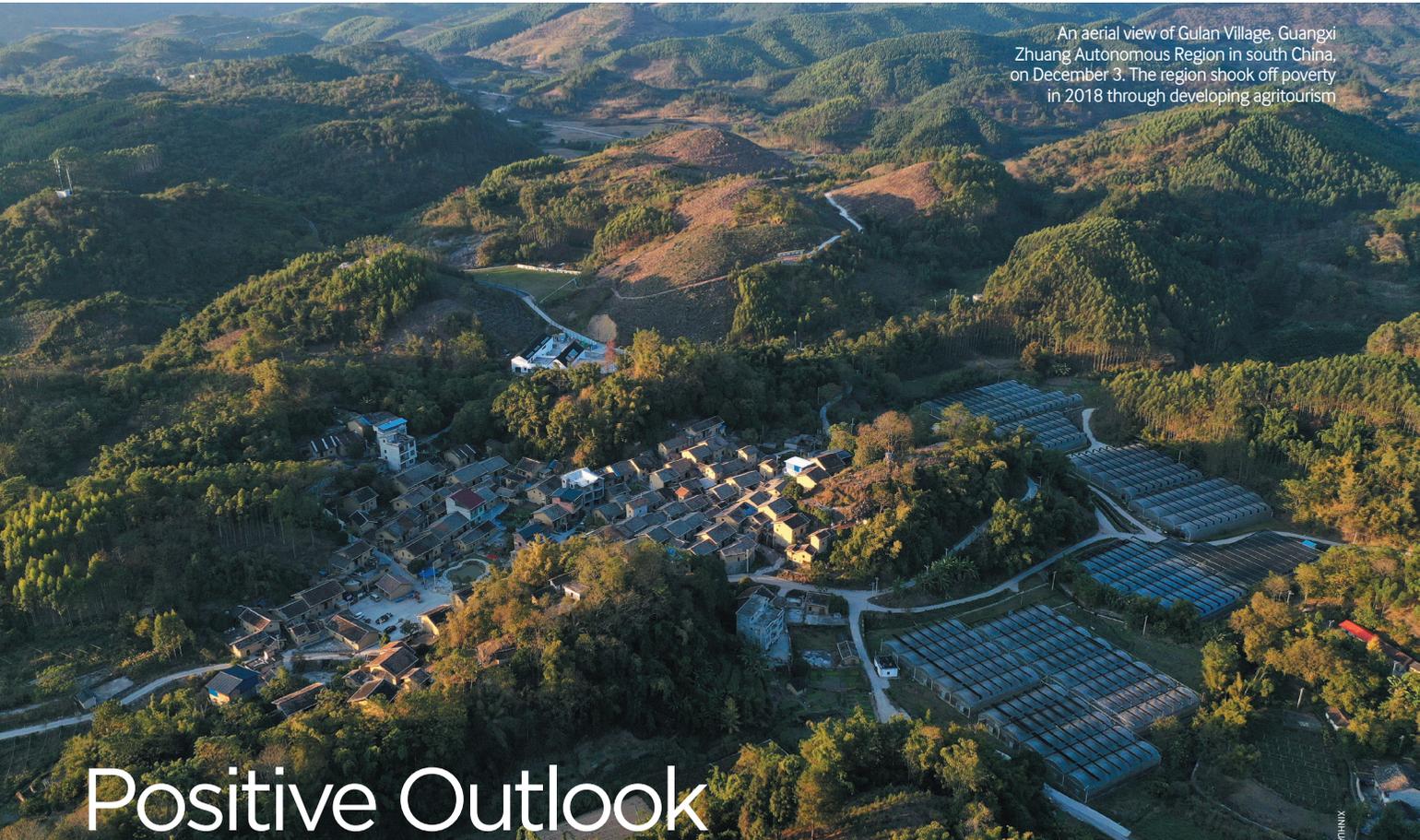


China insight





An aerial view of Gulan Village, Guangxi Zhuang Autonomous Region in south China, on December 3. The region shook off poverty in 2018 through developing agritourism

Positive Outlook

Stable and high-quality development remains the focus in 2020

By Li Xiaoyang

As the countdown to 2020 starts, the key tasks for the new year were mapped out and the state of the economy assessed at the annual Central Economic Work Conference held in Beijing from December 10 to 12.

Despite mounting internal and external risks in 2019, the economy has maintained sound growth with notable progress in the battle against major financial risks, poverty and pollution, a statement released after the conference said.

"China has the confidence as well as conditions to achieve its annual growth goals," Meng Wei, a spokesperson for the National Development and Reform Commission, told a recent news conference.

Key targets

In 2020, stable growth and high-quality development will remain the key objectives. There is a focus on innovative, coordinated, green, open and shared development to complete building a moderately prosperous society across the board and achieve the

goals of the 13th Five-Year Plan (2016-20).

Industrial and consumption upgrading remains a commitment. In addition, a proactive fiscal policy and prudent monetary policy will be launched to improve people's well-being and boost input in infrastructure. Poverty alleviation will get greater importance.

ChiNext, a board of the Shenzhen Stock Exchange aimed at encouraging innovation, and the National Equities Exchange and Quotations for trading in shares of companies not listed on the Shanghai or Shenzhen stock exchanges, also known as the New Third Board, will be reformed for the first time to improve support to small and medium-sized enterprises and better support the real economy.

Since insufficient demand was a challenge to economic growth in 2019, the measures are expected to drive up domestic demands in the new year, Zhang Liquan, a researcher with the Development Research Center of the State Council, China's cabinet, told *Beijing Review*.

As the conference prioritized poverty

elimination in 2020, improving people's livelihood becomes a significant task. The statement said the government will continue to support the most impoverished regions and focus on areas of wide concern such as employment, pension and housing.

The job market has registered stable growth in 2019. Data from the National Bureau of Statistics (NBS) shows nearly 13 million new urban jobs were created in the first 11 months, exceeding the annual target of 11 million new jobs. In 2020, a stable workforce will be ensured and the quality of employment improved.

As the population begins to gray, the pressure on pension funds has grown. NBS data shows by the end of 2018, there were 249 million people aged 60 or older. To provide more cushions for them, it will be ensured that pension benefits reach them in time and in full. Construction of a unified national pension fund system will be accelerated.

Some regions are struggling with pension deficits as the ageing population



Visitors at the exhibition hall of the World 5G Convention in Beijing on November 20

has seen their number of pension fund contributors dip. To address the urgency, Guan Bo, a researcher with the Academy of Macroeconomic Research (AMR), said a temporary mechanism has been adopted since 2018 to channel money from provinces with a larger pension fund balance to places in need. "In the new year, more efforts are needed to put the national system in place to relieve payment pressure by utilizing idle funds," he said.

The policies on the property market will remain consistent. The conference reaffirmed that houses are meant to be lived in and not for speculation, and encouraged both housing purchases and rentals.

Jiang Guojun, an analyst with Zhuge.com, a real estate website, interprets it to mean that the rein on the property market will continue. However, in some cities policies may be changed in line with local conditions to better ensure people's well-being, Jiang told China.org.cn.

Boosting key drivers

The conference agreed that consumption and investment will be boosted as the

key driving forces of domestic economic growth. This will be done mainly by unleashing the potential of the considerable market and encouraging investment in areas related to people's livelihood, high-end manufacturing industries and infrastructure.

In 2019, consumption has seen robust growth. In the first 11 months, the retail sales of consumer goods rose 8 percent year on year. On November 11, the annual online shopping bonanza saw sensational growth with the major e-commerce giants all registering record sales.

NBS spokesperson Fu Linghui told a press conference on December 16 that stable employment and improving social guarantee systems will continue to drive domestic consumption. But while encouraging consumption, the government needs to focus on boosting investment to expand domestic demands, Zhang added. This can enhance the performance of enterprises and ensure a stable job market.

Improving inputs in new industries related to people's well-being such as elderly care and health can help meet upgrading domestic demands, Xu Hongcai, deputy

chief economist with the China Center for International Economic Exchanges, said.

"Industrial upgrading can further create new demands," he told *Beijing Review*, suggesting that a virtuous circle can be developed.

The conference has encouraged increasing research and development inputs in advanced manufacturing industries. As China pursues high-quality development, hi-tech manufacturing and modern services have gained rising support. The NBS said investment in hi-tech manufacturing and services rose 14.8 percent and 13.1 percent respectively in the January-November period. According to Xu, advanced technologies such as information technology and 3D printing can help upgrade traditional manufacturing industries and improve supporting industries, thereby boosting the whole industrial chain. "China needs to invest more in such high-end sectors to sharpen the edge of domestic manufacturing industries," he said.

According to Zhang, a proactive fiscal policy and prudent monetary policy are needed to give full play to the role of invest-

ment. The statement stresses that more efforts will be made to improve the effects of the fiscal policy and allow the monetary policy moderate flexibility.

The policy of reducing taxes and cutting fees, a boon to individuals and enterprises, is on the 2020 agenda too. According to the Ministry of Finance, individual income tax collections fell by 26.8 percent year on year from January to November. The year-on-year growth of revenue from domestic value-added tax stood at 2.3 percent, dropping 7.1 percentage points from the same period in 2018.

"The policy will be further promoted to reduce the burden on domestic enterprises and improve people's living standards," Yang Zhiyong, a researcher with the Chinese Academy of Social Sciences, told Xinhua News Agency.

The prudent monetary policy will also be continued into the new year to keep the growth of credit and social financing in line with economic development, increase medium and long-term financing of the manufacturing industry, and make financing more accessible to and affordable for the private sector and small businesses, the statement said.

Fiscal and monetary policies will be combined with policies on consumption, investment and employment to enhance investment in industries related to people's well-being and infrastructure. "In this way, the fiscal and monetary policies can provide targeted support for industries in need of consistent input, especially long-term infrastructure projects such as transportation service systems and high-end manufacturing industries," Zhang said.

Innovation highlighted

To cope with downward pressure and achieve high-quality development, the conference has underscored reform, opening up and innovation as major ways to improve economic competitiveness.

The government will reform state-owned assets and enterprises, raise listing requirements to attract high-quality companies, and improve the exit mechanism. For a more open market, in 2019, the negative list for foreign investment that spells out the sectors and businesses off-limit for investors has been shortened. The domestic business environment has been improved and free trade zones expanded.

With the opening-up measures, the Second China International Import Expo (CIIE) held in Shanghai in November saw accumulated intended purchase value deals reach \$71.13 billion, up 23 percent from the first expo in 2018, according to the CIIE bureau.

Tariffs will be further lowered in 2020. Stable growth of foreign trade will be ensured through exploring more export markets in



Staff members collect water samples at a pollution treatment facility along the Wujiang River in Guizhou Province, southwest China, on November 18

2020, especially by seeking further cooperation with countries participating in the Belt and Road Initiative.

Data from the General Administration of Customs shows imports from other Belt and Road participants and exports to them reached 8.35 trillion yuan (\$1.19 trillion) in the first 11 months in 2019, accounting for 29.3 percent of China's total foreign trade.

Innovation is another highlight on the 2020 agenda. In recent years, China's innovation ability has improved. Its rank on the Global Innovation Index climbed to 14th in 2019 from 17th in 2018, the World Intellectual Property Organization said.

According to the statement, domestic innovation will be boosted by developing the digital economy and driving service industries through innovative technologies. Integrated regional development of the Beijing-Tianjin-Hebei region, the Yangtze River Delta, a combination of financial capital Shanghai and two adjoining provinces, and the Guangdong-Hong Kong-Macao Greater Bay Area, comprising the two special administrative regions of Hong Kong and Macao as well as nine municipalities in the southern province of Guangdong, will be promoted. Advanced manufacturing clusters will be developed to build international innovation centers.

"Besides new technologies, innovation in management and systems is also needed, which calls for a more favorable environment through further opening up," Ma Xiaohe, another researcher with the AMR, said.

Future outlook

Looking into 2020, China is expected to

complete the scheduled tasks and embark on the 14th Five-Year Plan (2021-25). Some of the tough battles it has been fighting have not yet come to an end. Although absolute poverty can be eliminated across the board in 2020, comparative poverty needs to be addressed as the urban-rural disparities and income gaps remain, Liu Yongfu, head of the State Council Leading Group Office of Poverty Alleviation and Development, told a press conference in 2019.

"Self-reliance of the poor groups needs to be improved for sustainable prosperity," Zhang Qi, President of China Institute for Poverty Reduction, Beijing Normal University, said.

While poverty reduction calls for strong economic growth, Zhang Liqun pointed out that environment protection requires equal importance. Curbing financial risks is also a protracted battle, despite the success in recent years. Xiao Yuanqi, chief risk officer and spokesperson of the China Banking and Insurance Regulatory Commission, told a news conference on October 21 that the banking sector had disposed of 4.9 trillion yuan (\$700 billion) of bad loans since the beginning of 2017 till that date.

According to Zhang Liqun, China needs to ensure a sound economic performance to boost the real economy and cope with financial risks in 2020.

He remains upbeat about the performances in the new year. "Although more external challenges and downward pressure are likely, the sound economic fundamentals and steady restructuring can ensure stable growth," he said. **CI**



The 2019 Macao International Parade takes place on December 8 as part of celebrations marking the 20th anniversary of Macao's return to the motherland

Rightful Return

Macao transforms itself since returning to the motherland 20 years ago

By Ji Jing

When Kou Kam Fai was a university student in Macao, he had to work part-time to pay for his tuition as his family couldn't afford his education. That was before 1999 when the peninsula in south China was under Portuguese rule following Portugal's occupation that began in the mid-16th century. But since the return of Macao to the motherland in 1999 and extensive reforms, a different story has unfolded.

Today, Macao Special Administrative Region (SAR), a 32.9-square-km area in the Pearl River Delta facing Hong Kong across the sea, has the government shouldering 90

percent of the tuition fees of university students, who need to pay only 25,000 patacas (\$3,100) a year.

Kou's status has also changed. Before the return he was a teacher and the average salary of teachers was about \$800-900 a month. Today, it is nearly \$5,000. Along with being the principal of a middle school, Kou is also chairman of the Board of Supervisors of the Chinese Educators Association of Macao, which has given him a deep insight into the changes blowing through the education sector.

"When Macao was under Portuguese

rule, the Portuguese Government didn't care about education," he said. But in 2019, the government's education budget is 8.6 billion patacas (\$1.07 billion), over eight times the allocation in 1999.

Winds of change

Education is a small part of the extensive changes over the past 20 years that have transformed the economy and improved people's livelihoods.

Ho Hau Wah, who was the first chief executive of Macao SAR from 1999 to 2009,

recalled the sluggish economic growth prior to the return, aggravated by the 1997 Asian financial crisis, and weak public security.

From 1999 to 2018, Macao's GDP increased from over \$6 billion to \$55 billion. By the end of 2018, foreign exchange reserves had reached \$20 billion, jumping six-fold over 1999.

With the rapid economic growth, social welfare has improved. Before the return, students enjoyed free education for 10 years. In 2007, it was increased to 15 years. Today, over 90 percent of high school graduates go to university.

Residents get cash bonuses, their share of the city's development dividend. A Macao resident above 65 years gets more than \$756 a month. The improved healthcare system enables pregnant women, children, and seniors above 65 to enjoy free medical services. People diagnosed with major illnesses such as cancer are fully covered by medical insurance.

The unemployment rate has decreased from 6.3 percent in 1999 to 1.8 percent in 2018 while the average income has jumped from nearly \$600 per month in 1999 to nearly \$2,000 in 2018.

Macao's international status has also improved significantly. The number of international organizations the region is part of increased from over 50 during the return to more than 110 at present. Today, 144 countries and regions have a visa-free policy for Macao SAR passport holders. In the beginning it was just three.

One country, two systems

"This wouldn't have happened without the 'one country, two systems' mechanism, cooperation with the Chinese mainland and regional cooperation," Ho said.

The "one country, two systems" concept was put forward by the Chinese leadership in the 1980s to address the relationship with Hong Kong and Macao. The underlying principle is that while there is only one China, the SARs will retain their own economic and administrative systems. They will also continue to have their own governmental system, running their legal, economic and financial affairs independently.

In 1987, the Chinese Government signed a joint declaration on Macao with the Portuguese Government based on the principle.

The declaration said Macao is Chinese territory and China would resume sovereignty over it on December 20, 1999. The Chinese Government agreed to implement the one country, two systems mechanism, allowing Macao people to govern the island with a high degree of autonomy.

In 1993, the National People's Congress, China's top legislature, promulgated the



Lei Zhen (center) in the lab of his tech company in Zhuhai, Guangdong Province in south China. Lei, a resident of Macao, set up the company in 2015

Basic Law of Macao SAR for its governance.

Chui Sai On, Chief Executive of Macao SAR, called the Chinese mainland the strongest backup for Macao. "Whenever Macao has difficulties, the Central Government gives us immediate care and support to help us go through the hard times," Chui said.

He recalled the bleak period in 2003 when the severe acute respiratory syndrome (SARS), a viral respiratory illness, hit neighboring Hong Kong and Guangdong. Although Macao reported only one sufferer who traveled back from outside region, its economy was seriously affected. Subsequently, the Central Government not only provided Macao with medical supplies to prevent the disease but also later promoted individual trips by mainland tourists to Macao to boost local tourism and economy.

The People's Liberation Army has a garrison in Macao since the return to ensure security.

The soldiers have contributed during natural disasters. Chui said when Super Typhoon *Hato* hit Macao in 2017, they took part in the rescue and relief operations. Once every year, the garrison opens to the public and locals enjoy a visit.

Ho said Macao residents follow the Chinese Constitution and the Basic Law. These are taught in schools to explain Macao's special relationship with the Chinese mainland. Another factor for the success of "one country, two systems," according to him, is Macao's alignment with national strategies such as the Guangdong-Hong Kong-Macao Greater Bay Area, which has

presented it with opportunities to be part of China's national development. With its small population of 676,100 and limited area, Macao's economy cannot be diversified without the huge mainland market.

The Greater Bay Area development plan, unveiled in February, provides new opportunities for Macao's development. It comprises Hong Kong, Macao and nine cities in Guangdong Province in south China.

To develop the connectivity of the area, the Hong Kong-Zhuhai-Macao Bridge was opened last year. The longest sea bridge in the world, it has slashed travel time between Hong Kong, Macao and Zhuhai in Guangdong to within 1 hour, greatly facilitating transportation.

Macao, one of the four central cities in the Greater Bay Area along with Hong Kong, Guangzhou and Shenzhen, is reaping the fruits of the development plan.

Chui said cooperation agreements with the industrially developed Guangdong are boosting Macao's economy. One result of the cooperation is the Guangdong-Macao Industrial Cooperation Park in Zhuhai, a special economic zone.

"The proportion of Macao's young people who work elsewhere is relatively small. So we encourage them to go to the Greater Bay Area. We also welcome friends from the Greater Bay Area to come to Macao to study and work," Chui said.

However, Hong Kong, Macao and Guangdong have different legal systems, which need be synchronized for the development of the Greater Bay Area, he added.

“The Greater Bay Area is an opportunity for Macao to go beyond its limitations. Macao has a small area, a small population and few resources, which greatly restricted the development of a diversified economy. However, under the Greater Bay Area, the Central Government is providing favorable policies for Macao to address the limitations and enable Macao to participate in the country’s overall development,” Ho said.

Macao has the advantage of being bilingual. This combined with its geographical position and sound commercial environment has made it an important platform for economic and trade cooperation between China and Portuguese-speaking countries. The Forum for Economic and Trade Cooperation between China and Portuguese-speaking Countries was launched in 2003. Through the forum, Macao enterprises have invested in public housing, leisure and tourism industries in Mozambique and Cabo Verde.

Economic diversification

For a long time, Macao’s economy was

dominated by its gambling industry. In 2003, the government began to promote diversification of the economy by developing its tourism, cultural, finance and conference and exhibition industries.

It signed an agreement with the Central Government the same year, which opened individual trips by mainland tourists. In 2005, the Historic Center of Macao, a cluster of 20 sites with a unique fusion of Chinese and Portuguese cultures, made it to the UNESCO World Heritage List, becoming a matter of national pride and tourists’ interest. Three years later, Macao was positioned as a world tourism and leisure center. In 2017, it was designated a UNESCO Creative City of Gastronomy.

Before the return, Hong Kong visitors accounted for over half the tourists to Macao but after the return, visitors from the mainland have become the majority, accounting for around 70 percent of all tourists in recent years.

Tourism and related industries have brought economic benefits and created jobs.

Of the 380,000 people with employment in Macao in 2017, over half were employed in tourism-related industries.

The cultural industry has also developed rapidly. From 2013, the Cultural Affairs Bureau began providing funding for cultural creative industries.

The Art Macao event this year turned the picturesque city into a living art gallery with joint exhibitions and performances from June to October. The Macao Museum of Art, foreign consulates and luxury hotels were the venues of the program that showcased drawings by over 40 Italian Renaissance masters loaned by the British Museum, masterpieces from the National Art Museum of China, and an exhibition of ceramic arts by contemporary artists from nearly a dozen countries and regions.

“In future we will focus on folk art, design, film, literature and music to make the cultural industry an important part of the diversification of the local economy,” Chan Kai Chon, Vice President of the Cultural Affairs Bureau, said. **CI**



A People’s Liberation Army (PLA) soldier shows schoolchildren how to fold a quilt as the PLA garrison in Macao opens to the public in 2017

Biggest Change in History

Martin Jacques is a senior fellow at the Department of Politics and International Studies, University of Cambridge. In this exclusive interview with *China Focus*, an online magazine published by the China International Publishing Group, he shares his views on issues ranging from the Belt and Road Initiative to China's development in the last 70 years and how the world has benefited from it. He also analyzes the Hong Kong situation. This is an edited version of the interview:

China Focus: This year marks the 70th anniversary of the founding of the People's Republic of China. What has been the biggest change in China over these seven decades?

Martin Jacques: I think the most remarkable change is the transformation in living conditions and the size of the Chinese economy, which is truly remarkable and the most extraordinary change in human history in such a short space of time. China is about a fifth of the world's population. So if China is very poor, obviously it will contribute very little to the global economy and possibilities for other peoples around the world.

But if China grows, then its importance to the rest of the world economically is transformed. Ever since 2008, China has been the biggest contributor to global economic growth. If China's growth slows down or increases, it has a direct effect on many economies around the world.

How do you view China's participation in global governance?

For a long time, China was outside the global system. But after 1978 when the reform and opening up was introduced and especially in 2001 when China joined the World Trade Organization, it became a participant in the process, though relatively passive. But it was still finding its way, concentrating on domestic development.

I think the turning point was around the time of the global financial crisis in 2008, when China made a really important contribution to ensuring there wasn't a global depression by staging its enormous stimulus program, which actually saved the global economy from something much worse.

And from that moment, I think China became more and more interested in the possibility of participating in the policies for the global economy. Ever since, with the Belt and Road Initiative and the founding of the



Martin Jacques

Asian Infrastructure Investment Bank, China has become a really serious player in these areas.

China used to be criticized by the Americans for not contributing public goods to the world. Now China is clearly contributing public goods on a large scale because the Belt and Road Initiative is by far the biggest scheme in the world in terms of helping, in particular, development.

Italy became the first G7 country and the latest EU member to join the initiative. What is the attitude of other EU countries toward it? How do you think the UK views the Belt and Road Initiative?

I would say that Europe's reaction in general to the Belt and Road Initiative has varied. What you have seen is Eastern and Central

Europe who have been pretty enthusiastic and so you've got 17+1 (the cooperation platform comprising China and 17 Central and Eastern European countries with Greece being the latest entrant).

Europe has steadily become more enthusiastic and three countries in particular are involved—Greece, Portugal and now Italy. Western Europe, in particular the highlands like Germany, France and Britain are the biggest in terms of economic power. They all are being a bit iffy about the Belt and Road, and somewhat reluctant to get involved and endorse it, but not opposing it.

Britain in some ways has been perhaps the most supportive, but I think politically, we have to wait and see whether the government is a supporter or not.



An aerial photo of the Greek Port of Piraeus taken on January 16. The port, operated by Chinese shipping company COSCO, is a flagship project under the Belt and Road Initiative

The street violence in Hong Kong lasted several months. How do you view what is happening in the city?

I view it as very disappointing and depressing. Clearly, things are not going well in Hong Kong. And it's 22 years since the handover (from Britain to China). That's a long time.

The reason that makes this issue very complicated is the 156 years of British colonialism. Hong Kong is Chinese in some senses, but in other senses it is really Western, with Western norms and values. And that's a big challenge.

I think the extradition bill worried a lot of people in Hong Kong. That's why you got issues. The proposal led to the huge demonstration. But in the back of this demonstration went all these violent gangs, engaging in behavior no modern society can tolerate.

At the same time, I think that it's also revealed some big challenges for the Hong Kong Special Administrative Region

Government and the Chinese Central Government in terms of a reform program for Hong Kong, because it's clear that the society in some ways is stuck. How to move it on? I think there are a number of questions here.

What would you suggest to end the chaos?

One, it needs a serious social economic reform program to break the power of the tycoons who still dominate the economy. It's an oligopoly economy, not a free economy as is sometimes presented, and they control a large measure of the supply of land, thereby resulting in very high property prices.

The second point is that Hong Kong is a fantastically unequal society. It is one of the most unequal societies in the world. A lot of young people don't think they have opportunities; they'll never be able to own property in Hong Kong. So that question has got to be tackled. And Hong Kong has not had anything like the reform and opening up pro-

gram and needs to have one. I think that can transform the way in which a lot of people in Hong Kong see the present situation. But by and large, it's been stuck and it needs to renew the whole approach.

I think the whole approach needs to be re-thought with a new kind of strategic ambition for Hong Kong and can combine that integration with the Greater Bay Area project (a regional development plan for integrated growth of Hong Kong, Macao and nine cities on the Chinese mainland). It is very important for Hong Kong. But it'll need to be done in a very thoughtful way because that could also lead to resentment. It could go both ways.

The fourth point I'm making is the importance of dialogue. I think there's got to be a serious dialogue. The behavior of these young people is absolutely unacceptable. You can't just say go away because they won't. They're still in society and this is undermining society. So you need some kind of dialogue. **C**

Dawn of Datacracy

Digitalization becomes key to the modernization of governance

By Zhang Shasha

When a sinkhole appeared on a busy road in Hangzhou, the idyllic city in Zhejiang Province in east China that hosted the Group of 20 Summit in 2016, the first responder was not a man but an intelligent system.

Hangzhou's City Brain platform was the first to be galvanized into action, triggering an emergency response system that saw on-site monitoring videos rush data and images to relevant government departments. It also drew up a prompt evacuation zone covering nearby buildings with over 700 families, issued an evacuation order, and sent details such as the addresses of senior citizens and the disabled in the zone to social workers so that they could be there to offer specific help.

All of this was done in just 10 minutes, which left ample time for rescue operations and prevented casualties.

It is no wonder that Hangzhou would have such a futuristic system for administration, considering that it is home to tech giant

Alibaba. Wang Jian, chief architect of the project, calls it Hangzhou's "digital cockpit."

It is an extensive neural network run on artificial intelligence. A massive volume of data—including traffic details, information on water and gas supplies, and weather changes—and much more is interconnected and relayed to administrative departments and individuals for smart decision-making.

For example, while the City Brain conveyed the details of the sinkhole to the government departments concerned, it also sent them to residents through their mobile phones, warning them to stay away from the area or evacuate, if they were already there.

Rapid progress

The Hangzhou initiative illustrates how administrative reform and a new round of technological revolution are being integrated for



The demonstration center of the National Big Data Comprehensive Pilot Zone in Guizhou Province, southwest China, on May 22

smart development.

China is pushing for the modernization of its system and capacity for governance. Sophisticated technologies such as big data, cloud computing and artificial intelligence are being utilized for social and economic development, changing the way of production, operation as well as governance.

This is the era of e-governance. "Digitalization is a major solution for the modernization of governance," Wang Yukai, a member of the Advisory Committee for State Informatization, said at a forum in Beijing in November. "Data has become a new energy for economic development, as important as coal, electricity, oil and gas."

Local governments are exploring their own ways of integrating modern information technology with innovative services and governance. Consequently, multiple models of e-governance have been created.

For instance, Zhejiang has launched several mobile applications through which people can access services such as booking appointments with doctors at public hospitals or paying for their children's tuitions. According to the Zhejiang Big Data Development and Management Bureau established last year, more than 40 percent of government services are available online.

Zhejiang exemplifies Internet Plus public service, one of the three typical e-governance models in China at present, Wang Yimin, Director of the E-Governance Research Center, Chinese Academy of Governance, told business weekly *Caijing*.

The second is the digitalization of administrative procedures. In the central province of Hubei, data sharing through digitalization ensures coordination between departments. As a result, each department has the necessary data at its fingertips instead of having to pore over musty paper files.

The third is the data-driven model. The southwestern province of Guizhou provides an example with its National Big Data Comprehensive Pilot Zone, which facilitates big data sharing, innovation and security.

By the end of 2020, the plan is to establish a coordinated system of e-governance that will not only cover individual administrative regions across the country, but also connect them together, laying a solid foundation for the modernization of governance.

Source of support

Technological support has a big part in this ambitious plan.

"Provinces that have performed well in digital transformation have one thing in common: They are home to giant tech companies," Li Xiaobo, a researcher with the Research Center of Big Data Industry, China Center for Information Industry Development Consulting, said. "It is important to have one to two such companies, at least in the preliminary phase, to cooperate with the governments so as to strengthen their e-governance capacity."

In Zhejiang, the government collaborates with Alibaba and Foxconn; Guangzhou, an industrial hub in the southern province of Guangdong, benefits from the presence of Tencent and Huawei; while in Shandong Province, the birthplace of Confucius in east China, Inspur, one of the largest suppliers of IT equipment in the world, has made a name for itself in big data and cloud computing.

According to a recent report by Tencent Research Institute, in 2018, cloud computing became the new pet of government organs, with its application in government affairs increasing 404.7 percent year on year.

Government affairs have become the biggest cake for cloud computing providers as there is a transformation from consumer-oriented to industry-oriented Internet.

Last year, Aliyun, a subsidiary of Alibaba focusing on cloud computing, won the bid for a city brain project in Hainan Province in south



A man looks for information on a big data-based e-governance system at a citizen service center in Yumen, Gansu Province in northwest China, on August 18, 2018

China, worth 455 million yuan (\$64.6 million); Tencent Cloud secured a similar project in Changsha in the central province of Hunan, valued at 520 million yuan (\$73.8 million); while Huawei bagged a 2.74-trillion-yuan (\$389 million) project in Dongguan in Guangdong in September. The figures show the huge potential in the field.

According to market intelligence provider International Data Corp., global public cloud services and infrastructure expenditure will reach \$210 billion this year, with China being the second largest market after the U.S. By 2022, spending on services alone will hit \$370 billion in the world.

Eying the huge potential, enterprises are reforming their products and industrial landscapes. Huawei set up a new department specifically for e-governance services in 2018 and changed its role from selling equipment to providing overall solutions. Several of Alibaba's business units, including Alipay, an online payment platform, and Amap, a digital mapping and navigation platform, are all involved in e-governance projects.

Liu Song, head of the Aliyun Research Institute, told *Caijing* that the ultimate mission of Alibaba's digital city project to enable residents to engage in government affairs online just like shopping on Taobao, the online marketplace of Alibaba.

Challenges ahead

The huge data involved and the high speed of development also mean challenges in the digital transformation.

Security is a major concern. Government data is an invaluable public resource containing a large amount of people's personal information. Preventing their theft requires huge capital and technological inputs and calls for society-wide efforts.

"The city management has to develop effective methods for supervision, which includes the flow of data, visitors and service providers," Jin Zhipeng, head of the Zhejiang Big Data Development and Management Bureau, said.

Wang's suggestion is that the top-level architecture should be strengthened to solve the difficulties in data sharing and coordination. Besides, it is important to make the most of the big data management institutions.

And finally, data should be used properly for government decisions, to predict demands so that appropriate policies can be drawn up and plans drafted, which is the core objective of e-governance. **CI**

The Future of Services

New technologies streamline the administrative management in hi-tech zone

By Li Xiaoyu

Li Cheng is close to fulfilling his dream of starting his own business in the Optics Valley of China, situated in Wuhan, capital city of the central province of Hubei. All that he has left to do is register his startup with the local government. Li logged on to the Optics Valley's service account on WeChat, China's premier social media app, and made an appointment for a convenient time. The system advised him of the required documents, the procedures and even the means of transport available. The next day, it took him just 30 minutes to file his application.

"With this online service, I don't have to go to the Administrative Service Center like in the past. And by booking an appointment through a smartphone app, I spared myself a long wait on queue," the young entrepreneur said.

Launched in mid-November by the Management Committee of the Optics Valley, this new online service is part of Wuhan's efforts to streamline its procedures for public service. To achieve this goal, using new technologies, like big data and artificial intelligence (AI), has been essential.

Established in 1988, the Optics Valley is part of the first batch of national hi-tech zones approved by the State Council, China's cabinet. Since its founding, it has pioneered administrative reforms to create a better business climate. In early 2014, it embarked on streamlining the administrative approval process, and since then, startups are no longer obliged to go to different departments to register. Now, all documents can be filed at a one-stop service counter at the administrative service center, which is responsible for examining the files to see if they are complete before forwarding them to relevant departments.

"So far, our reform has focused on the integration of and coordination between various government departments, with positive results. We will continue this reform because room for maneuver will be limited if we go on with traditional methods," said Gong Xueyi, Deputy Director of the center.

The valley will also create a platform to gather data from different departments and then design a smart administration system, stressing that the digitalization of the administrative service is the first step, according to Gong, who is also deputy director of the Bureau of Big Data of the Optics Valley.

"With the smart system, we want to further streamline the approval process. It will enable our customers to have an experience similar to online shopping," he added.

Another advantage of the new online service is that it is more resource-efficient. For example, with precise data regarding how many people it needs to serve, enough counters can be arranged at the administrative service center in advance to meet demand.

Chen Jie is a resident of the Optics Valley. He found that a manhole cover near his home had been removed, causing a potential danger to residents. Before, there were few channels for him to file a complaint for a resolution to such a problem. But now, a single hotline, which connects to an AI administration network, can quickly respond his complaint. This network can sort and prioritize what complaints should be dealt with first, and pass on the information to relevant departments in a timely manner.

Currently, the city has put in place three levels of management: district, neighborhood and community. In Chen's case, the network



Mobile and self-service technologies make appointment booking easier at the Administrative Service Center of the Optics Valley of China in Wuhan, Hubei Province in central China

passes on his complaint to his community. If the request is beyond its responsibility, it will submit it to the neighborhood administrators, and so on, until it reaches the right competent department. "By doing this, we seek to solve the problems of residents and businesses as quickly as possible," said Gong.

For Gong, the success of this platform will be the cornerstone of smart city construction. With many different demands from communities, the platform takes into account all aspects of municipal governance, including public security, taxation, civil affairs and trade and industry. To be operational, it is necessary for all government departments to act together and share their data. "If this reform is completed, we will not be far from e-governance, and therefore a smart city," Gong concluded. **C**

The Last Masters

The traditional art of lantern making faces lights-out in a small town

By Pamela Tobey

On a cool weekend in mid-October, an eager group of 12 boarded a small bus for a four-hour drive to the western edge of Hebei, a province neighboring Beijing. Their destination was Nuanquan Town, or Warm Spring Town, with its ancient walled villages dating from the Ming (1384-1644) and Qing (1644-1911) dynasties, relatively untouched by the influence of modern redevelopment. They were traveling for a weekend of learning how to make traditional paper lanterns.

Nuanquan is known for its red paper-cut art that is so much on display during the Spring Festival holiday as well as for performances of *dashuhua*, literally meaning beating out flaming flowers.

Ironworkers throw hot molten iron against a cold brick wall with a large, specially treated spoon carved from a willow. When the shallow dip of iron hits the cold bricks, it explodes in a dramatic shower of sparks re-

sembling the flowering canopy of a large tree and hence the name. It requires skill since the cold spoon can't be dipped too deep into the molten metal or the temperature difference will cause an explosion before it can be thrown onto the wall.

On a Spring Festival culture trip organized by Beijing Hikers, a family-run business that conducts hikes and expeditions, Sun Huijie, the organization's general manager, noticed the colorful paper flower and animal lanterns hanging above the streets of the town.

"I thought, oh, this is so cute and interesting. Who made those lanterns?" she said. "So I started thinking about (how) we could organize something, how we could make those lanterns. A lantern study trip."

Sun contacted a government official she knew in the area to learn more about the lanterns and find their creators. She took one day in February to travel to Nuanquan to set in motion her idea for a cultural lantern trip.

Meeting the masters

The town has been home to many generations of artists skilled at hand-crafting lanterns, but now there are only two masters left still practicing the ancient art. Previous generations who made lanterns have either died or moved away, so currently, Dong Jianxi of Xigubu Village and Yang Shaojin of nearby Beiguanbu Village are the only ones left.

Their lanterns are mostly bought for the Spring Festival and the Lantern Festival, held on the 15th day of the first lunar month, by local business people and the town government.

Dong said he is the 15th generation of his family to design and make lanterns. During the Qing Dynasty, his ancestor Dong Rucui learned how to make paper lanterns. He married a woman from a wealthy family and his father-in-law liked him and helped out the family to enable him to continue his



Yang Shaojin demonstrates how to paint the red dots on the frog's yellow spots in his workshop in Yuxian County, Hebei Province in north China, on October 20



Zhu Ying holds up her lantern as Dong Jianxi shows her how to glue the red paper cut trim along the pink fringe

craft.

Dong Jianxi learned the craft from his father and some of the older generation in the village. When he was young, the entire village would gather to help his father make the lanterns in the months before the Lantern Festival. He chose to specialize in flower basket and fruit lanterns, as well as the more traditional six-sided lanterns with intricate paintings on each side.

In his courtyard home, the storage room is full of colorful flower basket and fruit lanterns trimmed with multicolored paper streamers and fringes.

Yang, who also learned the craft from his father, said he makes animal lanterns, specializing in the zodiac animals as well as the traditional five poisonous animals of China—the snake, toad, scorpion, centipede and spider.

His storerooms were festooned with brightly colored and painted animal lanterns and a few multi-sided lanterns with delicate flowers painted on each panel, all his own designs. The animals included pigs, roosters, tigers, snakes, oxen and fish, and there were even a few watermelons.

The group of 12 arrived with the aim of learning how to make some of these paper lanterns, becoming temporary apprentices to the masters. The participants ranged from a local Beijing family of three to expats from

Germany, Switzerland and the United States.

There were also two artistically qualified assistants, Zhu Ying and Sun, who both graduated from Tsinghua University's Academy of Arts and Design, and Alison Cusato, an American art teacher who moved to China in 2017 to teach art at a Beijing international school.

Learning the ropes

Everyone gathered in a large, open room in the new government building of Nuanquan. Each student was given a bamboo basket frame made by Master Dong and his wife and bags of colorful tissue paper flowers. Everyone sat down with brushes and bowls of glue made from cooked flour and water, a centuries-old recipe that still works very well to this day.

Dong demonstrated how to measure and cut the tissue paper for the frames and attach the pieces. Then Mrs. Dong showed how to attach the bright pink paper-cut fringe around the top of the basket and tie the flowers around the top. The last step was cutting a simple red paper strip to top the pink fringe and twisting a fringe of green paper around the handle.

The following day, the group gathered at the local office in Beiguanbu, one of the small walled villages in the town, where

Master Yang showed everyone how to take a plain wire and bamboo frame and turn it into a frog.

They first cut plain white tissue paper and covered the small frames using the same traditional glue. He then had them outline circles with green paint, leaving the inside of the circles white. They were told to paint between the circles to color the frog's body. He then demonstrated how to paint a small yellow circle inside each white spot.

While the frogs were drying, everyone crinkled tissue paper on a wooden dowel to make lips to glue onto the frog faces. Then they watched as Yang cut red paper, fold it into his handkerchief and pull down one side to pleat it to look like leaves. These would be glued on the basket to make the frogs, now green, look like they were sitting on a red lotus.

Yang handed out four pre-painted legs to attach to the body to complete the frogs. They were hung from a six-sided wire star with paper streamers on each point, completing the lanterns.

"I hope we can help the local farmers to ... increase their income," Sun said.

Many of the residents farm plots outside the town, growing corn and other grains. The small villages are reminiscent of China before the big changes brought about by reform and opening up.

Beijing Hikers plans to offer the trip at other times during the year, especially when school's out so that more children can enjoy the fun of creating lanterns. Sun also hopes to find more masters of other ancient Chinese arts with whom she can create more study tours.

Yang garnered some new orders from some of the trip participants, with one person asking specifically for some of his colorful rooster lanterns to be shipped to Beijing.

Paper-cuts, a part of Chinese lives, are a famed tradition that was included on the UNESCO's Representative List of the Intangible Cultural Heritage of Humanity in 2009. Lantern making, another prized art, has built the reputation of several cities. For instance, the paper lantern making art of Donzhzi, a county in southern Anhui Province, has been recognized by the Chinese Government as an intangible cultural heritage under state protection.

However, in Nuanquan, the art's future seems uncertain. Both Dong Jianxi and Yang Shaojin's children didn't want to learn lantern making, telling their fathers that they didn't see it as a good business because it didn't make enough money. They left and took better-paying jobs in larger towns.

After the two masters are gone, there could be no more lantern masters left in the town since no younger residents interested in apprenticing have been found. **C**



One of the workshop participants, Richard Dunham, glues a red paper flower petal onto the base of his frog lantern