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**Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects**

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**Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems**

Geneva, 25–29 March 2019 and 20–21 August 2019

Item 5 of the provisional agenda

Focus of work of the Group of Governmental Experts in 2019

**Possible outcome of 2019 Group of Governmental Experts and future actions of international community on Lethal Autonomous Weapons Systems**

Submitted by Japan

**I. Purpose of the working paper**

1. High Contracting Parties, international and regional organizations and civil society have consistently discussed over the past 5 years, including in informal meetings, Lethal Autonomous Weapons Systems (LAWS) under the framework of the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects (CCW), which regulates inhumane use of conventional weapons.
2. The year 2019 is the third year since the inception of the discussion at the Group of Governmental Experts (GGE) on LAWS. In our view, it is important that stakeholders will have an increasingly shared understanding on major issues related to LAWS in this year's GGE meetings, through further discussions.
3. Japan has been actively engaged in arms control and disarmament of conventional weapons. We are submitting this working paper to the GGE, in the aim of contributing to setting a direction for possible future actions of the international community on LAWS, through well-balanced discussions, taking into account humanitarian and security perspectives.

**II. Summary**

4. Japan intends to contribute to setting a direction towards possible future actions of the international community on LAWS, and to point out the main elements that require common understanding among stakeholders.
5. In the previous meetings of the GGE, it was pointed out that the following elements would remain as important issues to be discussed and Japan's perspectives on each elements are as follows:
  - (a) Regarding the definition of LAWS, it is necessary to deepen discussion on the lethality and form of human control;



(b) Concerning lethality, it is appropriate to limit the discussion only to autonomous weapons system with lethality. It might be worth considering that weapons systems designed to directly kill human beings be made subject to rules on lethality;

(c) Regarding the form of human control, it is indispensable that a lethal weapon system be accompanied with meaningful human control by securing proper operation and be operated by persons with sufficient information on such weapons systems. It would be necessary to deepen discussion on where and how much meaningful human control is necessary in the life-cycle of weapons systems;

(d) The scope of rules should be focused on fully autonomous weapons systems with lethality, that does not comprise meaningful human control. The research and development activities on autonomous technology should not be restricted on the simplistic ground that such technologies could be diverted to lethal weapons systems;

(e) With regard to the relationship with international law and ethics, principles of international humanitarian law (IHL) must be upheld in the development and operations of all weapons systems including LAWS. Any violation of IHL by using autonomous weapons systems should be attributed to States or individual persons as is the case with conventional weapons systems;

(f) Concerning confidence building measures, it is appropriate to consider what kind of mechanism is suitable in order to secure transparency. Introducing an implementation mechanism of weapons review into the annual report of the CCW may work as one of such mechanisms.

6. It would be desirable that the international community, including States with advanced technologies, reach consensus on the modality and content of rules concerning lethal fully-autonomous weapons systems without meaningful human control. However, it would be difficult to formulate such an effective legally-binding international framework immediately due to the divergence of views. Under the current circumstances, an outcome document may be one appropriate option to seek. Japan will cooperate with stakeholders going forward.

### **III. Previous discussions**

7. Efforts by the chairs, as well as the proactive and constructive participation in the related meetings by the High Contracting Parties, observer states and civil society, have deepened a common understanding on LAWS among stakeholders. These discussions played a certain role in achieving some positive achievements towards sharing common understanding on the necessity of meaningful human control and compliance with international law, including IHL.

8. On the other hand, major gaps remain in terms of recognition of critical issues such as the need to define LAWS itself and the concept of lethality, the required phase for and degree of human control and the relationship between LAWS and existing weapons systems.

9. The following items were pointed out as important issues in considering LAWS. Each stakeholder needs to further narrow down its understanding:

- (a) Definition of LAWS;
- (b) Definition of lethality;
- (c) Form of human control;
- (d) Scope of rules;
- (e) Relationships with ethics and international law, including IHL; and
- (f) Information sharing and confidence building measures.

## IV. Japan's perspectives on the important issues

10. Japan has repeatedly publicly stated in the previous meetings of the CCW that it has no plan to develop fully autonomous lethal weapons systems<sup>1</sup>. Since Japan places utmost importance on the principle of rule of law in the international community and holds a strong view that IHL must be upheld in developing and operating weapons systems including LAWS, although LAWS currently does not exist but its rapid development is possible.

11. On the other hand, it is obvious that autonomous weapons systems with meaningful human control in place would have positive effects in saving labour and reducing manpower in the field of national security, Japan has stated in the previous GGE meeting that it intends to develop and operate such systems. Highly automated weapons systems in currently operation should not be restricted because these systems are designed to ensure meaningful human control.

12. In order to formulate a pragmatic framework that sufficiently reflects the divergent views of stakeholders and ensures effectiveness, further discussion would be needed to deepen common understanding on important issues on LAWS. It is expected that it will be clear what kind of framework would be necessary or could be introduced on LAWS, when the scope and contents of rules become clear after full discussions on each important issue have been achieved.

### A. Definition of LAWS.

13. Since differences in views on the definition of LAWS among stakeholders remained prevalent in the GGE on LAWS held in 2017, the subsequent meetings of the GGE have concentrated on discussions on the characteristics of LAWS. Nevertheless, issues such as lethality and the form of human control are yet to be settled. A divergence of views on each of these important elements still remains. In order to advance substantive discussion on the definition of LAWS, stakeholders should further explore the notion of lethality and the forms of human control.

### B. Lethality

14. Lethality of weapons systems is essential in considering how to formulate rules on the systems. Inclusion of non-lethal autonomous weapons systems, as a part of LAWS, would unnecessarily expand the scope of rules too broadly, which could end up driving States to evade such rules for the sake of their own national security, and accordingly lead to a loss of effectiveness of the rules. Therefore, it is appropriate to limit the discussion only to autonomous weapons systems with lethality. Although it would be necessary to further discuss the notion of lethality in this context, it could be difficult to distinguish offensive systems from defensive systems. Therefore, it might be worth proceeding with discussions on weapons systems designed to directly kill human beings.

### C. Form of human control

15. It is indispensable that any lethal weapon system referred above be accompanied with meaningful human control (e.g. by ensuring proper operation by a person sufficiently informed of the weapons systems in use). In addition, meaningful human control is a concept that could be used as a premise in attributing responsibility for various effects caused by weapons systems, and is also necessary to ensure measures to correct and/or to prevent errors, malfunctions and running out of control of weapons systems.

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<sup>1</sup> National statement by Japanese delegation at the informal expert meeting in April 2016 ([https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/B367B41929F206A4C1257F9200573ADC/\\$file/2016\\_LAWS+MX\\_GeneralExchange\\_Statements\\_Japan.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/B367B41929F206A4C1257F9200573ADC/$file/2016_LAWS+MX_GeneralExchange_Statements_Japan.pdf)) "In this regard, the Government of Japan has no plan to develop robots with humans out of the loop, which may be capable of killing indiscriminately."

16. Some argue that meaningful human control should be incorporated in the whole process of weaponization, ranging from political instruction in the pre-development phase, research and development, testing, evaluation and certification, deployment, training, command and control, use and abort, and post-use assessment<sup>2</sup>. On the other hand, there is a wide range of views on where and how much meaningful human control is necessary in the life-cycle of weapons systems. Therefore, it would be necessary for stakeholders to further explore such questions taking into account the trends of emerging technologies.

#### **D. Scope of rules**

17. The utilization of autonomous technologies in operating weapons systems would enable reduction of collateral damages (e.g. through improving strike accuracy toward attack targets) and of human errors (e.g. by having a part of various miscellaneous duties conducted by autonomous weapons systems), and such weapons systems would not be worn out even in operation for long hours. Therefore, the scope of rules should be confined to weapons systems that have lethality as mentioned above, are fully autonomous, and unaccompanied with meaningful human control. On the other hand, thoughtful discussion is required since it is pointed that less consideration for personnel loss could lower the threshold of the outbreak or escalation of conflict and war<sup>3</sup>.

18. Autonomous technologies including artificial intelligence (AI) have been utilized in various fields of the economy and society such as the industrial and medical sector and disaster relief. Current rapid progress of autonomous technologies is expected to continue in the future for the benefit of human beings. Given such circumstances, research and development on autonomous technologies should not be restricted on the simplistic ground that such technologies could be diverted to lethal weapons systems. It is necessary to carefully and cautiously discuss the rules, taking into account the potential chilling effect of restricting research and development and the risk of hindering technological development and innovation in the civil sectors.

#### **E. Relationship with international law and ethics**

19. Compliance with international law, especially IHL, is essential in armed conflict. The same is true for LAWS. It should be used in compliance with the principles upon which IHL is based, including the principle of distinction between civilians and combatants, the principle of proportionality, and precaution against military objectives.

20. In general, if there is a violation of IHL caused by autonomous weapons systems belonging to a State, it would be assumed that such violation would be attributed to the State. There might also be cases where such illegal action is attributed to individual persons. In any case of a violation of IHL by using autonomous weapons systems, a State or individual person should be held responsible as is the case with conventional weapons systems. In general, securing the pursuit of responsibility is important in facilitating the implementation of IHL. To enhance compliance with IHL, it is necessary to deepen the discussion on this issue.

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<sup>2</sup> GGE 2018 Chair's summary (CCW/GGE.1/2018/3) III.C.28 "In line with the Chair's 'sunrise slide', the following touch points in the human-machine interface were considered: (0) political direction in the pre-development phase; (1) research and development; (2) testing, evaluation and certification; (3) deployment, training, command and control; (4) use and abort; (5) post-use assessment."

<sup>3</sup> Report of ICRC Expert meeting, "Autonomous Weapon Systems - Technical, Military, Legal and Humanitarian Aspects" (March 2014) (<https://www.icrc.org/en/download/file/1707/4221-002-autonomous-weapons-systems-full-report.pdf>) pp.18 "More broadly the speaker expressed concerns that autonomous weapon systems could risk making conflict more likely by lowering the threshold for the use of force since they could provide opportunities to attack without risks to the users."

## **F. Information sharing and confidence building measures**

21. Since LAWS is still a non-existent weapons system at present, it is important to ensure the predictability and credibility of such systems.

22. While discussions on LAWS have been conducted in the framework of the CCW, it may take considerable time to converge discussions on important issues. Given the rapid progress being made in science and technology, it would be appropriate to strictly check compatibility with international law of new weapons systems including LAWS. To enhance transparency on the adherence of States to IHL, it is appropriate to explore mechanisms that could be introduced under consensus. Introducing reporting requirements on how States observe Article 36 of the Additional Protocol I of the Geneva Convention on August 12, 1949 through annual CCW reporting mechanism could be one option.

23. It is expected that the above-mentioned efforts would promote information sharing and confidence building among States and civil society, and contribute to proceeding with discussions in a calm manner.

## **V. Possible outcome of the GGE**

24. It is necessary to have further discussions among stakeholders for sharing understanding about the matters mentioned above in a tenacious manner. Bearing in mind the concerns of States and civil society on LAWS and expectations for technological progress, it is preferable that autonomous technologies and AI be developed substantially without hindering international peace and security. Japan intends to participate in a constructive manner in the upcoming discussion of the 2019 GGE.

25. The stakeholders should have discussions to figure out what the optimal modality for the upcoming discussion will be.

26. Concerning the examination of appropriate rules on LAWS, there is an effective consensus that meaningful human control is essential. Given the wide support for this notion in the international community including from States with advanced technologies, setting rules on lethal fully-autonomous weapons systems without meaningful human control would be intrinsically desirable. Nevertheless, there is no common understanding among stakeholders on the definition of “autonomous” and “lethal”, and “the form of human control”. Under these circumstances, it is undeniable that it is difficult to formulate a legally-binding instrument on LAWS immediately as an effective framework.

27. Considering that LAWS is an urgent issue to be addressed by the international community, Japan intends to engage actively in the international discussion on LAWS. As a response to the current international situation, an outcome document can work as one of the appropriate options to demonstrate the achievement of the previous GGE meetings and to deliver a common message to the international community. Such an outcome document is expected to serve as an instrument to summarize some common ground on LAWS that has been reached among various stakeholders at this juncture. It should be recalled that even if such outcome document was adopted it would not exclude any other efforts in the future.

28. Japan is ready to cooperate with stakeholders, including France and Germany that have previously expressed their intention to formulate political declaration, taking into account elements of information sharing and confidence building, in order to generate a better outcome document for the LAWS GGE.