bases

3. **Google Link**
   - This option launches a search for information based on title of the abstracted article
Literature Survey: Open Access Electronic publishing

- Bioline International
- Biomed Central

provide electronic publishing services on non-profit bases.
Open Access Electronic publishing: Global Accessibility

Bio line International

- Global access to quality research journals in developing countries
- Health problems in tropics, biodiversity and biotechnology.
- About 30 journals are currently published using BI web services facilities.
provides technology & experience to publish new journal on web

- Research published is permanently available online on open access bases.
- >40 journals in areas of biomedical science are currently published by BioMed Central.
Cyber Journals

1980: Journal of Current Clinical Trials

Printed Journal available as Electronic

- British Medical Journal
- Journal of Clinical Investigations
- Emerging Infectious Diseases
- Journal of Clinical Microbiology
Cyber Journals

- Only Electronic:
  - Electronic Journal of Oncology
  - Electronic Journal of Pathology & Histology
  - Hypertension Dialysis & Clinical Nephrology
  - International Electronic Journal of Health Education
EMRO/TDR Proposals TDR Targeted Diseases, 1992-2002

No of Submitted Proposals

Diseases

Accepted
Rejected

FIL/ON  LEISH  LEP  MAL  SCH  TB  VC  DEN  Integrated

19  148  33  1  220  28  112  1  0  0
Total = 139  Medical Journals = 54
ولنحرص على ما ينفعنا
ولنستعن بالله فلا نعجز