



Analyzing Utility Model Protection of Certain Technologies towards Waste Management Solutions in Developing Countries

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Abstract

This research examines It is no secret that developing countries like India and Sri Lanka are actively facing unresolved issues with waste-management. Despite having introduced laws and regulations in this sphere, the growing needs of their economy have ensured vast generation of waste. Rising needs of the industry and consumer usage has contributed to existing problems with waste segregation and treatment. Stories of horror concerning waste-sites have dominated news. Waste management is after all a resource-heavy process. When compared in relative terms, other items on municipal agenda attract said resources. To grow sustainably is to grow holistically and to take into consideration inter-generational equity. Where limited State resources in terms of financing waste management is concerned, a possible solution might lie in intellectual property law. Though sustainable development goals enunciated under the 2030 Agenda by the United Nations do not explicitly mention intellectual property, they do mention innovation and technology. Scholars have appreciated the link between climate change and patent law for instance, and even called for reformations in patent prosecution formalities, to encourage green innovations. But one the major problem with access to inventions is that, it is expensive. To ease the financial burden on the State, a lesser form of intellectual property may be the solution. Utility-Models are a category of intellectual property which looks to provide economic protection for innovations involving low inventive-step. In India, such innovations are called Jugaad Innovations. Its elder sibling, Patent, involves significant inventive-step. A policy reason for not promoting utility-models in these countries is a real possibility of its combined use with patent law to secure perpetual property rights. This paper looks to analyse the possibility of creating a sector-specific utility model system. It takes inspiration from countries where both patent and utility model system exist in mutual harmony. It weighs in, on the possible beneficial impact on waste management. In doing so, it would open up avenues for further research in the area.

1. Introduction

India and Sri Lanka are vastly different in terms of size. They are both developing countries. Their populations vary greatly as well. But both nations are faced with a common issue – waste management. It is perhaps the mindset on how waste is seen that needs to change. Instead of seeing it simply as rubbish that must be discarded, what if it is seen as a valuable resource? How much research is being done on waste to see its potential as a solution to issues that are afflicting the public?

What if there was a way to incentivize such a shift of perception? We know that the domain of intellectual property law exists to incentivize innovation. The manner in which such an incentive works is to award exclusive rights to the right-holder. Since a wide-scale incentivization needs to happen, perhaps Patent system is not the ideal model. Could a lesser kind of intellectual property be used?

This paper considers the question, whether an answer can be found under intellectual property law generally and Utility Model protections particularly. Any such answer could be potentially used as a possible policy consideration for developing countries generally. After all utility models require utilization of lesser resources. What better way to deal with two concerns: management of waste and incentivization development in micro, small and medium enterprises (MSMEs). There is an all-round sustainable development in this scheme.

Although the 2030 Agenda on Sustainable Development adopted by the United Nations does not specifically mention Intellectual Property, Goal 9 can be tied to the analytical approach in this paper that connects environmental protection and intellectual property protection. This goal is worded as: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. (United Nations, 2015).

In Section 2, the paper looks at the failure of waste management through the lens of waste segregation. Section 3 explains the distinction between Patent protection and Utility Model protection. Section 4 looks at utility model approach in various jurisdictions. Section 5 concludes the paper.

2. The Failure of Institutional Waste-Management

Waste segregation is an essential practice that must be developed if there has to be all-round efficiency in waste management. Segregation does not happen at dump yards. Rather, segregation must happen at the source of waste generation. This could mean homes, factories, etc. (Sen, 2015).

What waste segregation achieves is a separation of different kinds of waste. Let us consider waste segregation at homes. Plastic waste can be separated from other kinds of waste in a basic form of separation. Still better forms of segregation can feature separating food waste and non-food waste, with a clear separation of plastic. Such a focused segregation enables the first line of defense against waste generation. If households are engaging in composting activity, then only the remaining waste needs to be handed over to the local authorities.

Waste segregation has not been traditionally practiced. What this means is that even if law changes, because of the sheer scope of practice involving much of the

community, it wouldn't be feasible to enforce it. Only if limited number of people were engaged in non-segregation would penal actions such as fines be operationally possible. It must then be considered that waste will be either dumped in a public space or it would be handed over to the local authority or some private entity.

If there is an efficient network of waste collection managed by the State, then open dumping is not something that would be practiced. Or, even if it is practiced, it would now fall within a realm that could be penalized. In case of lack of specific governmental resources in this regard, the State could engage the help of private contractors. What's important here is the need for an efficient collection system to be in place. In case segregation does not happen at the point of waste generation, then such a segregation responsibility falls on the local authority.

The easiest way to deal with accumulated waste is to simply burn it. It's a sure-shot way to eliminate any disease-causing elements in the waste, especially where solid waste is concerned. But waste burning is hazardous for its generation of toxic gases polluting the air. These toxic gases can get mixed with water vapor in the atmosphere and come down as acid rain. Waste burning is also a traditional way of dealing with waste. Again, with the right network of waste collection, waste burning could also be penalized.

The waste mountains related tragedies in India (Government of India, 2016) and Sri Lanka clearly tell the story of non-segregation. Dumping of waste in all forms – food, plastic, compostable/non-compostable etc. in a heap has led to many a catastrophe. Either waste is being collected from local dump yards and brought to a common location, or the collections themselves are of non-segregated waste, being dumped together. It is then clear that existing systems of waste management are failing.

We need a solution that is out of the box. Some strategy that can be deployed in such a manner as to beat these institutional shortcomings.

3. What is a Utility Model?

Jugaad Innovations are a type of innovation that looks to solve local issues. A popular innovation for example used by street-vendors serving coffee is the use of a pressure cooker to generate steam. The need for a cost-effective solution to a practical concern drives such innovations. With no requirement for a license of any form, vendors can benefit from a quick fix.

Grant of patent is dependent on the satisfaction of a three-step analysis: Novelty, Non-Obviousness and Industrial Application. Among these, the step hardest to scale is non-obviousness or inventive step. Non-obviousness is determined from the perspective of a person skilled in the art. What this means is that what could be considered as simple solutions would get rejected from consideration of grant of patent.

A Jugaad innovation on the other hand is mostly a simply innovation. Generally, it would not be able to pass the non-obviousness test. There are those, such as Mitti Cool Refrigerator, which has been patented. But others are not so lucky.

There is a strong policy opposition to the adoption of a utility model system in certain countries. This is because such an intellectual property protection could be used to extend the term of patented inventions. How can this happen?

Let us consider company X, which is a pharmaceutical company. After a huge amount of investment, through research and development, X got a drug patented in India. Section 3(d) of the Indian Act provides that any kind of modification to this drug would not only have to satisfy a technical efficiency consideration but also therapeutic efficacy. Indian Courts have explained this 'enhanced efficacy' to in fact be therapeutic efficacy. If X were looking to make any modifications to the existing invention to get patent protection on it, if not for Section 3(d), it could keep getting a patent for substantially the same medicine in terms of its therapeutic efficacy.

While India's Patent Act in terms of such a consideration places a major block against evergreening of drugs, it also does not give any advantage in the form of an avenue under some other intellectual property. If a lesser requirement were mandated under Utility Models, then X could look to receive this protection under the utility model scheme.

Sri Lankan intellectual property legislation does not contain a provision akin to Section 3(d) in India, but just like India, there is no lesser form of intellectual property protection in the form of utility models in their jurisdiction.

It is said that need drives innovation. There are those who are targeting certain waste items as source material for producing useful goods. If this kind of innovation were to be given a boost, there would be higher number of innovations in this sector.

Intellectual property justification emphasizes on its role as an innovation-booster. The exclusive rights it provides gives an incentive for others to innovate. Is there a way for such an incentivization to reach innovations over waste-usage? We will see how Utility-Models are considered in some jurisdictions. China has been chosen as a country that wholeheartedly promotes utility models, Europe for its middle ground approach in which some countries have objected to a Community-adoption leading to individual countries like Germany adopting it in their national territory and India & South Africa for not offering any utility model protection at all.

4. Utility Model Protection

4.1. Utility Model Protection in China

The Global Innovation Index, 2024 (World Intellectual Property Organization, 2024) has ranked China at the 11th spot, with India occupying the 39th spot and Sri Lanka at 89. China is ranked world number 1 by this index in utility model protection (Patent Law of the People's Republic of China, 1984, art. 2). It is interesting to note that China does not grant utility model protections to any and every kind of technology. Through a narrow definition it looks to create a sector-specific innovative effort and its contribution to economic growth.

The Patent Law interprets Utility Models as:

“New technical solutions proposed for the shape and structure of a product, or the combination thereof, which are fit for practical use.”

Thus, inapplicable to complex technology.

The 3-step consideration of Novelty, Inventiveness and Practical Use needs to be met in order for Patent and Utility Model protection to be granted. Inventiveness is interpreted as follows: Inventiveness means that, as compared with the prior art, the invention has prominent substantive features and represents an obvious progress, and that the utility model has substantive features and represents a progress. Thus, while Invention Patents need to have prominent substantive features and indicates remarkable advancements; Utility Model Protections needs to have substantive features and indicates advancements. Utility Models only go through a preliminary examination and not a substantive examination (Patent Law of the People's Republic of China, 1984, art. 22). It has a ten-year term of protection as against a twenty-year protection for patents (Patent Law of the People's Republic of China, 1984, art. 40).

4.2. European Take on Utility Models

The Commission of the European Communities released a green paper on utility models in 1995. In this paper, the commission emphasized that a beneficial economic justification surely existed in favor of a form of intellectual property protection that did not insist on a high threshold of inventiveness requirements like in Patent. Such a system of utility model can be used as a competitive weapon, it explained, as it is not restricted to any specific firm-size but can be used by any, firstly in an indirect way to strengthen their market position and secondly, in a direct way to enhance the invention's commercial exploitation.

Any such system would only be attractive if it can clearly distinguish itself from patent. Utility model systems with the same requirements as the patent system will be in competition with them, with applicants preferring patents because of their greater security. Utility model systems with a diminished inventive step requirement will have a greater appeal.

The Commission further explained that due to the time and cost savings that the utility model system would offer, it would be attractive to all kinds of enterprises, not just MSMEs. Illustratively explaining which industries are using utility models the most, the Commission referred to mechanical engineering, electrical engineering, precision instruments and optics and motor industry (Patent Law of the People's Republic of China, 1984, art. 42).

It must be noted that the proposal for a utility model protection was withdrawn. In discussing a report published later by the Commission, Dr. Hans-Peter Brack discusses that the responses indicated that the majority of the respondents opposed the introduction of a Community model due to concerns about introducing further legal uncertainty to EC IP protection, dissatisfaction with the low inventiveness criteria of the proposed utility model, and fear that the utility model would unnecessarily compete with the existing patent systems without introducing any real benefit to SMEs (Sen, 2015). Germany offers utility model protection, where the subject-matter is the same as patents but does not include processes.

4.3. Indian Take on Utility Models

The Prime Minister's Taskforce on MSMEs submitted its report in 2010. In this report, it was recommended that in relation to technology, infrastructure, institutional structures and skill development, MSMEs must be supported in their endeavor to not just acquire technology, but also to adapt it and innovate. This would ensure capacity building to face a competitive environment and to rise in the value chain.

In a far-thinking discussion paper released by the Department of Industrial Policy and Promotion (DIPP) (Department of Industrial Policy and Promotion, 2011) under the Ministry of Industry and Commerce, Government of India. Just a year later, a proposal was made for bringing in a utility model system. DIPP had said that India's economy has resource constraints and in keeping this crucial issue in mind, innovations which though minor but made with frugal use of local resources, must be encouraged for this sustainable value through the means of an effective legal framework. The Department further opined that since such innovations will be driven by the MSME sector, the legal framework would have to bolster its usefulness and relevance by four important pillars supporting the registration process:

1. It must not be demanding: According to the DIPP, patent processes are known to be exacting in terms of the scrutiny of examination. This scrutiny must be reduced by lessening the inventive-step requirement.
2. It must be quick: A connected concern of strict scrutiny is the length of time it would take to secure registration. With a lower threshold of inventiveness, registration too can be completed quickly.
3. It must be inexpensive: Since the applicants for utility model protection would be from the MSME sector, high cost of registrations would serve as a disincentive to innovation. Therefore, the registration process must remain inexpensive.
4. It must not be complex: Expert patent agents are needed to navigate through a patent framework. Making the process too technical could also create a barrier to innovation. In a volte-face not soon after, the DIPP opposed consideration of utility model protection in India, stating:

“Utility Models form less-stringent form of IPRs which could lead to ever greening of patents i.e. one can just take an existing product, design it more efficiently and get a utility patent.”

One of the most important guiding frameworks for Intellectual Property law development in India came in the form of the National Intellectual Property Rights Policy, released by the Government of India in 2016. It is clear from the words of the policy that steps must be taken towards encouragement and protection of grassroots innovators (Brack, 2009). This is surely aided by a well-designed utility model system.

4.4. Sri Lankan Take on Utility Models

Sri Lanka does not provide utility model protection in its intellectual property framework. Being a country that has resource constraints similar to India, a policy direction beneficial to India could possibly also be considered for it.

In a thought-provoking paper on utility model protection in Sri Lanka, author Asanka Perera provides some important insights. He interviewed Nalinda

Atapattu a Patent Examiner at the National Intellectual Property Office of Sri Lanka, who stated that that IP office had recommended a utility model system which would have a five -year term of protection Commission of the European Communities, 1995; Mullins, 2024). Perera argues that introduction of utility models would favor the growth of the economy by encouraging local innovations.

5. Conclusion

A global challenge which all countries are currently facing is that of climate change. Environmental pollution traced to waste generation and the failure in institutional waste management are contributors to it. Such failures can lead to improper disposals such as overflowing waste dumping grounds which generate noxious and greenhouse gases. Such waste is also a major hazard for human and animal health.

Emerging economies like India and Sri Lanka have laws in place for environmental protection generally and waste management particularly. Be it solid or plastic or hazardous waste, rules for their management are deployed in both countries. But despite this, serious incidents involving waste are occurring in these countries, pointing to failures in implementation. What is required is a development policy which is optimised to use resources towards economic growth and waste management at the same time.

In what would potentially benefit both of these goals is the adoption of utility models for the specific objective of waste management. Local innovations in this sector would change the perception of waste as rubbish to waste as resource. Innovations with waste can lead to better models of segregation coming into being. This is so, since more players would be interested in getting waste of a particular type to suit their production. As has been explained in this paper, the market incentive offered in the form of exclusive economic rights by utility models can serve as a boost for both innovation and environmental protection.

The looming fear of evergreening in patents can be overcoming by simply restricting the grant of utility models. To define utility models in the manner in which China has, would mean that there would be no way that pharmaceutical sectors could use it.

This paper is intended as a platform for further research on this interesting link on the possible benefits of utility models in environmental protection. For instance, an empirical study that establishes a connection between waste management through innovations in countries that offer utility model protection would be a valuable research effort.

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