Abstract- It is true that many achievements in development area are built upon other’s scientific, technological attempts. States decide different approaches regarding how to protect research programs specially when funded by government. The 1976 Copyright Act of USA prohibits copyrights of federal governmental works. International conventions basically cover certain areas of artistic, scientific and technological works to be protected by legal systems. This limited act of protection has put forward many questions about the ability of local and international system regarding the copyright of research tools and theories. Legal measures that prohibit reproducing and copying research works in such a way that may include theoretical areas prove to be suspended between national and international approaches. While in some countries scientific theories and research tools in different fields are highly protected, in other parts of the world legal approaches are trying to answer the question that whether research development and theories should be protected as intellectual properties. If so, these patents belong to their producers or are a part of state's assets. It is believed that these products have to be considered intellectual properties in the research phase upward even when they are applied.

Keywords- Copyright Law, Development, IP Regimes, Patents, Research Tools

I. INTRODUCTION

Development with all of its aspects owes its progress to sciences and humanities. Remember the time when scientist’s ideas and theories were bounded in his mind not because of his wish to keep it away from other’s reach but because of the inaccessibility of communicating technology. In those days knowledge not being protected by such means as copyright law, contributed more to humanity than to development. Nowadays, knowledge, both in theory and practice is weighed according how much contribute to development. As a matter of fact, states and scientists are equally attempting to protect knowledge and to communicate it. According to some scholars, copyright is a state mechanism directed at enhancing the democratic character of civil society. [1]

Scientific research today can not only escape researcher’s hold to be available on global network, but also has put forward an important question. Should it be protected by law? Actually, patents as legal protectors act so forcefully against public utilization that many critics have been arisen about them.

Since states are increasingly patent-driven and tend to protect development researches as national assets, the impact of patents has gone beyond the primary plan of researcher’s work. This article tries to outline the legal conflicts raised as the result of legal protection.

Intellectual property is a broad concept that covers several types of legally
recognized rights arising from some type of intellectual property, or that are otherwise related to ideas.[2]

Extending the concept of intellectual property seems to empower the idea of exclusive right to utilize development research. Meanwhile, the role of patents as the balancing factor to the conflict between legal protection of intellectual property and common idea of open sharing is indispensable.

Patents emerge as a fulcrum defining the balance between two kinds of valuable scientific activity: hypothesis validation and exploration (comprising the main business of normal science) and hypothesis generation (leading to paradigm shifts). Without recognizing this function, policy choices defining patent regimes are uninformed and incomplete. [3]

II. DEVELOPMENT AND PATENT LAW

Development as the general movement of global and regional life along with all its competitive aspects is mainly based upon scientific research. Most of the time, local governments’ attempts are normally directed toward saving and keeping research programs as intellectual property or as national achievements respectively. However, international conventions and global perception urge sharing of knowledge and public access to scientific works. From a legal point of view, the idea of local propertization now dominates. Governmental bodies are also advised to help this aim be achieved. Moreover, at a fundamental level, patents conflict with traditional scientific norms of open sharing.[3] Empirical evidence suggests that, if anything, patents and the patent system are growing in complexity. [4] In this way, given the fact that development researches should be protected there will exist a harsh conflict between states at the local and international levels.

As such, there can be found a dual though conflicting role for patent law regarding research programs. Development proponents may view the impact of patents from two different and contradictory perspectives. Firstly, as noted before, states and global officials consider them useful for development purposes. From another point of view, patents have a stifling function. Development researches when perceived as intellectual property are normally supposed to be exploited exclusively and under the strict supervision of local legislator. This approach is not limited to developing countries. Currently, in USA scientific, economic, statutory and legal developments increasingly allow and encourage universities to patent products of federally funded researches. [3]

We are consequently obliged to analyze the effects of patent law on development researches in three levels of existence.

A. Research Theories of Development

At the end of eighteenth century, abstract conceptions of authorship came to dominate copyright discourse and supplied its underlying theoretical justification. Yet these abstract conceptions had almost no foothold in the doctrinal and institutional details of copyright. [5]

Critics believe that patents in research realm may prevent new ideas and theories be offered and in this way there will be no funding for progress. The areas covered by patent law are different from those that fall in the domain of copyright law. Normally copyright protection only extends to the particularized expression of a work and not to the general ideas. [6]

However, abstract theories have to be the exclusive intellectual property of the researcher. The proponents of patent law argue that patents, by encouraging scientists to experiment outside the realm of mainstream research tools, encourage them to generate and test new theories. Some of these theories will more completely and
cleanly explain the operation of natural processes, thus deepening our fundamental understanding of nature. [3]

Most copyright law systems do not protect abstract theories as intellectual property or at least do not consider them patentable. Some scholars assert that not every innovation or discovery is patentable. [2] The US Supreme Court has, for example, identified three categories of subject matter that are not patentable, namely, “laws of nature, natural phenomena, and abstract ideas”. [2]

It is very difficult for a copyright law system to make differences between what called abstract theory and what is known as intellectual property. In the realm of development research, states face with harsh debates regarding the idea of open sharing. The laws acknowledging freedom of speech and libertarian doctrines are parts of attempts for decreasing the effects of limitations imposed by patents on free flow of information.

B. Research Tools and the Application of Scientific Researches

Although scientists can not patent abstract theories such as $E = mc^2$, they can patent the associated technological aids that researchers need to investigate them. Patent on research tools earlier and earlier in the development chain thus raise the possibility of creating individual ownership rights in theories. All theories suggest means of testing and validating themselves. [3]

Copyright law specially, as encoded in international conventions, gives any state the right to lay down regulations that ensure the safe and exclusive utilization of research products. This right known as patent in the scientific inventions has nothing to do with abstract theories. But it is important to point out that ownership of an idea, or ideal object, effectively gives the IP owners a property right in every physical embodiment of that work or invention. [2]

Copyright conventions and the jurisdictional procedures in local territory justifying the ownership of development research projects distinguish precisely between two domains of abstract ideas and applied sciences. Arguments exist defending the idea of restricting IP regimes and limiting the use of legal measurements for imposing exclusive rights of research applications. Two main concerns they are talking about are as follows.

1. Powerful IP regimes deter investments in R&D programs and doing so weaken the innovative and creative trends in scientific domains. Opponents of enforceable patents in this domain refer to econometric studies that do not conclusively show net gains in wealth [2] as a result of executing these regimes. Perhaps there would even be more innovation if there were no patent laws; may be more money for research and development (R&D) would be available if it were not being spent on patents and lawsuits. [2]

2. Limited availability of research tools is another argument. As Peter Lee says, “as research tools become more specialized and propertized, more and more fields of inquiry [and research] will ultimately fall under the domain of patents. While this causes concerns over the inhibitory effect of patents on scientific progress, it also opens the door for patents to help induce paradigm shifts”. [3]

Patents and copyrights can deter even innovation, specially, improvements on existing works. [7] Observing the private and personal rights, some scholars prefer economic approach for fostering intellectual property and development researches. They believe that economic dimensions approach to intellectual property law offers powerful
tool to both explain and reform intellectual property law. [7]

**C. Humanities and Social Sciences**

While patent scholarship has profiled handsomely from law and economics and empirical studies, academic inquiries into the psychology and sociology of science can illuminate many features of the legal architecture of innovation. [6] Humanities and social sciences play a decisive role in defining the function of IP regimes to manage the rights over development researches. A look at the traditional IP regimes reveals that all international conventions and abundant legal literature have tried to conceptualize the relationship between artistic and theoretical innovations and the exclusive right of their producers.

So, the indispensable role of humanities in conceptualizing the individual and social frameworks within which copyright law systems act must be revisited. Current scholarship has largely ignored patents’ role in the evolution of scientific theory and lacks a robust analytic framework for conceptualizing this relationship. [3] Humanities are to be regarded as the basic material of interdisciplinary researches for this end. Concepts referring to the philosophy of copyright law and the social and administrative necessities surrounding it are the missing parts of many theories about patents and IP applications.

Generally, these missing elements cause a void to appear in that realm. Some scholars look to the “scientific humanities” to fill this void and bring to light the significant and unexpected influence of patents on scientific and inventive activity. [3]

Another issue that appears socially nowadays is the conflict arising from exerting IP regulations in the economic and political domain. Since 1990s there have been many theoretical discussions about the dual function of copyright rules that are protecting private rights over scientific researches and the global need to provide open access to knowledge and communal wisdom. In this way some scholars as Hoppe have advised that property rights must be demonstrably just, as well as visible, because they can not serve their function of preventing conflict unless they are acceptable as fair by those affected by the rules. [8] Besides, in the realm of development researches the conflict may expose the scientific theory to the risk of the social conflict.

The coexistence of private interests and a public interest does not necessarily create a conflict. The conflict occurs where the selfinterest and the public good pull in opposite directions. [9] Anyway, noticing the aforementioned void, many activists of the private sector and academic scholars may attempt to look after the alternatives for IP regimes or to act another way to lead development researches. Some R&D managers, operating within strong regimes, have spent time and money setting up IPR scanning procedures. Other (innovative) business strategists have sought to operate independently of IPR considerations, be creatively designing new ways of capturing revenues and appropriating profits from digital products that depend only upon markets and technologies. [10]

Others suggest restricting of the borders of intellectual property rights or patents to some definite areas of utilitarian functions of these rules. In this way the debate about the expanding the domain or restricting it pose another theoretical conflict. So, it seems appropriate that copyright law particularly with regard to patents in scientific researches should be redefined as a constitutional right in order the public and private right alike might be ensured through legal development.

**III. CONCLUSION**

The general approach in local and international rules normally tends to protect private rights in certain areas of research and scientific products. We argued that the
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Development may be the most affected area by this trend. One of the main questions is whether local legislator must distinguish the scientific researches in each phase. There are many suggestions dealing with the problem arisen by the legal and economic approaches such as the conflict between private right and the public interest or their asserted deterring role in innovation and creative sciences.

Regarding the extension of copyright law to other domains such as development researches some scholars advise a restrictive view. According to them who are called IP restrictors, there is the need to preserve a rich public domain; an economic utilitarian approach to intellectual property; a textual argument regarding the words of the copyright clause. [11]

That the protecting regulations of intellectual property should cover the abstract theories or they only refer to patents and research tools remains the subject of controversies. Finally, a strong copyright law system has its benefits, but it has a price too. Many scholars argue that this price is too high to justify the continuous expansion of copyright law [9] and IP regimes.

REFERENCES


1 “Einstein could not patent his celebrated law that E=mc², nor could Newton have patented the law of gravity”. Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980)