

# **Empowerment and Autonomy in Cooperation of Emergency Management between Major Country and Its Neighbor**

——**Taking china-Laos cooperation on locust control as an example**

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**Abstract:** Empowerment and autonomy are often paradoxes in transnational cooperation between strong countries and the weaker ones. Due to the respect for the value of sovereignty, the empowerment of the strong country can only perform functions through the autonomy of the weaker neighbor as an intermediary variable, and the unpredictability of emergency management, time urgency, scope extension, available resources limitation and particularity may become short boards of transnational emergency cooperation, and the risks need to be recognized and controlled in advance. Locusts governance is a worldwide problem and Locust plagues have broken out several times along the China-Laos border over the years, which constantly harms crops, damages the public property safety, gradually evolves into the public crisis events. Our research observes the case of China-Laos Cooperation on Locust Control and divides the transnational cooperation of emergency management into **four types from two dimensions - empowerment and autonomy: Type I ‘High Empowerment - High Autonomy’, Type II ‘Low Empowerment - High Autonomy’, Type III ‘Low Empowerment - Low Autonomy’, Type IV ‘High Empowerment - Low Autonomy’**. The **characteristics, advantages and risks** of each type are discussed, and the **reasons and countermeasures** are analyzed based on the dilemma of China-Laos Cooperation on Locust Control. The study is aiming to provides theoretical reference and practical guidance for the cooperation between major countries and the neighbors locust prevention and control, so as to reduce the cost of cooperation in locust management, to avoid risks.

**Key Words:** Empowerment and Autonomy, Emergency Management, locust control

## **1. Introduction**

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Empowerment and autonomy are often paradoxes in transnational cooperation between strong countries and the weaker ones. Due to the respect for the value of sovereignty, the empowerment of the strong country can only perform functions through the autonomy of the weaker neighbor as an intermediary variable and the speciality of emergency management may become a short board of transnational emergency cooperation, and its risks need to be recognized and controlled in advance. With the constantly emerging of the public crisis, people gradually realized the significance and urgency of the emergency management. The occurrence of public crisis has made the world observe the shortcomings of their own capabilities as well as the importance of cooperation. Transnational cooperation in managing public crisis is becoming more and more common, which is conducive to resource integration and improvement of resource utilization, and promotes the development and updating of technology. However, this will also have some negative effects so that transnational cooperation mechanism still needs to be further improved.

From previous literature we can see that years of entanglement between unilateralism and pluralism, like in the case of the United States and Mexico fighting against drug crimes, has put a great negative impact on governance performance. (Sion Reich, MarkAspinwall, 2013)<sup>①</sup> It is more prominent in emergency management because emergency management has the characteristics of being urgent and administratively compulsory, and the objectives are extensive which requires the participation of pluralistic social subjects led by the governments. That's why agile governance (Hal Rainey, 1999) and systematic prevention are necessary and vital.<sup>②</sup> In the study of emergency management, the concept of "empowerment " has been widely used. With the continuous occurrence of public crisis events, more and more experts, scholars and administrators have realized the importance of "enabling" for emergency management. Numerical intelligence is used to promote the construction of

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<sup>①</sup> Sion Reich, MarkAspinwall.*The Paradox of Unilateralism Institutionalizing Failure In U.S.-Mexican Drug Strategies*, NORTEAMÉRICA, 2013(8).

<sup>②</sup> Hal Rainey, *Galloping Elephants: Developing Elements of a Theory of Effective Government Organizations*, J-PART, 1999(8).

emergency intelligence cooperation<sup>①</sup>, so as to improve the ability of information acquisition, improve the accuracy and efficiency of information acquisition in emergency management. Through the study of two-way empowering interaction between technology and organization, the reconstruction and optimization of emergency management mode are discussed<sup>②</sup>, to analyze the operation logic of technical empowerment in public health emergency management, and then improve the refinement and scientific level of national emergency management<sup>③</sup>. In addition, there are studies embedding artificial intelligence into the whole cycle of crisis management explore the mechanism of artificial intelligence enabling the management of public health emergencies<sup>④</sup>, and apply artificial intelligence to public relations crisis events, and use the development of science and technology to improve the level of emergency management, so as to further improve the emergency management mechanism. The operation logic, objective utility and implementation possibility of enabling in various fields of emergency management are discussed from multiple perspectives and levels. However, most of the existing studies take the self-emergency management of a country as the research object, mainly from the perspective of "empowerment", such as technical empowerment, role empowerment, psychological empowerment and other aspects to explain the role and importance of empowerment in emergency management. Rarely, the research on emergency management conducted by cooperation between countries is relatively scarce, and the study on emergency management from the perspective of the ability of other countries and the autonomy of the country is also weak.

Our research comprehensively summarizes the process, stages, cooperation mechanisms and measures of china-Laos cooperation on locust control from 2015 to

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<sup>①</sup> Zhang Guirong&Lei Yu, etc. *Research on Emergency Intelligence Coordination System based on Data Intelligence* [J]. *Modern Intelligence*. 2022, 42 (11) :150-157. (in Chinese)

<sup>②</sup> Hu Zhongming&Yu Chao. *Two-way enabling of technology and organization: holistic intelligent governance of emergency management -- a case study of digital transformation of Hangzhou city flood and Typhoon control system* [J]. *Zhejiang Social Sciences*. 2022 (7) :59-67. (in Chinese)

<sup>③</sup> Zheng Yonglan, Xin Yingying, Wu Xinyu. *Operational logic and practical response of Technology-enabled public health emergency Management: Based on the practice of COVID-19 prevention and control* [J]. *Journal of Shandong University of Science and Technology (Social Science Edition)*. 2022, 24 (2) :87-91. (in Chinese)

<sup>④</sup> Zhou Shen, Zhu Xufeng, Xue LAN. *Research on the Enabling effect of artificial Intelligence in the management of public health emergencies-- A Case Study of global COVID-19 prevention and control* [J]. *China Public Administration*. 2020 (10) :35-42. (in Chinese)

2021, analyzes the transnational cooperation type from two dimensions — "empowerment" and "independent", and discusses the advantages, risks and countermeasures of transnational emergency management between strong countries and the weaker neighbors.

**2. Analytical framework: ‘Empowerment-Autonomy’ transnational emergency cooperation type**

By observing the cases of emergency management cooperation between strong countries and the weaker ones, it can be found that the empowerment degree of strong country and the autonomy degree of the weaker country are important factors affecting the cooperation effectiveness. The cooperation can be divided into four types: "Type I: high empowerment - high autonomy", "Type II: low empowerment - high autonomy", "Type III: low empowerment - low autonomy" and "Type IV: high empowerment - low autonomy". By analyzing the characteristics, advantages, risks and countermeasures of each type, we can discuss and summarize the optimal matching between the empowerment of strong countries and the autonomy of weak countries, and put forward the theory, so as to guide the practice. (Fig. 1)

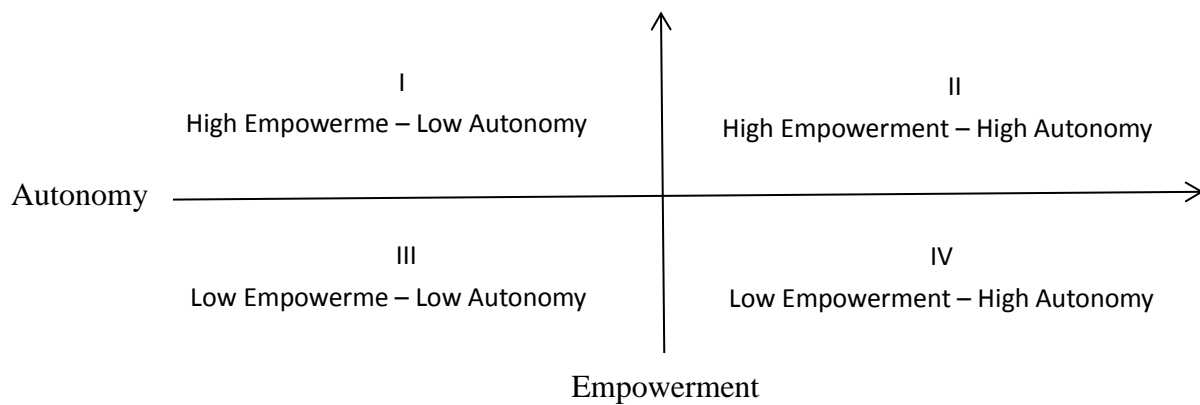


Fig. 1 ‘Empowerment-Autonomy’ Transnational Emergency Cooperation Type

In type I, the strong countries are in the leading position, providing assistance to weaker neighbors through assignment of technology and resources. However, the weaker ones are passive to accept the aids because of their governance capacity. At this point, cooperation between both sides form a one-way cooperation mode. Countries with high governance level and abundant resources and countries with

weak governance capacity and insufficient resources tend to adopt this kind of cooperation mode in the initial emergency management cooperation. In type II, the degree of empowerment and autonomy of both sides is enhanced, forming highly coordinated interaction cooperation mode. When both parties have the same goals, the pursuit of the same value, and the willingness to cooperate is strong. Both parties will adopt a positive attitude toward cooperation. At this time, the cooperation mode will be resilient and stable, and often can get twice the result with half the effort. In type III, the cooperation between the two sides is in a situation of low empowerment and low autonomy. The cooperation between the two sides is broken or stagnated, and the small countries refuse to accept the aid of the "big countries". In case of disagreement between the two parties, one party refuses to give assistance to the other party or the other party refuses assistance to the other party. The internal reasons may be lack of capacity, shortage of resources, difference of value, etc. In type IV, the weaker neighbors are highly autonomous and cooperation has yet to materialize. At this time, the crisis occurred, but the two sides had not yet made contact and established cooperation. The country that crisis occurred relied on its own strength to conduct independent governance. Integrate available resources and deploy relevant personnel to solve sudden crisis events and reduce public losses.

In the above four cooperative type, the empowerment degree of strong country and the autonomy degree of the weaker country are constantly transforming. And the factors influencing cooperation types are changing. For instance, governance abilities such as the level of technology, the quantity of resources, the amount of labour force will influence the willingness and capacities of both parties to work together. Therefore, the cooperation type has been in a state of dynamic change. In order to achieve emergency management cooperation between strong countries and the weaker ones and enhance the effect, different types of cooperation should be carried out and kept adjusting according to the governance capacity, willingness of both parties, emergency management phase.

### 3. Case Synopsis of China-Laos cooperation on locusts control <sup>①</sup>

Locust control in China has a history of more than 3,000 years, during which China has accumulated a lot of management experience and technology. At the beginning of the founding of the People's Republic of China, China still lacked experienced technologies for locust control. At that time, through the joint efforts of the government and the majority of scientific researchers, the strategy of "simultaneous reform and control" was proposed and implemented, which transformed nearly two-thirds of the East Asian migratory locust occurrence bases and used chemical pesticides for large-scale control<sup>②</sup>, thus initially forming a locust control system with Chinese characteristics. After a long period of improvement and progress, the management level was further improved, and the occurrence of locust infestation was effectively curbed. With the progress of science and technology and the improvement of biological research level, China has made a breakthrough in the use of microsporidium locust and *Metarsiana anisopliae* and other microorganisms for locust control. The technology system of locust control has been further improved, and its control capacity is at the front of the international level of control capacity.

Locust plagues near China-laos border has been sustained for many years, with serious disasters occurring since 2014. In 2015, the Lao agricultural sector was unable to control the plague, and asked the Chinese government for technical assistance.<sup>③</sup> From 2015 to 2017, China provided a large amount of cross-border aid in terms of supplies and training. However, from 2018 to 2020, the cooperation encountered difficulties, as locust infestations spread further. Laos gradually changed from a "transiting region" and "food supply station" for locusts to an "spawning-hatching ground" and "insect source", posing a growing threat to China.

In 2015, locust plague broke out in Phuntuan and Yankang counties of Luang Prabang Province, Laos. The Lao government, unable to contain it, requested

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<sup>①</sup> Luo Hongxia&Hsien wu. *Multinational locust plague prevention and control of mixed "three times" a brief study* [J]. Journal of the association of south-east Asian nations (asean) research, 2021(03): 110-125. (in Chinese)

<sup>②</sup> Zhang Long& YOU Yinwei. *Technical system and application results of locust plague control with Chinese characteristics* [J]. Journal of Plant Protection, 202, 49 (1) : 118-124. (in Chinese)

<sup>③</sup> *Against the locusts at borders*, Caixin weekly, 2020.8.24, <https://weekly.caixin.com/2020-08-22/101595741.html>, Login time: 2021.7.21.

emergency assistance from the Chinese embassy and Consulates in Laos. Yunnan Provincial government of China approved the request of emergency assistance from Yunnan Provincial Development and Reform Commission, and the Provincial Agriculture Department made timely deployment, organizing a working group composed of technical experts and defense groups to carry out technical assistance for locust eradication in Laos from June 5<sup>th</sup> to June 14<sup>th</sup> in 2015.<sup>①</sup> And two training was conducted for Laos' technicians and farmers in June and August. In 2015, an additional 1.6777 million yuan was provided to Laos for locust control.<sup>①</sup>

In 2016, the Ministry of Commerce of China provided agricultural chemicals and equipment to Laos. Later, due to the ineffective utilization, China sent experts to the Laos for technical training. At the same time, according to the arrangement of the government of Yunnan province and Laos the invitation of the ministry of agriculture and forestry, agriculture department of Yunnan province take the lead in organization, sending working group to assist Laos in the prevention and control of yellow-ridged-bamboo locust on May 29<sup>th</sup> and June 6<sup>th</sup>. The working group communicated with Laos county governments and agricultural bureaus, trained professional and technical personnel in different counties, and further organized farmers to promote scientific prevention and control.<sup>②</sup> On September 28<sup>th</sup>, a handover ceremony of supplies was held in Jinghong City, Yunnan Province.<sup>③</sup>

In 2017, Yunnan province was invited to provide assistance again. A delegation from the Lao Ministry of Agriculture and Forestry visited Yunnan province in March, and a working group from Yunnan province visited Laos from in May.<sup>④⑤</sup> From June 12 to 15, the National Locust Prevention and Control Conference was held in

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<sup>①</sup>The eppo sloid wood packing material in Yunnan province standing 2015 annual department, Yunnan Provincial Department of Agriculture and Rural Affairs, September 22, 2016, Login time: June 24, 2022.

<sup>②</sup>Prevention and control of the Yunnan province agriculture department of aid to Laos yellow ridge bamboo locust working group to the old work, station eppo sloid wood packing material in Yunnan province, December 1, 2016, <http://www.ynzbzj.com/Item/208.aspx>, login time: on July 21, 2021.

<sup>③</sup>The Yunnan of China aid to Laos MieHuang materials handover ceremony held in Jinghong city ", rural agriculture department of Yunnan province, on September 28, 2016, [https://nync.yn.gov.cn/html/2016/shouyetoubuxinwen\\_0928/374246.html](https://nync.yn.gov.cn/html/2016/shouyetoubuxinwen_0928/374246.html), login time: on June 24, 2022.

<sup>④</sup>Lao delegation to visit Yunnan province ministry of agriculture and forestry, agriculture and rural areas in Yunnan province hall, on April 1, 2017, [https://nync.yn.gov.cn/html/2017/shouyetoubuxinwen\\_0401/374335.html](https://nync.yn.gov.cn/html/2017/shouyetoubuxinwen_0401/374335.html), login time: on June 24, 2022.

<sup>⑤</sup>Prevention and control of the Yunnan province agriculture department of aid to Laos yellow ridge bamboo locust working group to the old work, station eppo sloid wood packing material in Yunnan province, on May 26, 2017, <http://www.ynzbzj.com/Item/544.aspx>, login time: on July 21, 2021

Dongfang city, Hainan Province of China, which deployed the implementation of the National Plan for Sustainable Locust Disaster Management (2014-2020), and confirmed the promotion of international cooperation on joint locust prevention and control and the strengthening of technical assistance to Laos.<sup>①</sup> On September 27, the 8th Yunnan-Northern Laos Cooperation Conference and Agriculture, Forestry, Alternative Planting and Poverty Alleviation Cooperation Conference was held in Jinghong city, Yunnan Province. The two sides reached 24 consensus, including continued assistance to Laos for locust control, consultation with Laos on the transfer of the Yunnan-Laos Agricultural Science and Technology Demonstration Park and pilot projects for regional management of cross-border animal epidemics.

In 2018, the aid program stalled. It is learned that Laos was affected by some international influence, believing that pesticide locust control could damage the environment and affect its export, so it rejected China's assistance. Later, the Locust infestations returned urgent and Laos asked China for assistance again. However, the Chinese central government has cut budget, and Yunnan province lacks funds for outbound aid, resulting in limited action and delay in restarting the project.

Although China resumed its assistance to Laos in 2020, the border crossing of personnel and supplies was limited due to COVID-19, so technical guidance and supply assistance were circumscribed. On July 27, the Ministry of Agriculture and Rural Affairs conducted a drill and held a symposium in Jiangcheng county (a border city between China and Laos), promoting international cooperation. On the symposium, China has actively communicated and consulted with Laos, Vietnam, Myanmar and other countries to carry out international cooperation on information exchange and technical assistance for locust eradication.<sup>②</sup>

In April of 2021, two months earlier than usual, the locusts entered Yunnan from Laos again, not only invaded Jiangcheng county, but larger areas. Moreover, it

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<sup>①</sup>The national locust prevention and control of green will request: perseverance propulsion locusts and sustainable management ", China agricultural information network, June 15, 2017, [http://www.agri.cn/V20/ZX/nyyw/201706/t20170615\\_5685506.htm](http://www.agri.cn/V20/ZX/nyyw/201706/t20170615_5685506.htm), login time: on June 24, 2022.

<sup>②</sup>The agricultural NongCunBu yellow ridge bamboo locust emergency prevention and control in yunnan province practice the deployment of prevention and control work, agriculture and rural areas in yunnan province hall, July 29, 2020, [https://nync.yn.gov.cn/html/2020/shouyetoubuxinwen\\_0729/374893.html](https://nync.yn.gov.cn/html/2020/shouyetoubuxinwen_0729/374893.html), login time: on June 24, 2022.



changed to be ‘line invasion’ from ‘point invasion’, and may become ‘plane invasion’. If it is not well controlled, the control costs will be surging inevitably. The plague may damage a wider area if the control strategies are not properly adjusted.

#### 4. Case Analysis: Phases division and cooperation types

Since 2015, China-Laos cooperation on locust control has experienced many twists and turns, with the two sides constantly playing game strategies and interacting with each other. Cooperative governance alternates with independent governance. China helps the Lao governmental system and improves its governance efficiency through ‘technology empowerment’ and ‘resources empowerment’.

China, as the stronger country, by giving full play to the advantages of locust control technology, provides resources and assists Laos, the weaker one, in the distribution and use of locust control materials, so as to enhance the governance capacity of Lao's organizational system. And meanwhile, China establishes a bilateral cooperation platform, mobilizes social members to participate, and revitalizes the diverse governance resources to promote Laos to construct a sustainable self-governance model and improve its top-level design, so as to achieve the expectation of strong country helping the weaker ones in emergency management.

(Tab. 1)

Tab. 1 Empowerment - Analysis of independent transnational emergency cooperation types

type	characteristics	advantages	risk	countermeasures	case
I	High empowerment — high autonomy	Enhanced emergency management capacity (technology, resources, etc.)	Value differences	Discussing the value ranking, and striving to reach a consensus after action	In 2017, 2021, cooperative swing period. For normal locust situation, Laos questioned pesticide control of locust control, and people prayed to Buddha. When it was serious, Laos sought assistance from China and received responsive support.
II	Low empowerment	Adjust measures	Obstruction of cooperation	Change the way of enabling,	Before 2015, period of non-cooperation. The agricultural departments

	— high autonomy	to local conditions	n Weaknesses in ability are prominent	flexible enabling under the premise of respecting autonomy, such as evaluating requirements and demands, hierarchical enabling	adopted various methods such as burning and artificial capture, but the results were small. In the early stage of independent governance from 2018 to 2020, the cooperation was in a setback period. Due to the international influence, Laos refused China's pesticide control assistance.
III	Low empowerment — low autonomy	/	Symbolization of cooperation; Cooperation is invalid or ineffective	Change our mindset and explore the best way for cooperation	In the late period of independent governance from 2018 to 2020, Laos cut off the cooperation period, refused China's assistance but its own capacity was limited, and the locust control work fell into difficulties again.
IV	High empowerment — low autonomy	Powerful force	Mismatch between policy and environment; Impaired sovereignty fuels nationalism	Publicity, training, consultation and adjustment	During the period of close cooperation from 2015 to 2016, China provided technical and material support to Laos and established a cooperation mechanism.

#### 4.1 Cooperation blank (before 2015) : Low Empowerment - High Autonomy

The Yellow ridged bamboo locusts were first spotted in Punthong District of Luang Prabang province in Laos in October 2014, and spread to the whole province and neighboring Huaphan and Phonsari provinces.<sup>①</sup> Until June 2015, a large area of locust infestation occurred in Luang Prabang province, involving 21 villages in Fengtuan and Yankang counties. The locust infestation caused heavy agricultural losses in Laos, and a large number of corn, rice, bamboo and other plants were eaten. Agricultural authorities in Laos have used fire, artificial capture and experimental

<sup>①</sup>Kong Zhijian & Cun Jiali, *Laos disaster situation in the recent 20 years and the prevention and control of profile and thinking* [J], southeast Asia, 2018(3): 12-13. (in Chinese)

chemical control to little effect.<sup>①</sup> At this stage, China and Laos have not yet established cooperative relations, and Laos mainly conducts locust control independently. Due to the lack of resources available and the instability of the governance mechanism, coupled with the severity of the locust plague, it was difficult to effectively control the locust plague in Laos at this stage.

#### **4.2 Imbalanced Cooperation (2015 to 2017) : High Empowerment - Low Autonomy**

In June of 2015, the damage of the locusts was further expanded. Laos could not remove the damage by relying on its own efforts. Under such circumstances, the Lao government initiated an emergency assistance request to China, and China enabled Laos with technology and resources. From 2015 to 2016, China kept providing technical support to Laos. An expert team from the Department of Agriculture of Yunnan Province has carried out 24 training sessions on yellow-bristed bamboo locust control techniques in the disaster-hit areas on three occasions, training 150 agricultural technicians and over 600 anti-locust operators.<sup>②</sup> By September of 2016, Yunnan province had provided a total of 11 tons of yellow ridge bamboo locust pesticides, 7 truck-mounted sprayers, 410 backpack powered sprayers, 120 stretcher-mounted power sprayers, 960 sets of protective equipment, and 10 sets of disease and insect collection equipment to Laos.

At this stage, both sides are cooperating positively that there were less contradiction and friction, which is conducive to enhancing governance and reducing sunk costs.

However, it also shows the risks. Laos is highly dependent on China in locust control, resulting in over resource dependence and technology dependence. Over time, Laos may lack sense of self-efficacy and motivation to improve its independent governance capacity, making it difficult to establish a sustainable cooperative governance mechanism on the basis of enhancing the capacity of weaker country. It

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<sup>①</sup>Our assistance grasshopper disaster prevention and control of Laos, corresponding network, 29 November 2016, <https://news.cnhnb.com/rdzz/detail/375088/>, login time: on June 24, 2022.

<sup>②</sup>The yunnan of China aid to Laos MieHuang materials handover ceremony held in jinghong city, Yunnan Provincial Department of Rural Agriculture , September 28, 2016. [https://nync.yn.gov.cn/html/2016/shouyetoubuxinwen\\_0928/374246.html](https://nync.yn.gov.cn/html/2016/shouyetoubuxinwen_0928/374246.html), Login time: June 24, 2022.

may lead to the mismatch between cooperation strategies and local environment, resulting in the loss of sovereignty of weaker countries and trigger disagreement over the value of governance and local opposition, and When the resources on both sides are consumed to a certain extent, it may result in the rupture of the cooperation.

### **4.3 Cooperation Suspending(2018-2020)**

#### **4.3.1 Early stage : Low Empowerment-High Autonomy**

In 2018, under the influence of an international organization, Laos believed that pesticide locust destruction damaged the environment and affected exports, and Laos rejected China's assistance from 2018-2020. At this stage, the bilateral cooperation on locust control established since 2015 broke down, with China no longer participating in Laos' locust control, and Laos shifted from passive acceptance to autonomous governance. At this phase, Laos and China do not share the same value perception of locust control. After China's withdrawal, Laos has more freedom to consider its own value perception in locust control, and can take measures according to local conditions and fully consider the governance method acceptable to its own people.

However, Laos is the weaker country with limited population and low level of economic development. The establishment of locust control systems and mechanisms in Laos is incomplete, and the technical support doesn't match the demand. Without China's empowerment, Lao's autonomous governance failed to perform functions in locust control.

#### **4.3.2 Late stage : Low Empowerment-Low Autonomy**

The intervention of the international organizations broke the cooperation balance between China and Laos, but didn't compensate Laos limitation and drawbacks. The International organizations have limited action capacity and obvious cost constraints. Their advanced ideas and limited resource input are greatly reduced, falling below expectations on account of Lao government's inadequate capacity.<sup>①</sup> Due to the imbalance of cooperation between the two sides, the locust plague in Laos spread again. At this stage, innovation and exploration in Laos self-adjustment failed to break through the previous management mode, and failed to realize the locust control effect consistent with Laos value recognition. The locust control system was almost

paralyzed, and the cooperation appeared ineffective.

#### **4.4 Cooperation Reconstruction (2021 till now) : High Autonomy - High Empowerment**

Before 2021, China-Laos cooperation went through a fluctuate period which is also the running in and preparing period. After the suspension of cooperation, China has strengthened the negotiation with Laos in advance to reach a consensus on the values, targets, means and methods of locust control, shifting from one-way assistance to mutual collaboration and gradually realizing the balance between empowerment and autonomy. In later phases, therefore, the inner demand and external supply of both sides keep matching, so that both sides can perform their own functions. Thus, the domestic emergency management system in Laos has been continuously improved, which realize the improvement of supply and demand system. This change is conducive to improving the Integrating degree between the strong countries and the weaker ones and establishing more adaptable, growth-oriented and flexible emergency management system.

#### **5. Conclusion and discussion**

The external reason for the transformation of the cooperation between China and Laos mainly lies on the severity of locust plague and the influence of related international factors. At the same time, the internal reason is that the value consensus is greatly different, and the internal reasons are changing with the external reasons. Because of the memory of the famine, China has a large population and people have a common understanding of "snatching food at the mouth of locusts". However, the situation in Laos is different. The two values of efficient locust control to ensure food security, rejection of pesticide locust control to affect environmental security and food export are constantly changing due to the different severity of locust plague. Besides, guidance from other countries as political intervention also become an important factor. Those lead to the fluctuating attitude of Laos towards China's assistance and affects locust control effect.

Through the research, the following conclusions can be drawn.

Firstly, the cooperation in emergency management between strong countries and

the weaker neighbors requires transitional and preparing period, which usually corresponds to the universal law: starting with Low Empowerment - High Autonomy cooperation type, followed by high Empowerment - low Autonomy type, and return to Low Empowerment - High Autonomy type, and become Low Empowerment - Low Autonomy type, finally come to high Empowerment - high Autonomy type. When disaster happens, the weaker countries will firstly try autonomous governance, but usually fails due to the capacity limitation, and start cooperative governance by asking for assistance from the strong neighbors. Due to the urgency of the disaster, strong countries, out of consideration for their own security and care for the neighbors, tend to provide a large amount of aids to alleviate the disaster in a short time, ignoring the ability training and sovereignty respect for weak countries, which may cause value differences, resulting in resistance from weak countries. thus the cooperation is poor in elasticity and long-term performance. Once some interference appears, the cooperation mechanism is easy to break, and cooperation suspends and the disaster rebounds or expands. The two countries should adjust their cooperation strategies to adopt a flexible and growth-oriented cooperation mechanism.

Secondly, Transitional and preparing period should be shortened to improve the efficiency of emergency cooperation. The fundamental solution lies in the consensus building between the two countries. To be specific, the following measures can be taken.

(1) Information Sharing. China continue to share with Laos the locust plague observation data, performance data of locust control and environmental impact data, and jointly establish the cooperative mechanism for the management of agricultural diseases and insect pests, so as to dispel the doubts of Laos through data and facts. In addition, Laos should actively accept the relevant data and compare their governance situation for adjusting the governance thoughts. At the same time, China should actively respond to Laos' request of assistance, receiving and analyzing Laos governance data, so as to achieve the data exchanging from both sides and establish information communication mechanism. Thus, the efficiency of cooperation can be further enhanced.

(2) Bilateral Training. Knowledge and skills training will be conducted not only for the Lao government personnel, but also for the Chinese personnel involved. It helps combine the theoretical knowledge with the actual situation, and makes relevant personnel master practical technology to solve the problem. Thus, a better response system is formed on how to effectively convey messages and influence Lao attitudes by strengthening bilateral cooperative ties. In addition, technical training and cultural training should be actively promoted. Both sides should carry out certain local cultural publicity to enhance mutual understanding. And it is necessary to promote mutual understanding between the two sides, so that the emergency management work is easier to move forward and reach consensus.

(3) Personnel exchange. It is significant to increase personnel exchanges in locust plague prevention and control, to strengthen the mutual learning and to influence perceptions and attitudes through field visits, soft propaganda way and non-governmental diplomacy. Besides, it is important to promote the formation of interactive debugging system between the two sides, forming a two-way cooperation mode rather than one-way output and input mode.

(4) Technological innovation. In the process of governance, both sides continue to accumulate experience, exploring the progress of science and technology, and find a less harmful and cost-effective governance way. Where feasible, the natural enemies of locusts such as chickens, ducks and eagles are used to control locusts and achieve green governance. In addition, the utilizing of the innovated technology should be strengthened as well, which means it is necessary to adapt the use of technology to local conditions. It is significant for take measures more suitable for the local environment and more accepted by the local people.

(5) Binding of performance evaluation and hierarchical empowerment. Considering the organization and action capacity of the Lao government, it is necessary to bind the performance evaluation and hierarchical empowerment, so as to avoid a huge waste of resources by allocating a large amount of supplies and personnel to inefficient local organizers. To be specific, first of all, China should respect Laos autonomy and invite Laos to participate in the formulation of the index

system of "Assessment of locust control in Laos". Then, annual assessment should be carried out for Laos, and conducting hierarchical empowerment based on the assessment results, so as to promote the initiative of Laos. Secondly, according to the national capacity and development status, change the mode of empowerment from economic and material support to skills imparting supplemented by material support, so as to explore the balance between empowerment and autonomy.

To sum up, it is easy to know based on the above statement that target oriented cooperation mechanism should be established in the emergency management cooperation between strong countries and the weaker neighbors with plenty of related resources and information, on the basis of the full discussion and negotiation between partners, and agree on the value of pursuit and goal. Thus, the two sides establish a good information communication mechanism, perfecting the resilient cooperation mechanism, so as to effectively cope with needs to take rapid, accurate, efficient, comprehensive treatment measures of emergency management. The cooperation between the two sides should be two-way interaction, not one-way. In the process of cooperation, both sides constantly improve the relevant emergency management system, promote both sides to jointly improve the management level, and develop and expand relevant science and technology. At the same time, it is necessary to keep pace with the development phases, reflect on the problems arising in the process of cooperation, and constantly debug and optimize the management system and cooperation mechanism according to the actual development situation.



## Reference

- [1] Wang Fang. *Order for 30 Years, about 10 Results* [J]. Proceedings of China, 2019 (006).
- [2] Yang Hong, Qu Tianyao, etc. *Lao Huang Ridge Bamboo Locust Occurrence Status Quo and Countermeasures* [J]. China eppo Tribune, 2017 (9) : 50 -54
- [3] Wang Lixin&Zhou Qiang. *Locusts Photoelectric Induction Capture Governance Research Progress and Application Prospect of Analysis* [J]. Journal of China agricultural university, 2017, 12 (5) : 203-210
- [4] Zhao Yanping. *Boundless World: Cooperate with the International Order of the 20th Century History* [J]. Journal of yunnan university (social science edition), 2020, 12 (4).
- [5] Fan Fulai. *Governance by the Concept of Ecological Civilization of Locust Disaster* [C]. The 15th annual meeting of China Association for Science and Technology at the venue: 18th agricultural ecological environment protection and agricultural sustainable development conference proceedings. Guiyang: China academic journals (cd-rom version) electronic magazine, 2013.
- [6] Kang Le&Wei Liya. *Research on locusts in China in the past 60 years* [J]. Journal of Plant Protection, 2022,49 (1) : 4-166.
- [7] Cao Chengquan , Zhang Yang, etc. *The Locusts Research Progress and the Comprehensive Treatment* [J]. Journal of shandong university (natural science edition), 2008, 33 (4) 6:657-660.
- [8] Aixiamu Yakufu, Migiti Sedora, etc. *Analyses the Grassland Locust Biological Control Technology* [J]. Journal of jilin animal husbandry and veterinary, 2020 (8) : 77-79.
- [9] Zou Yunjin & Niu Jianhua. *Government Interagency Coordination Mechanism in Emergency Management Enable Utility - in Crisis Response of the Olympic Games*[J]. Journal of suzhou university (philosophy and social science edition). 2022, 43 (02).
- [10] Yu Jianxing & Chen Shaohui. *From the Technology Can Sssign to the System Restore: Emergency Management System and Mechanism Innovation of the Digital*

age[J]. Journal of zhejiang academy of social sciences. 2022 (5).

[11] Yu Junyao&Ning Chao. *Diversified Empowerment: the Inner Logic of Social Governance Community Construction Under the Guidance of Party Building—Multiple Case Studies Based on Guangdong Province*[J]. Journal of zhejiang academy of social sciences. 2022 (5).