

EXAMINING ISSUES RELATING TO INTELLECTUAL PROPERTY, RESEARCH CENTRES AND DEVELOPMENTS*

Abstract

There exists a close relationship between research centres, intellectual property and development. This paper accesses the role research centres play on issues relating to intellectual property and development. It is also a comparative analysis of the activities of research centres in Nigeria in juxtaposition to those in other countries. It made a discovery of the problems of research centres and the negative impact on development and by conclusion recommends an improvement on the legal framework of intellectual property; and an improvement of research centres in Nigeria.

Keywords: Intellectual Property, Research Centres, Development, Nigeria.

INTRODUCTION

The origin of invention is deeply rooted in either basic or applied research. Consequently, knowledge intensive goods from science dependent technologies have for some time now, conquered the market resulting in large numbers of new commercial enterprises that now constitute a major stake of the global economy. Products such as computer, lasers, computer software, VCDs, DVDs, medical imaging, satellite, mobile phones etc, are all results of research findings and breakthroughs.

The focus of intellectual property law is to accord a level of protection over inventive activities. Patents are the core topic of intellectual property, and also the main component of technology transfer and the most essential in commercialisation of research findings. For an invention to be granted a patent, it must satisfy some substantive patentability requirements. These are: patentable subject matter, the utility requirement, the novelty requirement, the non obviousness requirement. Where any of these requirements is not met, an invention will not be patented.

It follows therefore, that to make an invention, a level of research has to be carried out either on a new product or on the improvement of an already existing process. It is this correlation between research and invention that makes research centres and their activities a subject matter of concern to intellectual property.

TYPES OF RESEARCH CENTRES

These will be divided or classified into three categories namely: government established research centres, private research centres, and the university.

1. GOVERNMENT ESTABLISHED RESEARCH CENTRES

In a bid to support research and development (R&D), governments set out funds for the establishment of research centres all over the world. Most times, government undertake the funding of research in these establishments for public good and economic development.

C.C. Nwogbo-Egwu, LL.M; BL. Lecturer in Law, Faculty of Law, Ebonyi State University, Abakaliki, Nigeria. E-mail: decordys@gmail.com.

These centres are usually established with specific mandates and sometimes get support funding from international organizations or donor agencies. In Nigeria, there are about 70 research establishments under 7 Ministries.¹ These are Federal Ministry of Science and Technology, Federal Ministry of Agriculture and Rural Development, Federal Ministry of Power and Steel, Federal Ministry of Health, Federal Ministry of Industries, Federal Ministry of Solid Minerals and Development, and Federal Ministry of Education. Below is an evaluation of some of the research establishments under the various Ministries.

a. Federal Ministry of Science and Technology:

Under this ministry, there are about 20 research establishments some of which are:

- i. National Space Research and Development Agency (NASRDA) Abuja. This centre was established to pursue the development and application of space science and technology by developing indigenous capabilities for research and development to boost socio-economic potential of the nation.
- ii. National Centre for Genetic Resources and Biotechnology (NACGRAB), Ibadan. It was established to undertake developmental research, data gathering and dissemination of technological information on matters relating to genetic resources utilization, genetic engineering and biotechnology.
- iii. Nigerian Natural Medicine Development Agency (NNMDA), Lagos. This was set up to initiate policy and improve the knowledge on the practice and potential of natural medicine with a view to fully develop and integrate it into the National health care delivery system.
- iv. National Office for Technological Acquisition and Promotion (NOTAP), Abuja. This was set up to encourage a more effective process for the identification and selection of foreign technology as well as vet, register and monitor contract agreements for the acquisition of foreign technologies by Nigeria Local Patents Registration. For its overriding function on patent-registration NOTAP shall be discussed in detail subsequently.

b. Federal Ministry of Agriculture and Rural Development:

This Ministry has about 30 research establishments, some of which are:

- i. National Veterinary Research Institute (NVRI) Vom. Established to conduct research into livestock diseases and their control including the production of vaccines and sera.
- ii. National Horticultural Research Institute, Ibadan which has the mandate to research into fruits, vegetables, their processing and preservation, and development of indigenous ornamentals.

¹ The list of research establishments in Nigeria and their mandates are available @<http://www.fmst.gov.ng/docs>, accessed 1st July, 2014.

There are also the Rubber Research Institute of Nigeria (RRIN), Nigerian Institute for Oil Palm Research, International Institute of Tropical Agriculture (IITA) etc.

c. Federal Ministry of Health:

- i. Nigerian Institute of Medical Research (NIMR), Lagos which is to conduct medical research into communicable diseases, human parasites, nutritional defect problems, genetic and non-communicable diseases etc.
- ii. Nigerian Institute for Pharmaceutical Research and Development, Abuja which conducts research into medical plants, herbs, and drugs development and formulary.

d. Federal Ministry of Industries:

This Ministry has about five centres, some of which are as follows:

- i. National Automotive Council, Abuja, which is to rehabilitate, expand, sustain and encourage the development of the automobile sub-sector in Nigeria as well as promote the development and increased usage of local components parts.
- ii. Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), Abuja which has the mandate of harnessing the prospects of viable small and medium industries (SMLS) sub-sectors, as the vehicle for rural industrialization and to support the development of SMEs in Nigeria.
- iii. African Regional Centre for Design and Engineering Manufacture (ARCEDEM), Ibadan. It was established to promote engineering design in Africa, to develop and train engineering personnel particularly in Engineering Design and manufacturing process.

e. Federal Ministry of Power and Steel:

It has these branches:

- i. National Metallurgical Research and Development Centre. Jos.
- ii. National Steel Raw Materials Exploration Agency. Kaduna.

f. Federal Ministry of Solid Minerals Development:

It has about 4 centres which include

- i. Nigerian Coal Corporation, Enugu
- ii. Nigerian Mining Corporation, Jos

g. Federal Ministry of Education.

It has the following:

- i. National Mathematical Centre, Abuja which is mandated to promote the teaching of mathematics in schools and provide the tools in pure and applied sciences.
- ii. All Tertiary Educational Institutions which are to provide training and carry out pure and applied research.

From the plethora of research institutions listed above, it can be deduced that the Federal Government has not failed in the aspect of establishment of research institutions, but what are the contributions of these centres to national development using the platform provided by intellectual property?

2. PRIVATE RESEARCH CENTRES

The private research centres, could be established by an individual, corporate entities or international organizations. Where it is established by companies, it usually serves as a tool for improvement in their products or services for effective competition in the market. Examples of this, are the Proctor and Gamble, Health Care Research Centre, Cincinnati, Ott, International Development Research Centre (IDRC) in Nigeria. These centres established by corporate entities have supported research in Agriculture, Health, including epidemiology of HIV/AIDS, and also helped to strengthen yellow fever vaccine laboratory facilities in Lagos to provide vaccine.² Private research centres are not common in Nigeria as most of the multinational companies carry out their research outside the country.

3. THE UNIVERSITIES

With the establishment of universities in the country, university based research became a relevant phenomenon. Though saddled with the primary responsibility of training and transmission of knowledge, universities also engage in basic and applied research. The university has played a very important role in innovative activities in some developed economies with an interface with the industries. Increasingly, research in universities is being informed by the priorities and prerogatives of external industries.³ In the University of Jos, for instance, there is the Centre for Biotechnology and Genetic Engineering, which has an applied research mandate aimed at genetically improving food production, plant, and animal breeding and drugs development.

RESEARCH CENTRES AND ISSUES OF INTELLECTUAL PROPERTY

The roles of research centres are very paramount to issues of intellectual property and development. While inventions and patents represent the brilliant ideas which are as a result of research, innovations get those ideas out into the market.⁴ Also, while science may be defined as the systematic pursuit of knowledge, technology has been defined as the practical application of the new knowledge created by science.⁵ This practical application of technology break through is made possible on the pedestal of the system of intellectual property.

² IDRC in Nigeria Report available @ www.idrc.ca/en, accessed 20th May, 2015.

³ D. Padraig and G. Christine. "The Economic of Intellectual Property: A Review to Identify Themes for Future Research." p.31. Available @ www.oiprc.os.ac.uk, accessed 12th May, 2015.

⁴ J.W. Robert. Tijssen *infra*.

⁵ D. Padraig and G. Christine, *loc.cit*.

NOTAP, Research and Intellectual Property:-

The National Office of Technology Acquisition and Promotion (NOTAP)⁶ has the mandate for acquisition, promotion and development of technology. It was later given an additional mandate to commercialise locally developed R & D findings, inventions and innovations from research institutes, universities, polytechnics, private laboratories and workshops. It is this additional mandate that gives it an overriding function over other research establishments on issues of intellectual property and development. With the support of World Intellectual Property Organization, NOTAP in 1991 established the Patent Information and Documentation Centre (PIDC), which is geared towards aiding small and medium-sized enterprises (SMEs) in Nigeria which albeit do not benefit from intellectual property available globally. In the bid to carry out its functions, NOTAP has done the following:

1. Embarked on national awareness-building programme on intellectual property rights (IPR) and technology information in patent documents. The strategies are:
 - i. To sensitize and raise awareness of Nigerians on the existence of PIDC in NOTAP, the usefulness of intellectual property rights with emphasis on the patent system as a catalyst for national development and wealth creation.
 - ii. To disseminate the technical information in patent documents among researchers, inventors, innovators and students, with the view to using it to improve the quality of R&D activities in the research communities and to encourage greater inventive and innovative activities.
 - iii. To disseminate technology information to SMEs that will assist to enhance their processes and products with a view to making their products competitive in the local and international markets.
2. NOTAP, acts as a patent agency by helping SMEs, inventors and researchers to patent their inventions and it does this through:
 - i. Assisting with the drafting of patent applications and;
 - ii. Payment of the prescribed registration fees at the registry of patents, trademarks and designs office in Abuja. Between January 1999 to September 2002, NOTAP received a total of 58 patent applications, it filed a total of 25 applications at the patent registry and obtained 15 patents for SMEs and local inventors.⁷
3. Through PIDC which is a computerised data bank with access to patent information available globally, NOTAP, has assisted about 376 registered users to benefit from the services rendered at the Centre.⁸ Some of the uses of PIDC include:

⁶ Established in 1979 as the National Office for Industrial Property (NOIP), the name was changed to NOTAP in 1992 for a better reflection of its activities.

⁷ Data obtained from "Best Practices: The NOTAP Case" a WIPO Publication. Available www.wipo.int/sme/en/best p.2.

⁸ *Ibid* p.3.

beneficiaries. Furthermore, it respects the intellectual property rights of others.¹¹ IITA, does not permit its employees to claim any intellectual property rights arising out their work for the institute, which is normally signed in form of confidentiality agreement. "It also does not regard intellectual property protection as a mechanism for securing funding upon which it may depend".¹²

Laudable, as the reason behind this policy might be, it does not seem to have taken the global trend of intellectual property and economic development into consideration. The question maybe asked.

Does the Institute lose anything if it collaborates with local industries by providing technological breakthroughs which can be harnessed for economic advancement? It does not loose its public service posture if it secures additional fund to run its affairs through intellectual property protection ventures. Intellectual property can rather serve as an incentive for the staff and employees of the Institute to engage in more commercially viable research if some benefits accrue to them. This does not by any means suggest that employees be allow to patent research results obtained in the process of carrying out their official duties. Rather, the Institute can own the patent while making provision for royalty accruable to the researchers.

The University- Industry Collaboration:-

Having identified the university as a research centre, we shall now consider its peculiar role in the issue of intellectual property of training manpower and transmission of knowledge. The university also engage in research geared towards finding solutions to societal and human problems, thereby contributing to economic development and improved quality of life. Universities also serve as active change agents through diffusion of best-practice knowledge and technology to other institutions within the society and the success of which is dependent on the structure and dynamics of the industries with which universities interface.¹³

It is pertinent to note here, that the level of interface between the universities in Nigeria and the industries is quite low. This may be as a result of the inability of the universities to indulge in applied research. Even where they do, they do not seem to take the economic relevance of a research into consideration before embarking on it. This can be attributed to the fact that most of the researches in the universities are done mainly for academic purposes with little or no social or commercial relevance. The industries on their own part, do not get the requisite incentive to invest the capital required for R&D.

This situation has become worrisome and consequently, in Africa, steps have been taken to formulate a new philosophy of university education. It is however, sad to note that even at present, the number of university research with commercial

¹¹ *Ibid.* pp. 2-3.

¹² *Ibid.*

¹³ "University Based Applied Research and Innovation in Nigeria". IDRC Publication. p 3 . Available at www.idrc.ca

viability is quite insignificant unlike what is obtained in developed countries. The few industrially viable R&D in Nigeria are mostly carried out by private research centres leaving the university lagging behind. The position should be such that while universities produce some commercially viable products, the industries conduct some basic research as opposed to purely applied, market-oriented work with government having an interest in both the commercial viability of domestic industries and the quality of indigenous university.¹⁴ Before now, most of the researches done have been in the area of agriculture, with focus on improved farming, for increase in food production and better storage facilities. Such research results benefit mostly the agro-allied industries without significant impact on new products and processes.

The absence of a strong collaborative effort between the universities and industries poses a very big problem to intellectual property and economic development. This is more so because even where the university generates research breakthrough, most often than not, the commercial potential is left unexplored. There has been a strong argument that found voice in those who believe that the university should be left to play its traditional role of teaching. The argument is that if university researchers are encouraged to carry on non academic research, they might get carried away with the benefit that accrues for patent. It has been argued that such research will not give them enough time to teach the students. Logical as this argument sounds, it flies in the face of economic and developmental realities. This is because, where such research finding is patented and its commercial potential explored, the larger society stands to benefit more.

More so, where research agreement provides that the university and researchers will have a certain percentage for the royalties, they all stand to benefit. The students will learn in a better environment with the additional fund and better equipment. Pursuing commercially viable research will not jeopardize the interest of the universities in performing their traditional social function of teaching and basic research. Researchers should rather be encouraged to carry out research in areas that are relevant to the society as is the case in developed economies. The industries apart from sometimes shying away from the financial involvement in R&D, lack the expertise and ability to perceive existing business opportunities. This is more so because most innovations do not find immediate commercial viability in the market and as such require sometimes to yield the desired benefits. Also, most industry managers treat the cost of R&D as mere expenditure instead of a long term investment, thereby making the prospect look unattractive.¹⁵

Most developed countries encourage the commercialization of universities research findings, but what differs is where the ownership of the intellectual property rights is located. In Italy for instance, a 2001 legislation was adopted to shift ownership of intellectual property based upon university research from the institution to

¹⁴ Note 3, *op. cit.*, p. 32.

¹⁵ Z. P. Matolesy and Wyatt. "What Else Drives the Value of Companies- A Technological Innovation Approach", p 5. available @ <http://papers.ssrn.com>; accessed 1st March, 2015.

individual researchers. Whereas in Japanese universities, the allocation of ownership of intellectual property rights from public funded research is now being determined by a committee in each institution which can award the title either way.¹⁶ In Germany, while universities of social and natural sciences are known mostly for teaching, and basic research, technical universities which were established to enforce invention and technical applications of scientific findings have a long tradition of industry-related research.¹⁷ They receive up to 40% of external research funds from industries.¹⁸ Public institutions are usually founded with a mandate to either maintain the international competitiveness of private companies or close a Germany technological gap to other nations, mainly to the US.¹⁹ Polytechnics in Germany play a special role as they are often specialized in the same technical fields as local businesses and do support SMEs, through consultancy and manpower. Some other public institutions have also established themselves as the leading contract research institutions for industrial innovation in Germany.²⁰

Before now professors in the university systems of Germany and Sweden hold ownership of intellectual property resulting from the activities of their laboratories. Though Sweden is still considering a shift, recent legislation in Germany has shifted the ownership from the individual to the university or institution.²¹ It has been opined that the pre-eminence of the profit motive in conducting scientific research ultimately means that science is deprived of its epistemological character, according to which its primary goal is discovery of the truth.²² No matter the truth in a research finding, if it does not improve the quality of human existence one way or the other, it is doubtful if it is worth the effort. On the face of the current global economic trend, it will amount to depletion of scarce economic resources for a country to engage in research merely for the discovery of truth without applying that truth to a state of commercial viability to enhance its development.

There is no gain saying that both research establishments and industries stand to gain a lot from a well packaged collaborative effort. Research institutions in Nigeria (particularly the universities) should be encouraged to patent their research results where applicable, in line with the practice of other developed countries. On whom the patent should be vested, should be worked out in such a way as to take the interest of all the parties concerned into consideration.

The importance of intellectual property in the academia reflects a changing view of the relationship of research universities to the surrounding society. University research should no longer be isolated from social demands, national development

¹⁶ Paul, A. David. "Innovation and Universities: Role in Commercializing Research Results: Second thought about the Bayh-Dole Experiment" (Stanford: Institute for Economic Policy Research, 2005) p 2, available @ www.Siepr.Org, accessed 4th March, 2015.

¹⁷ M. Beise, and H. Stahl. "Public Research and Industrial Innovation in Germany", Discussion Paper No.98-37 p 4. Available @ <http://www.bibserv7.bib-unimannheim>

¹⁸ *Ibid* p 5.

¹⁹ *Ibid*.

²⁰ *Ibid*.

²¹ A. Paul and David *op cit.*, p8.

²² R. Hurton "The Dawn of Mescience" *The New York Review of Books* vol.1.1 No 4. March, 11th 2004.

and human and economic utility. Even if Bayh -Dole Act, is not "heard frequently" in Nigeria, the Act is worthy of emulation as this will set the dragging feet of our research university on the right path towards economic development and a more socially relevant sector. The Bayh- Dole Act has directly or indirectly contributed to the emergence of the ability to produce new intellectual property in emerging nations as researchers.²³

Research, Traditional Knowledge and Intellectual Property:-

Traditional knowledge is a form of knowledge which has a traditional link with a certain community. It is a knowledge which is developed, sustained and passed on within a traditional community, and is passed between generations through specific customary systems of knowledge transmission.²⁴ The desirability to protect traditional knowledge in Nigeria has a legal backing under the Copyrights Act.²⁵ Like any other copyright, it seeks to prevent the arbitrary use of the traditional knowledge of a people without their consent. However, it had been observed that some technological breakthroughs have been achieved based on ideas that stem from traditional knowledge holders. Examples abound on innovation derived from research conducted in order to obtain inventive results. Where such idea leads to a research breakthrough, patent can be granted to the inventor provided there is a prior consent agreement for the holders of the knowledge to benefit from the royalties. There are lots of plants and herbs which are used for the cure of different ailments. It is imperative that the research centres conduct researches into these herbal medicines to isolate the particular substances responsible for those cures. Where such research finding is capable of industrial application, it can be patented. Instead of dismissing the herbal medical practitioners, they should be embraced for a more collaborative interface with pharmaceutical research institutions.

In 2001, China granted more than 3000 patents on innovative developments within the field of traditional Chinese medicine.²⁶ It is common knowledge that these Chinese traditional medicines (Tiens, GNLG) have found a large market in Nigeria, while gaining so much popularity. In India, pharmaceutical companies have obtained patent based on the traditional knowledge held ideas.²⁷ The efficacy of some of these traditional medicines is not in contention, although the issue of dosage becomes a problem where proper research has not been carried out on it as it is the case in Nigeria. The Nigerian National Medicine Development Agency and other pharmaceutical and related centres need to live up to their responsibilities in this area. Apart from traditional medicine, traditional knowledge can also provide ideas for researchers on biotechnology, which can lead to patentable inventions. In Mali, researchers were guided by the traditional knowledge of the Bela people on *Oryza*

²³ *Op cit* p 4.

²⁴ "Intellectual Property and Traditional Knowledge", WIPO Publication, Booklet. No 2. p 6. Available at www.wipo.int.

²⁵ Cap 68 Law of the Federation of Nigeria, 2010.

²⁶ Note 24, *op.cit.*, p.3.

²⁷ The drug *Jeevani* produced from the components of the *argoxy apaucha* plant, the patent was licensed to the Arya Vaidya Pharmacy, Ltd, with a trust fund established to share the benefits with the community.

Longistaminata which is a wide rice with stronger resistance to diseases such as rice blight. Based on this, they subsequently isolated and cloned a gene named Xa21, which conferred this resistance in rice plants.²⁸

In Nigeria for instance, the medicinal value of the *Ncem* tree has been a subject of common knowledge. The research centres have done little or nothing in trying to isolate the substance responsible for its curative ability. Only recently, people became aware of its export potential because researchers elsewhere have made a finding on it and are ready to commercialise it.

PROBLEMS OF RESEARCH CENTRES

Despite the numerous research institutions, which abound in this country, one wonders why most of them have not lived up to expectation. It becomes more apparent when considered from the background of their mandates- which include the quest for economic development. It is not the true position to state that activities in these research centres have not resulted to some kind of breakthrough. The problem is that even when such findings are made, the researchers do not avail themselves of the opportunity provided by intellectual property concerned with the movement of technology from the laboratories to the market in a manner that tends to protect the interest of all the parties involved.

Some of the problems identified are as follows:

i. **Poor Funding:-**

Most research activities are capital intensive and as such require a lot of fund for the smooth operation of the research institutions. It is not enough to establish research centres, additional step ought to be taken in ensuring that they are maintained. Where such financial commitment is not forthcoming, the institutions cannot function optimally.

ii. **Lack of Equipment or Infrastructure:-**

A visit to some of the research centres (including the universities) shows that basic equipment and infrastructures required to embark on meaningful research are lacking. This is evident in the universities where the laboratories can hardly boast of basic research apparatus. The United Nations noted that the lack of critical infrastructure, resources and key intellectual property professional skills in developing countries have led to low economic returns on R&D investment, difficulties in promoting the local development of desperately needed therapies and a lack of leverage for concluding technology transfer agreements.²⁹

iii. **Lack of Skilled Manpower:-**

It will be an unnecessary exaggeration to say that Nigeria cannot boast of skilled manpower. The problem is that most of our best brains find their ways outside the shores of this country, thereby leaving our research

²⁸ Note 24, *op.cit.*, p.10

²⁹ UN News Service (New York) "United Nations Intellectual Property Model to help Developing Countries make good progress" News article posted on 29/10/2005, at www.allafrica.com. Accessed 20th April, 2014.

centres yearning for skilled manpower. This "brain drain" syndrome is attributable to uncondusive working environment in form of poor funding, obsolete equipment and poor remuneration.

iv. ~~Absence of Enabling Policy Regulations:-~~

There are hardly available policy regulations encouraging the research institutions to patent their inventions. Some policies rather make it an exception rather than the rule.³⁰ This is why the activities of NOTAP is quite commendable and in the right direction.

v. **Poor Research or Industry Collaboration:-**

Due to the low level of research or industry, research findings from our research institutions hardly go beyond the laboratories and academic journals, particularly in the university. Research has shown that by working with university, companies are more likely to gain significant economic advantage and are more likely to broaden their range of goods or services, open new markets or even increase their market shares.³¹ Such collaboration will also increase funding for the institutions.

vi. **Lack of Market Foresight:-**

A survey of the market will reveal areas of future commercial viability to enable researchers choose the subject matter of their research more appropriately. Though, the economic value of a good number of patents are quite futuristic and it is not all patents that get commercial success, a proper market evaluation and appropriate collaborative effort will enable the researcher tell what the market wants.

vii. **Poor Incentive and Motivation for Researchers:-**

Incentive and motivation in this sense is multifaceted. Where a researcher knows he stands to benefit from the commercial gains of his findings, it will serve as an additional motivation for him to show more commitment.

In spite of all the numerous problems discussed above, it is good to note that there is still hope and prospect for our research centres. They can still ride on the protection of intellectual property to achieve economic development.

CONCLUSION

It is clear from the foregoing discussion, that the universities and related research institutions have an important role to play in helping enterprises, identify and use knowledge to achieve faster productivity, economic growth and greater international competitiveness. The place of intellectual property in this regard cannot be over-emphasized. It is the institution that seeks to guarantee the research some level of protection against unhealthy competition resulting from piracy and

³⁰ As in the policy of IITA on IP

³¹ Community Innovative Survey (UK) 2014 by Partners in Innovation: How Well Does Business-University Collaboration Work? Available at www.bris.ac.uk. Accessed 10th April, 2014.

counterfeiting. This will enable the researcher recoup his investment in R&D, while still availing the public with the knowledge of the invention. "Knowledge is usually only appreciable if the creator of knowledge can communicate his ideas to one who is in a position to use and implement the idea."³²

Through research, traditional knowledge can be an appropriate tool for a sustainable locally-based development and a potential avenue for developing countries to benefit from the knowledge economy. With intellectual property, the researcher need not worry about how to commercialise his findings as industries willing to exploit the innovation can do so by way of licensing. The industries will also enjoy the same protection as an incentive for their investment. Indeed, intellectual property can ensure that technological transfer from research institutions are made to positively drive the development and economic growth of Nigeria.

Having highlighted lack of funding and the need to emulate the Bayh-Dole Act, it is herein recommended that the research centre should be adequately funded while the contents of the Act, have to be incorporated into the intellectual property research regime of Nigeria.

³² *Ibid* p 33.