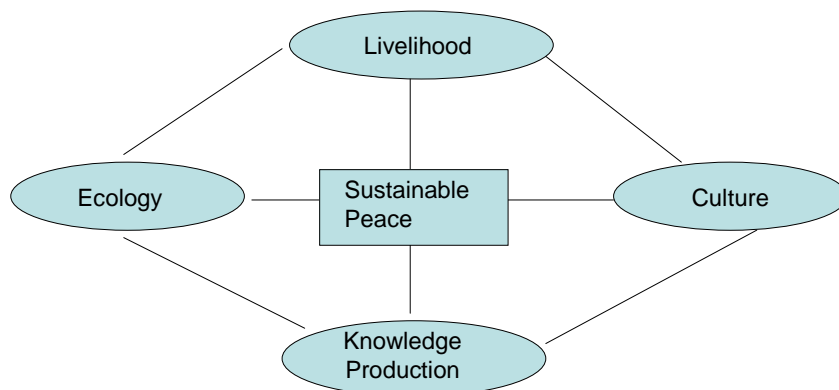


Sustainable Peace, Gender, and Knowledge Production: the case of experimenting ecological agriculture by PeaceWomen in China¹

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Background

This paper is based on the just completed research project “Women’s Sustainable Development and Educational Work for Peace---A Study of the Nobel Peace Prize Nominees from Hong Kong, Mainland China, and Taiwan” (hereafter referred to as the Project) started in 2008. Conventional concepts of peace revolve around questions of militarization, conflict and war. Most Nobel Peace Prizes were awarded to statesmen or organizations working on conflict resolution or disarmament. This concept, however, has undergone modifications in recent years, when the Prize was awarded in 2004, 2006 and 2007 to efforts related to ecology, poverty and climate change. In fact, since 2003, the concept of peace as inclusive of ecology, health, social justice, religious tolerance, economic equity, and others, has been the central proposition of the global project “1000 Women for the Nobel Peace Prize 2005” (hereafter referred to as 1000WNPP) which made a collective nomination of 1000 women (hereafter referred to as PeaceWomen) from 150 countries for the Prize. We, the Project collaborators², were involved in the nomination and documentation of the 108 Chinese PeaceWomen incorporated in the list. As a follow-up effort to consolidate the re-conceptualization of peace in terms of sustainable livelihood, ecology development, and community culture by means of the experiences of Chinese PeaceWomen, and to find out the conditions for sustaining the peace-work of Chinese women and its gender specificity through investigating the process of knowledge production and circulation, we invited 11 PeaceWomen from the Mainland (6), Hong Kong (2) and Taiwan (3) who have contributed significantly to environment protection, sustainable livelihood and community building to participate in the Project. 5 of them were on the 108 Chinese PeaceWomen list and 6 were newly invited. The framework that we adopt to demonstrate a mode of sustainable peace that organically integrate livelihood, ecology, culture, and education (knowledge production and circulation) can be shown in the diagram:



The articulation of peace in sustainability terms is concretized operationally into the following three areas of investigation:

- 1) the structural and non-structural violence that damages the environment, livelihood, and relationships;
- 2) the concepts and strategies used by the PeaceWomen to enhance a balance between ecology, livelihood and culture, and thus producing new knowledge on such areas for themselves and to other members of the community; and
- 3) the changes experienced and their gender specificity.

We think that gender as an analytical category alongside critical peace studies is crucial not only because women are usually victims of developmentalism that lead to environment degradation, uneven distribution of resources, individualism and alienation, and denial of traditional knowledge, but also because the ways women negotiate with such violences are gender specific, incorporating feminine values like caring and sharing (Ruddick 1995; Tobias 1996), constitutive of a different set of logic, such as community bonds and ordinariness (Marshall 2000), and more intimate to nature and traditional culture, as informed by eco-feminism (Warren 1997; Merchant 1996).

We mainly adopted the method of Participatory Action Research (PAR) to carry out the Project³. In-depth interviews, ethnographic observation and visual documentation were also conducted during the research period. The case to be discussed here is the process of implementing their action plan on ecological farming by the two

PeaceWomen coming from Lijiazhuang Village, a fruit growing village very close to the Fenyang City, a County-level city 3 hour-bus ride from Taiyuan, the Provincial city of Shanxi which is located in the North-western part of China. Before 1995, the Village mainly produced wheat, soya beans, corn and sorghum for subsistence. Due to scarcity of water resources, the Village turned into a fruit growing area and villagers started to rely on cash income for their living. Pears and apples are the two major cash crops grown in the contract land (zeren tian 责任田) owned by the collective (i.e. village level government), while walnuts, grapes, dates etc are the minor crops grown. Most villagers have been using chemical fertilizers and/or pesticides in growing fruits, particularly pears and apples.

Ms Wang Shuxia (Wang) and Ms Duan Suolan (Duan), the two peasant women who participate in this peace action research are the leaders of two community organizations in the Village, namely the Women's Association (WA) and the Production Cooperative (PC). Wang, originally nominated as one of the 108 Chinese PeaceWomen in the 1000WNPP, pioneered in ecological and cultural practices in the village after taking a few training courses organized by *Peasant Women (Nongjianv, 农家女)*, the national Women's Federation sponsored magazine, and the Yanyangchu School of Rural Construction (Yangyangchu Xiangcun Jianshe Xueyuan 晏阳初乡建学院), a NGO based in Hebei Province, back in the late 1990s and early 2000s. Not only did she build the very first bio pit (zhaochi, 沼池) in the Village to demonstrate the effectiveness of the ecological model of "pigs—bio resources—fruit trees"

(zhu-zhao-guo, 猪-沼-果)⁴ and later led the other 100 or so villagers to install such kind of pit under the government's subsidy scheme, she also helped set up the WA and PC under which women's cultural activities (such as reading room and dancing group), agricultural technology training sessions, small food-processing projects (such as walnuts, grapes), small scale credit, and so on were organized. Putting what she had learnt into concrete action to improve the environment, livelihood and cultural life in the village was the reason why she was being nominated as a PeaceWoman.

On Wang's behalf, Duan, a younger leader in the village who had been working closely with Wang for a few years, was the one who participated in the first PAR Workshop organized by us in Yinchuan City, Ningxia Province in August 2008. In this Workshop, after many fruitful exchanges and discussions on their concrete experiences on environmental protection, sustainable livelihood, urban-rural interaction, community building among the participants, every PeaceWoman came up with a work plan for the peace action to be implemented in the coming two years. The plan that Duan came up with was to stop using pesticide in the Village for a healthier life and community. Wang supported this plan too. With resources input from the

research team, Duan and Wang implemented the action plan together by putting up publicity materials on the public display boards; running a training workshop in Dec 2008 on healthy agricultural practices including the use of bio-liquid (zhaoye, 沼液) as pesticide substitute and nutrition liquid (yingyangye, 营养液) as nurturing supplement, and preservation of grasses; and executing the experiment of bio-liquid and nutrition liquid use and grass preservation in the following 2 years.

Before analyzing the issues around knowledge production and gender teased out from the strategies and tactics used by the two PeaceWomen during such transitional period to ecological farming, it is important to contextualize such practices in the environmental crisis caused by agriculture pollution and the historical development of the so-called modern agricultural technologies in China after 1949 and its impact on the traditional knowledge system sustained by Chinese peasants for thousands of years. These contexts may provide a clue for us to understand the structural and non-structural violence that have damaged not only the environment and livelihood, but also the traditional culture around farming and community relationship.

Environmental Crisis Caused by Agricultural Pollution and the Historical Process of Peasant's Use of Chemicals in Farming

As stated by Prof. Wen Tiejun (2007), the renowned Chinese scholar in rural re-construction and ecological agriculture, the agriculture pollution in China is mainly originated from the immense use of chemicals in agriculture. China is on the top of the list of pesticides users in the world. As for producers of pesticides, China ranks second. The 2005-06 figures showed that 56% of the pesticides used were highly poisonous and 450 millions mu(亩, =0.0667 hectares) of agricultural land were sprayed by pesticides. Over 21.87 million sq. qing (顷, =6.6667 hectares) (i.e. 2187 million mu) of land were polluted by chemical fertilizers and pesticides. The amount of pesticides used per annum was over 1.3 million tons. As for chemical fertilizers, the amount used per annum was over 40 million tons, ranking first in the world. As a result, not only more and more arable land become hardened or sandy, and air, rivers, lakes, and underground water more polluted, vegetables, fruits and other agricultural products grown by the use of chemical fertilizers and pesticides are less nutritious or even harmful to the consumers, leading to serious food security crises. Peasants who have direct contact with chemicals also suffer from health hazards. All these phenomena can be considered direct violence caused by chemical agriculture to both human body and nature.

If both producers and consumers are victims of chemical agriculture, then who are the victimizers? We have to look into the structural violence before we can identify the target of negotiation for peace. Wen (2007), rather than putting the blame on the peasants and their inappropriate use of chemicals, pointed out that Chinese peasants actually “learnt” to use chemical fertilizers and pesticides to meet the market needs triggered by capitalization, urbanization and consumerism back in the 1980s. However, the use of chemicals in agriculture started as early as the 1950s. In the Socialist Era, due to both material and ideological reasons (resources demand from population growth and industrialization in the city; elimination of private ownership; to achieve higher yield in production to demonstrate the advantage of socialism, etc), China collectivized the agricultural labour into production teams and communes from mid 1950s onwards and introduced scientific technologies to modernize agricultural practices, including the use of chemical fertilizers and pesticides. At that time, the supply of these materials among the production teams was regulated by the collective shop (gongxiaoshe, 供销社). At the same time, agricultural technicians (as experts) were trained to teach production team members, i.e. individual peasant, to use such technologies and to follow instructions. The whole supportive system of water irrigation and electricity supply were also built to run such kind of production model. Agricultural production at that period did not only involve technological transfer, but also a politicization process. Meaning, it was a political responsibility for the production teams and communes in the villages to fulfill the production target set by the government in order to show their sincerity to socialist ideology. Therefore as a collective, peasants in the production team would follow the instructions of the technician to use chemical fertilizers and pesticides to guarantee high yield. At the same time, they did not have to bear the possible economic risk individually as before, since they earned their income by labour points (gongfen, 工分) under the socialist system.

Unfortunately, in the late 1970s and early 1980s, when the commune system was dismantled under the Reform Policy of Deng Xiaoping and “family as a unit” production system was restored, peasants’ reliance on technologies, especially on the use of chemical fertilizers and pesticides, had already rooted in the peasants’ practices. With chemical fertilizers and pesticides became more and more accessible in the new market economy, and individual family’s economic survival or livelihood heavily relied on the small pieces of land allocated back to individual family by the Government, the use of chemical fertilizers and pesticides were even more intense than before. The mentality and habit of relying on the instructions of the technician

but not their own observations still prevailed.

It is worth noticing that while Socialist China modernized its agriculture by adopting high technologies from the West, including the use of mix bred high-yield seeds, chemical fertilizers, irrigation systems, pesticides, machines etc. initiated by the US under the so-called Green Revolution, some scholars and environmentalists in the West had already become more alert of the negative impact and the problem of sustainability of these technological reform on agriculture and the environment. One of the most classical works was Rachel Carson's *Silent Spring* (1962) which highlighted the environmental and human cost (symbolized by no more birds singing in Spring) paid by using chemicals, especially pesticides and herbicide, and inspired the first environmental NGO to establish in the US⁵. Obviously the alarm rang in the civil society of the West definitely could not reach the ears of the Chinese officials who had no sense of environmental protection at that period of time⁶. In the following decades, as the impact became more obvious not only in the West, but also in developing countries like China, different perspectives to criticize the supreme position of using high technologies in agriculture and to advocate alternative agriculture were developed, including the effort of Stephen A. Marglin (1996) to examine hi-tech agriculture through the lens of knowledge. He argued that it is the Western ideology of knowledge that prevents a peaceful coexistence of "episteme" and "techne", the two distinct ways of "understanding, apprehending, and experiencing reality" (227). "Episteme", upon which hi-tech agriculture relies, is characterized by scientific, logical, rationality, laboratory experiment oriented calculations and analyses, while "techne", upon which traditional agriculture relies, is characterized by passion, sensations, on-hand personal and creative practices. However, "ideologically Western culture has elevated episteme to a superior position, sometimes to the point that techne is not only regarded as inferior knowledge, but as no knowledge at all." (227)

As a result, as in the case of China, knowledge around hi-tech agriculture imported from Western countries have become the norm and the way of practice considered advanced, scientific and thus universal, while the traditional wisdom accumulated by generations and generations of practicing farmers become "abnormal" and the way of practice considered backward, not scientific enough, and thus being marginalized or even to be discarded. With the force of market economy, many more peasants see chemical fertilizers, pesticides and herbicides a kind of investment to save labour and to guarantee high yield from the land rather than a threat to the mode of sustainable livelihood maintained by long-practiced tradition of land nurturing by their ancestors

and to their health. This has not only given rise to the peasants' reliance on external input but also their disconnectedness from the land, nature, traditional culture, familial and community relationships, and even their own bodies. Moreover, when livelihood is no longer sustainable, many young peasants would go to look for jobs in the cities, leading to serious rural-urban migration problems. As pointed out by Wendell Berry back in the 1970s, this way of transforming "agriculture" into "agribusiness" has its ethical and political consequence, as "disconnectedness of land endangered the very fabric of society; no gain in efficiency could make good this loss" (Berry 1977 in Marglin 1996: 187)

As more and more scholars, activists, NGOs, and even some governmental departments became aware of the crises, introducing organic farming practices or reviving traditional agricultural knowledge have been gradually included in their working agenda. The Yanyangchu School of Rural Construction initiated by Wen Tiejun and others concerned scholars and activists to train practicing farmers like Wang Shuxia, to give financial support to necessary infrastructure in the villages, and to arouse the public awareness of the inter-relatedness of "the problems of peasants, agriculture, and villages" ("sannong wenti" 三農問題)⁷, are the early efforts made to advocate changes at different levels. With the pressure from within and outside, the Central Government issued documents in 2007 and 2008 to emphasize the importance of using organic fertilizers, green fertilizers and farm fertilizers (nongjiafei, 农家肥), and set policies to support such practices. Subsidizing the Lijiazhuang peasants to install their bio-gas pits was one of these efforts. However the impact has been very minimal, as the mainstream ideology and official policy still favour development that relies heavily on rapid economic growth.

Under such contexts, what Wang and Duan have been trying to do in Lijiazhuang can be understood as an effort to change the attitude and practices of farming at the village level re-written by hi-tech agriculture and its supportive knowledge system and ideology. Two stages of "learning" can be identified during the process of their implementing their action plan: the first is the un-learning of hi-tech agriculture by reflection-action, and the second is the re-learning of traditional knowledge by action-reflection. Through analyzing the circular process of reflection—action—reflection, we will demonstrate how the practices of PeaceWomen negotiate with the different forces that sustain the "new tradition" of chemicals usage in the village and de-stabilize its system of knowledge production.

Un-learning stage: reflecting the experiences of using chemical fertilizers and pesticides through participating in training workshop

As mentioned above, villagers in Lijiazhuang has been growing fruits since 1995. Although the size of their contracted land is small, varying from 3 to 20 mu, they still used chemical fertilizers and pesticides in the very beginning. Wang and Duan both stopped using chemical fertilizers after they were exposed to organic farming in previous trainings. Some other villagers followed them as they also found that the fruits tasted much better after they shifted back to the tradition of using farm fertilizers (feaces of chicken, sheep, human etc). Therefore after they built the bio pit, they made use of the residue and the liquid as fertilizers for the fruit trees. However they still use pesticides and herbicides to control the spread of germs and worms commonly found in fruit farms. As a practice inherited from the collective era, many peasants, now as individual producers, actually do not know the brand names, their functions and degree of poisonous of the pesticides and herbicides used. Some even do not know the proper way to do it and some hire other people to do the job. Li is one of the service providers for pesticide spraying in the village. Before knowing the proper way to do it, he also just relied on the “knowledge” of the pesticide supplier and the instructions of the village technician. Li said:

“In the beginning, I did not know this. Sometimes, the leaves turned yellow. But I did not know why. Whatever the pesticide supplier told me to use, I just bought it and sprayed it. I had no knowledge about pesticide spraying. After five years, when the trees started to bear fruit, the technician informed us regularly when to spray pesticide. Whenever I heard of his announcement, I would spray it as soon as possible within three days’ time.” (Interview with Li, 6 October 2009, my translation)

On the other end of knowledge transmission, Mr Ren, the village agriculture technician, described his pesticide announcing duty and the attitude of his fellow villagers in this way:

“On the one hand, I spray pesticide whenever I see the need. On the other hand, I make five announcements to the villagers in a year according to the periods when germs and worms usually bred and may cause a problem....They just follow. One reason is that they do not know how to observe. The other is they just operate according to rules and regulations. They do not wait until the worms

actually appear on the trees. No matter whether there are worms or not, they just spray pesticide on time. Their income mainly depends on this. They are afraid that their income would be affected if the trees are affected by germs and worms. Therefore they prefer to spend more money on pesticide to gain a sense of security.---Some even spray over ten times a year. They do not mind the cost as they think the possible disaster would cause more loss than this input.”
(Interview with Ren, 5 October 2009, my translation)

According to Ren, the use of pesticide should not be a fixed operation, but dependent on the worm or germs situation each year. Therefore observations and judgment are important. That is what he does in his own fruit farms. Paradoxically, as technician, he does not teach the villagers to observe such situation so that they can judge by themselves rather than just following instructions. At the same time, he complains that most villagers have lost their ability to do field observation and to control their own operation. It seems that not only the villagers but also the technician that need to un-learn what they had in mind about ways of knowing and to break the habitual way of operation. According to Duan, villagers actually still possess the ability to do field observation and are aware of the health and environmental hazards caused by pesticide. What they need is someone to point out the problem clearly and lead them to do something to change their work habit⁸.

It was under such condition that the intervention of PeaceWomen’s action plan started. With Duan and Wang as the leaders and organizers and the Project team as facilitators⁹, the “Ecological Farming and Healthy Life” training workshop was organized in the Village in December 2008¹⁰. It aimed at, first, to raise the awareness of villagers on the health and environmental hazards caused by using pesticides so as to increase their urgency to stop using it; second, to introduce skills and methods to substitute pesticide and concepts of organic agriculture; and third, to mobilize more villagers to participate in the experimentation of using such skills and methods. As a way to draw on their own experiences to un-learn hi-tech agriculture, the deterioration of ecological environment (e.g. the pollution of underground irrigation water) and health conditions of villagers (e.g. the increase of diseases unknown to them before) after the village turned to mono-crop economy and used chemical fertilizers, pesticides and herbicides was discussed and presented. Then materials on other experiences of health and environmental hazards were more systematically introduced and demonstrated, followed by concepts and methods of nurturing soil, preserving grass, strengthening trees, and others to restore a more balanced ecology, including the use of bio-liquid and nutrition liquid. Ms Xu Lanxiang, a PeaceWoman from

Taiwan, was also invited to share her experiences and views. As a organic farming practitioner and an environmental activist in Taiwan who has been criticizing the capitalistic and chemical approach to agriculture and advocating the reconstruction of the ecology through paying respect to the order of nature, the traditions and the elderly and caring for the well-being of our descendants, Xu brought out such powerful messages as “farmers’ responsibility is to feed human beings and to nurture life”, “to nurture life is to nurture land; to nurture land is to nurture grass” and “farmers should be an encyclopedia” to her fellow farmers in China. These views, crystallized from her years’ of practices, observations and reflection, actually echo the Chinese traditions, wisdom and thoughts which affirm the subject position of farmers in agricultural knowledge production and articulate agriculture with life. We could see that these views had inspired some participants, in particular those like Duan, Li and Wang who have a higher level of consciousness, a stronger sense of social responsibility and being more ready to act. For example, in the Peace Diary¹¹, Duan wrote about her changes in thoughts:

“First of all, I have a change in my thoughts. At conceptual level, I have changed from ignorance to understanding, and then to acceptance---the advancement of organic agriculture. Before, I just operated blindly. I used whatever the technician asked us to use. Now I will act on my own, and dare to try.”
(Recording in Duan’s Peace Diary, my translation)

For other participants, there may be a gap between their understanding of the role of farmers and Xu’s. They were less motivated to act and try than Duan. For example, when asked about his impression about the training, one participant Wei said:

“Organic farming is definitely good. But here we could not adapt to this immediately. There needs a process. Peasants put economic gain as their first priority. Slowly, when the price goes up, it will be definitely good for us to do it.” (Interview with Wei, 30 September 2009, my translation)

Wei’s attitude seemed to be supportive of Ren’s comment about the peasants: income oriented. However, Wei participated in the experiment of using bio-liquid to substitute pesticide after attending the workshop, meaning he was ready to go through the process. But Ren did not. We will discuss Ren’s case later on. From the perspective of learning, it is important to acknowledge the limitation of the format of learning and well taken into consideration the mentality and reality of peasants nowadays. As a kind of modern skills of knowledge delivery, training workshop of this kind may be

good enough to gather villagers together, to reveal the hidden crises, and to give out a vision. Worries, concepts and ideas shared and discussed may be a good process of consciousness-raising or “un-learning”. However, from knowing to acting, villagers still have many other considerations. What they concern most is whether a change of practice would affect their harvest, and thus their income. Therefore the steps of action should be gradual, allowing more time for observations and consideration. As in the case Lijiazhuang, since leaders of action like Duan and Wang are peasants themselves who share the worries and concerns of their fellow villagers, the strategy they used to implement the pesticide substitute experiment was to disrupt the existing practices while making room for the villagers to go through struggles and to judge from their observation on what to choose.

Re-learning stage: self-controlled practices of experimenting ecological agriculture

In the first stage of the experiment started in Spring 2009, the task set was to test the effect of bio-liquid in strengthening fruit trees and preventing germs and worms. Bio-liquid is a kind of resources already available among those villagers who have their bio pit built and well operated. In order to control the experiment better, Duan and Wang only invited 10 families with their land relatively closer to one another and no use of chemical fertilizers to participate in the experiment, including both of them. For those who did not have the resources, Duan would give them the supply. As Li was the one originally providing pesticide spraying service to 5 of these 10 families, he was the one spraying bio-liquid for them. Among these operators, we recorded different ways to prepare the bio-liquid¹², but all of them just dare to spray them in those dates considered to be insignificant in the growing cycle of fruits¹³. Being very much inspired by Xu’s concept of nurturing land by nurturing grass, and more ready to take risks, Duan and Li did another experiment on preserving grasses in their own farm land¹⁴ on top of spraying more concentrated bio-liquid than other villagers. During the process, Li and Duan did not just refer to the training materials, but explored the operational details of using bio-liquid by themselves through observation and judgment.

The positive effect of the experiment was gradually revealed during the harvest time. When we visited the Village again during harvest time in October 2009, Duan first showed us her farm all covered by lively green grasses. She proudly said that this experiment had not only saved labour and irrigation water but also provided a better

environment for the fruit trees to grow--- less dusty resulting from the softening of the earth texture. Later she and Wang invited all the participants to come to share their observations, views, and difficulties faced in using bio-liquid. They told us that that was the first time for them to sit together to talk about their trees and fruits and to exchange ideas on ways to encounter difficulties. Overall, the result of the experiment was considered satisfactory, demonstrated by the increase in output, better texture and taste of fruits, healthier leaves and trunks to adapt to sudden climate change¹⁵ etc. Duan also did a comparison of the leaves and earth between those trees sprayed by bio-liquid and pesticide and nurtured by farm fertilizers and chemical fertilizers respectively¹⁶. Although some of the participants still had worries about the possible negative effect of substituting pesticide totally in the long run and the unfavorable surrounding environment¹⁷, they decided to launch the second stage of the experiment in 2010 by progressing on with the trial of bio-liquid use, and adding in the item of grass preservation.

Reflecting on this first year's action, Duan had acquired a deeper understanding of what learning was about and became more confident of peasants' ability to learn through their own observations and to learn from one another. She said:

“I still want to say, if we want to achieve something, we have to act ourselves, to experience ourselves, to operate ourselves. This would generate the result we want. We are not experts. On the one hand, we need to read materials, and on the other, we need to read the earth, to do real field observation: to observe the changes, the processes. This would require our labour input. In winter when you have more time, go to take a walk in the field, take a look, and try to record the changes. What we really want to know would come out from such observations and records... We needed to have a change in our concepts under a different circumstance. Now it is time for us to do real work.... We have to go to the fields. We cannot always attend training workshop. It cannot solve problems.

...

We can learn from one another, and supplement one another's inadequacy. Another thing, as farmers who have worked in the fields for so many decades, we should have the capacity to observe. Our level of knowledge and abilities are not low. Once we can make use of knowledge and abilities, we can still actualize ourselves. In the past, we only blindly work in the fields, eat, harvest. We do not observe carefully and record what we are doing. We do not discuss questions together. So I think we can create a platform for us to communicate and exchange information on concrete things, such as what problems you are

encountering in your farm, and in my farm. Then we can summarize what we discuss and that would become our knowledge.”

(Interview with Duan, 2 Oct 2009, my translation)

From Duan’s reflection above and our field observation, it was quite clear that there was a form of more horizontal and communal way of knowledge production and circulation going on in Lijiazhuang. Actually this was typical of agricultural tradition in which knowledge was generated from trial and errors, close observations, exploration, and exchanges among the practitioners. According to Duan, nowadays peasants sometimes do act blindly. But when an exchange platform is established through grassroot level organization and mobilization, the wisdom and ability of peasants will be actualized. It is important for Duan to point out that knowledge of this kind is not “produced” but accumulated through the practice of everyday life, since peasants need to spend a lot of time in the field to sustain their livelihood. It is only due to their short-sightedness that they do not connect land nurturing with long term health and life. But she believes that their perception will change when they take action.

Experiencing changes after taking action for one year, Duan was more willing to advocate those concepts and ecological skills that had already constituted part of her knowledge system, particularly those around grass preservation, before the second year’s experiment. For example, she paid home visits to those potential participants to correct their misunderstanding about grasses, and to persuade them to reduce the frequency of weeding and to cut the grasses instead of uprooting them or putting herbicide. Since Duan had gone through such correction process and practiced what she was advocating, with the support of the concrete evidence, more villagers were convinced to join the experiment in the second year. For example, one woman villager Yin reflected on what Duan told her during the home visit in this way:

“She talked about using bio-liquid which is not harmful to human body. It is healthy. Another thing she talked about was not to clear the grasses. They are good for keeping moisture. I thought about it. That was correct. What she said was logical. It was only us who did not put it into action. It seemed that we did not know how to do it. I think this is scientific, much better than we have imagined. We believe in science. These were what she told me last winter.”

(Interview with Yin, 2 May 2010)

In April 2010, Duan organized them to observe one another’s farms, to compare the

soil texture in relation to grass preservation and to collect grass samples. This was also the first time they did such form of field observation together. We helped them to design a form for more systematic recording of the process and changes observed in the field. Finally, the number of families who were willing to join the experiment of more frequent bio-liquid use and grass preservation increased to 20. In the October 2010 visit to the Village, we stepped into many more lively green farms with good varieties of grasses. The harvest was satisfactory. Again for the very first time, during the fruit tasting activity organized by Duan and Wang, the villagers got a chance to taste one another's fruits and shared their joy of harvest¹⁸. The participants were more active than last year. Duan and Wang said that they had regained some of their ability to identify the grasses used to grow in the Village before.

This effective way of knowledge transfer is comparable to a failed bio-liquid skills training session organized by Mr Zhu, the official village bio-pit technician. As a form of support for organic farming, the district government assigned and trained up one villager to become a bio pit technician who should be responsible to train his fellow villagers the skills on the comprehensive use of bio-liquid and residue for farming. However the session could not attract anybody to come. This form of learning is quite similar to the collective model of learning modern technologies back in the 1950s which had to heavily rely on "experts" and external input. Mr Ren, the agriculture technician, also mentioned that he used to organize skill oriented training every year. It was stopped 4 to 5 years ago and his duty was reduced to pesticide spraying announcement since then. This has a lot to tell about the conditions for farmers to practice new knowledge: not resort to abstraction or skills, but concrete action and results. However, as indicated by Yin's comment on Duan's words, knowledge generated from direct action and concrete results still need to be considered "scientific" and "logical", the Western value around "episteme" that might have rooted in the thoughts of Chinese peasants. But as seen from the process of operating the experiment by Duan and Wang, methods such as workshop, field observations and recording, leaves and soil comparison, exchange of views etc are actually both scientific and passionate. Villagers who participated in the experiment may not only be convinced by facts and figures, but also moved by the motivation and commitment of the two leading PeaceWomen, or attracted to the new network of relationships and new form of connectedness weaved during the process. Their attitude towards "experts" was also changing. The reasons may be two fold. First, we had tried hard to de-stabilize their sense of authority or hierarchy during the process. In workshops and meetings, we (as outsiders from academic institutions) were often put in the position of "teachers" or "experts", meaning people with knowledge. We continuously

emphasized that in agriculture, they were the experts and we had to learn from them (I actually learnt a lot from them). Second, leaders like Duan came to realize that what they needed was not more training, but their own action and mutual exchange and support. As a whole, through this process of self-controlled experiment on ecological agriculture, we could see the “techne” system of knowledge was gradually restored and the subject of knowledge regained by the villagers.

Women’s ways of knowing and acting

In most Chinese rural villages, the traditional form of labour division between genders still prevails. It is usually men to control machines/technologies, including the spraying of pesticides and the extraction of bio resources, and thus most official technicians are men. This is also the case in Lijiazhuang Village. However, interesting enough, in the process of transiting to ecological agriculture which involves the use of machines and application of technologies, it is women who lead the action. We saw Duan and Wang chairing meetings, delivering speeches, mobilizing villagers, liaising with government officials and so on. How are the differences between women and men in the ways of knowing and acting in such process?

I would like to take the male technician Ren as an example to illustrate the gender difference in perceiving the agency of peasants in acting. In general, Duan and Wang see Ren as an expert and collaborator. To certain extent, they still think that technical know-how is important. But they realize that they should not rely on them. One episode back in the Dec 2008 workshop could be used as the starting point of the discussion. In the preparatory meeting of the workshop, Ren was invited to come to talk about the general situation of pesticide use in the Village. Xu asked him a question: “Do you think bio-liquid can substitute pesticide totally in Lijiazhuang in the future?”. His answer was quite definite: “No”. He pointed out that the main reason for that was not the lack of skills, but the question of organization. As the farm lands of individual families are small and scattered, it was difficult to organize villagers to do experiment. Additionally, as discussed above, he was reluctant about the peasants’ motivation and capacity to change. Therefore, he kept a distance to the action plan of the PeaceWomen. However, Duan and Wang were not discouraged. They solved this problem by inviting people with higher motivation, more connected (both land and relationship), and with better resources, as discussed above. The difference, as I see it, is: Ren has perceived the implementation of experiment just from the technical perspective, meaning the scale of land and the result of experiment; Duan and Wang

have perceived it from the human perspective, meaning land is not only connected by geographical space but also by human relationship. As in the case of most communities, work spaces for women are not just for production but also for social relationship and they tend to be more connected to the people and the community because of their gender roles. As in the case of Duan and Wang, on top of their being wives, mothers, daughter-in-laws who need to take care of the everyday life of their family members, they are leaders in the community organizations such as the Women's Association and the Production Cooperative and the village distributors of the magazine *Nongjianv*. They often talk to people in the farms while working, collecting or disseminating information. Therefore they are confident and ready to mobilize community resources and their network to implement the action plan. As for Ren, he connects with ordinary villagers largely when he is invited to deliver skills training talks. During the process of the experiment, he became more active only at the end of the second year when he was invited again by Duan and Wang to share with villagers his expertise on agriculture. In other words, he still positions himself as "the expert" who occupies a higher position than his fellow villagers (as non-expert) whom he should "teach". He is happy to see his "professional" knowledge not to be "rotten in the belly" but appreciated by others. As a man and a technician, Ren may be more concerned about his unique position in the village than his social responsibility as a farmer/villager to work for the well-being of the nature and people, like any of his fellow farmers/villagers. Even he is conscious of environmental crises, he may not be aware that skills and techniques alone would not facilitate any changes. On the contrary, women leaders at the grassroots level like Duan and Wang, as they position themselves as ordinary agricultural practitioners or "nongjianv" (农家女, village women), positions that are lower than experts and men in both technological and gender hierarchies, they are willing to try things out step by step and are more confident in the participatory process of the experiment. The whole process has proved that knowledge generated from women's ways of knowing and acting is more powerful and effective than men.

We also see women's ways of knowing and acting has a lot to do with women's gender identity and mutuality in learning as a collective. As in the case of this Project, the exchange activities and PAR workshops organized for all participating PeaceWomen coming from different backgrounds were powerful means to enhance knowledge exchange among women in a gender specific way. For example, Duan and Wang came to realize the importance of on-the-site observation and informal discussion in nurturing people's motivation to learn and to act after they got a chance to experience such process in these exchange activities and workshops. Duan always

mentioned the exposure trip to the Inner Mongolian desert included in the 2008 PAR workshop when she in person stepped on the desert and visualized the ways Yin Yuzhen, the PeaceWoman who lives there, planted trees in massive and massive pieces of sand dunes for many years. Such effort had not changed the climate and the ecological environment in her surroundings, but also the fate of her family, despite enormous hardship. The spirit of persistence of Yin also moved her. As Duan recalled, this had great impact on her motivation to act and to develop her strategies used in her own action plan. Not only did she learn that change was possible even in extreme difficult situations, but also women's strength was rooted in the everyday life and activated by their love and care for their families, nature and humanities. This may have something to do with women's mutual understanding because they occupy similar social positions and play similar gender roles. Indeed, from just caring for the deteriorating health condition of her husband Li who sprayed pesticides for many villagers, Duan has learnt to understand the need of the larger community, humanities and nature by seeing other PeaceWomen's work and through implementing her own action plan in the Village. At the personal level, she also observed a lot of changes happened to her in the process, including the improvement of relationship with her family members, the community, the environment, and knowing what she should do. Duan said,

“Last year, I did not know what is organic farming and its importance to human beings. I only cared for what to eat, to drink and to wear. After learning so much from the exchange activities and about the local situation, I now realize that it is very important and need to do something for my family and people around me. No matter whether it is health for human being or for the trees, we should let our people understand...What we are doing is building a platform for the villagers to express and to communicate, and to help one another, so that they would know what changes have happened to their land.” (Interview transcript, 2 Oct 2009, my translation)

As pointed out by Deane Curtin (1997) in her article “Women's Knowledge as Expert Knowledge: Indian Women and Ecodevelopment” in her discussion of Indian women's environmental practices and ways of knowing, “while women are not essentially more ‘natural’, closer to nature, than men and nature is no more female than male, the actual practices typically demanded of women involve mediation between culture and nature.”(84) The peace action undertaken by Duan and Wang are indeed a form of mediation between culture and nature. It does not only involved the introduction of organic farming skills and methods to restore ecological balance,

but the re-articulation of traditional knowledge around agriculture and the environment, including practices, habits, attitudes, values rewritten by politics and modernization in Modern China. Also it has deconstructed the binary of nature and culture and its gender imagination. Women can transform and create, like nature. Women's knowledge is indeed expert knowledge if their practices are taken seriously. As in the case of Lijiazhuang Village, not only technical methods adopted by Duan and Wang such as doing experiments, observation and recording are both "scientific" and "traditional", the knowledge generated are also collaborative, relational and situated which are significant to counteract the top-down knowledge transfer mode practices in the "scientific" world.

Feminist scholars Sarah Bracke and Maria Puig de la Bellacasa (2009) articulated that "the recognition of women as knowing subjects, and their neglected voices and experiences as resources of knowledge, can be considered as feminism's beating pulse..." (43). In the mainstream gender and class hierarchies, voices and experiences of women, in particular peasant women and working class women, are usually being neglected. Feminists recognize women's life experiences as a basis for recognizing experiences as resources of knowledge, and experiences of women from margin are more worth investigating. It is because these experiences are very much connected to actions taken to survive and to change their positions and fate. The knowledge produced during the process is importance source of wisdom for us to understand this world. Here, the experiences of grassroot rural women like Duan and Wang to change the fate of themselves, their family, their community, the earth and the environment can inform us about the capacity of women in knowing and to reflect upon what is knowledge. Most important of all, we recognize the construction of the new subjectivity of Chinese rural women in the process of knowledge production around ecological agriculture.

Conclusion: sustainable peace, gender and knowledge production

From the above discussion of the case of Shanxi, we see the environmental practices taken up by peasant women in China are important in sustaining peace. These practices negotiate with violence at three levels. At the direct level, they improve the personal health conditions of villagers and the bigger community environment without damaging their livelihood. At the structural level, step by step they disengage with the history of hi-tech agriculture and modernity which has a high environment and social cost. At the cultural level, they re-visit the traditions of Chinese agriculture;

they try to change the practices and value system of the villagers; they re-establish their subjectivity of ordinary Chinese peasants and women who have been denied of their capacity to be subjects of knowing by technocrats/experts and men; they re-build the relationship between human and nature, and within the community. Women's way of knowing and acting is the important agent for such negotiation as they are close to everyday life and nature which has the same nurturing and creative power as women.

¹ The draft of this paper, titled "Sustainable Peace and Knowledge Production: The case of Shanxi PeaceWomen", was presented in the 8th Crossroads in Cultural Studies Conference held on 17-21 June 2010 at Lingnan University, Hong Kong.

² Besides me, the collaborators of this Project include Dr. Lau Kin-chi and Ms Chan Wai-fong from Hong Kong, Professor Dai Jinhua and Ms Zhao Qun from Mainland China, and Dr. Chung Hsiu-mei from Taiwan.

³ Participatory Action Research (PAR), in general, is "a process of learning from experience, a dialectical interplay between practice, reflection and learning" (McNiff 2002: 13) and PAR, as a strategy, involves "some of the people in the organization or community under study to participate actively with the professional researchers throughout the research process from the initial design to the final presentation of results and discussion of their action implications" (Whyte 1991: 20). Specific to this Project, a process of reflection—action—reflection of individual PeaceWoman (and her affiliated group) is investigated by their active participation in the design and implementation of the action plans to be researched on. Operationally, each participating PeaceWoman/group designed her action plan in the first PAR workshop held in 2008. We facilitated the implementation of 4 of these plans by more intensive input but researching the processes of all the actions plans in these 11 sites. In the second PAR workshop held in 2010, all presented a reflective report on the process and results of their action plans which were discussed and reflected upon collectively.

⁴ The ecological model of "pigs—bio resources—fruit trees" refers to a circular mode of agriculture in which pigs are to be reared to supply faeces for producing bio resources, including bio-liquid and bio-residue that can be used to substitute pesticide and chemical fertilizers in fruit trees growing. Bio resources generated by the pigs' faeces also include bio-gas that can be used as power to do light duties such as bulb lightening, water heating, rice cooking and so on.

⁵ Liang Congjie (2008): "Preface to the Chinese Translation", *Jijing de Chuntian* (《寂静的春天》) *Silent Spring*, Rachel Carson (1962), Lu Ruilan and Li Changsheng translated, Shanghai: Shanghai Translation Press, III.

⁶ In the 1960s and 1970s, China still considered environmental problem was only a typical evil in capitalist countries like the US. Ideologically, it was still not possible for Socialist China to admit the existence of such evil in its territory. Practically, the impact of environmental degradation caused by chemicals used in agriculture was still less serious when compared to both the capitalist West at the same period of time and China after the 1980s. Therefore when the United Nations held the very first international conference on environment in 1972, ten years after the publication of *Silent Spring*, China, regaining its membership in UN in that year, was still hesitant to participate in such conference. See Liang (2008), I-II.

⁷ In Chinese, peasant is “nong min”(农民), agriculture is “nong ye”(农业), and the village is “nong cun”(农村). The three (“san”, 三) “nong” are related together and thus their problems (“wentu”) should be addressed as a whole, according to Wen Tiejun. Therefore it is known as “sannong wentu”.

⁸ See transcription of the meeting on implementation of the action plan dated 20 October 2008 attended by Wang Shuxia, Duan Suolan and me.

⁹ Besides the two Project team members, three trainers from School of Rural Reconstruction (later re-named as Guoren Urban Rural Technological Development Centre) in Beijing and one PeaceWoman from Taiwan with expertise in organic farming were invited as the facilitators and guest speaker in the workshop.

¹⁰ The workshop was held on 4-6 December 2008 in Village’s government building, with an attendance of over 50 villagers, women and men. It was organized under the name of the Lijiazhuang Women’s Association.

¹¹ Peace Diary was a booklet we designed for each PeaceWoman to write down the details of and her reflections on different activities in the process of implementing the action plan. Duan and Wang were the only PeaceWomen who used the booklet to do the recording.

¹² Some add water to the bio-liquid and some even add pesticide to it in order to play safe. Li and Duan’s family use non-diluted bio-liquid in their experimental farm in order to test the effect in a more straight forward way.

¹³ According to the experiences of the villagers, days before and after blossom are significant dates to prevent worm disaster. Therefore they dare not to use bio-liquid but continue to use pesticide.

¹⁴ They only did weeding when the grasses grew too high. Otherwise they just let the grasses grow to cover the soil, resulting in better preservation of moisture, and the creation of a better ecological environment for the trees and the good worms. Most villagers misunderstood that grasses would compete water with the trees and attract bad worms. They did weeding very frequently and some even digged the grasses out from the earth.

¹⁵ In that year, probably due to some unexpected climate change, there were many pears attached by the germs and got rotten. However the ratio of rotten pears of those families participated in the experiment was generally lower than other families. This was considered one of positive results of using bio-liquid.

¹⁶ Generally speaking, leaves sprayed by bio-liquid were thicker, softer, and darker in colour while leaves sprayed by pesticide were thinner, more fragile, and lighter in colour. Earth nurtured by farm fertilizer was softer and black in colour while those nurtured by chemical fertilizer were drier and yellowish in colour.

¹⁷ Since only 10 families participated in the experiment, the majority of the fruit farms are still heavily pesticides polluted. This would have effect on overall environment.

¹⁸ Every year, the harvest pears and apples are either immediately bought by fruits traders or stored in the cells. As individualized growers under a competitive market system, the villagers seldom taste one another’s products and learn from one another.

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