**Risk and Security Report Template**

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Use the information from the questionnaire to fill in the PESTEL table below

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| --- | --- | --- | --- | --- | --- |
| Political | Environmental | Social | Technological | Economic | Legal |
| Wars with countries like Congo and South Sudan may damage highways and vaccine plants Government may ask to employ enough local people to ensure employment rate. | The waste from the vaccine plants may cause air pollution and water pollution. Live viruses may escape. Roads built to enhance transportation may destroy or limit wild animals’ habitats. | Local societies may campaign against the vaccine. Local people are not confident about vaccination, and they may oppose to new effective roads because of the noise. | Local people may not know the notes of working in plants, so they may hurt themselves when producing. For educated people, their traditional way of producing vaccines may be different. | Water can’t be obtained in national parks, and need to be transported. New roads are needed to improve transportation. There may be competitions with local vaccine plants. | It may be illegal to pollute the national parks. It may be illegal to build new roads in conservation areas. There may be new regulations and laws about live vaccines. |

Once you have done this, focus on 2 of your identified PESTEL risks and expand on those by explaining what the best and most cost-effective ways to mitigate these risks are.

For local campaigns against the vaccination, the best and most cost-effective solution is education. Public meetings can be held so that we can educate them about the harm of TB and the benefits of getting vaccinated. Once they learn the severity of the disease and the effectiveness of our vaccines, they may be convinced and cancel these campaigns themselves. Solving this by education is easier and cheaper than arguing with the societies all the time. In addition, these educated societies may even start to advertise for us. Secondly, for the competition between us and the local vaccine plants, the best way is to collaborate. While competition harms both companies, collaboration can help us benefit together. The people who work in local vaccine plants have experiences, so we only need to teach them our way of producing if there is a difference. This takes up less time and money than training new workers with zero experience. At the same time, we can save the money of doing advertisement to find lots of new workers. The risk of being hurt when producing is also lower for these experienced workers. Moreover, since the government may ask us to employ enough local people to ensure their employment rate, collaborating with local plants and using their workers is better than continuing employing foreign workers, for example recruiting workers in Britain and sending them to Uganda.

Thinking about risk and security in general, are there any other issues that may arise and impact the project? These can be both negative and positive. You may want to refer to your PESTEL analysis but you don’t have to. Fill the table below with any issues related to risk and security that may arise in the course of the project (left hand column) and a suggestion of how that issue might be solved or encouraged (right hand column). Keep the table below to one page.

|  |  |
| --- | --- |
| Issues that may arise | How to mitigate them |
| Trade policies may change so that the import and export of live vaccines and their ingredients may be banned.  The most widely used language in Uganda is Luganda, not English, so the communication between us and the uneducated local people may be difficult.  Uganda is located on the equator, so the temperature there is quite high all year round. Without specific protection, the vaccines may denature and become invalid.  The climate in Uganda is different. There are two rainy seasons from March to May, and from September to November. During rainy seasons, there may be floods. On the other hand, during dry seasons, there may be droughts.  Most highways in Uganda are Two-Lane highways, when there are severe accidents or natural disasters, such as mud-rock flows and landslides, the highways may be blocked for days, which strongly interferes with transportation.  The pollution of the plants may destroy the environment and generate fines.  The reuse of the needles and failure to thoroughly sterilize may cause further infection of diseases like HIV which is contrary to the purpose of building vaccine plants. | Build cold storage and store in advance. When policies change, try to negotiate with the government and find substitutes of the ingredients.  Since the literacy rate is high, English should work for most of the time. At the same time, the foreign workers who are sent to Uganda should start to learn Luganda and Swahili themselves.  All the vaccines should be produced under a cooler temperature by using air conditioners in the plants. When transporting, special refrigerated vehicles should be used.  When choosing the locations for the plants, we should look for somewhere with a high terrain, so that we can reduce the harm by floods. At the same time, we should build reservoirs near the plants or just building our plants near the existing reservoirs or lakes. These reservoirs can store water in rainy seasons, so we can use them when drought happens. Before using water in lakes, check if it is legal to do so.  First, transport essential ingredients in advance and store them in the cold storage. When sudden disaster happens, these storage can last for a few days. Then try to negotiate with the government to build new, wider highways. Be careful not to build these roads in reservation areas to protect the environment and avoid fines.  Purify waste gases and waste water to reduce their harm. Add filter systems on the exhaust pipes and drainages. Reduce nutrients in waste water to avoid red tides.  When producing vaccines, workers should make sure there is no pathogen other than the live TB bacteria. The needles must be disposable, and all the used ones should be collected and burnt. Education about this should be arranged to increase civic consciousness. |

Reference:

[https://baike.baidu.com/link?url=p9iGf5MpYMMvN5TwIC5PFNPHPJYCAZ47M69\_CQYvV85QkIQs3poo5FiKfz0v7EuGz\_Ptl9rmthSpc7PtmGuciG0cfN7oOToQfnQi6nUjyELRIGH\_AdgP\_UP2VjA4poSn#11\_3](https://baike.baidu.com/link?url=p9iGf5MpYMMvN5TwIC5PFNPHPJYCAZ47M69_CQYvV85QkIQs3poo5FiKfz0v7EuGz_Ptl9rmthSpc7PtmGuciG0cfN7oOToQfnQi6nUjyELRIGH_AdgP_UP2VjA4poSn" \l "11_3)