SMALL, FAMILY, SUBSISTENCE, PART-TIME: "FOUR NO'S" OF FARM DEVELOPMENT?

小规模、家庭式、生计型、兼业性——农业发展的四大障碍?

Michael Lipton 迈克尔•利普顿

Fellow of British Academy, Emeritus Professor of Economics, Sussex University, and Emeritus Fellow, Institute of Development Studies, Brighton, England 英国国家学术院院士、英国苏塞克斯大学经济学教授,发展研究所教授

The argument 1 争论 1

- General view of small, family, subsistence, part-time, farming: Four No's!
- 普遍认为:不能搞小规模、家庭式、生计型和兼业性农业: "四不"!
- They are assumed well defined, well measured, and tightly linked.
- 人们以为可以清楚地界定和衡量上述农业,它们之间有紧密的联系。
- Each allegedly typifies underdevelopment, and shrinks with development.
- 人们断言它们具有欠发达的典型特征,会随(社会的)发展慢慢消逝。
- Policymakers, it is assumed, should drive out the Four No's, with institutions and incentives to shift farmers towards larger scale; corporate/non-family modes of production; market orientation; and full-time farming.
- 人们认为政策制定者应该取消这四类农场,以制度和其他激励措施促使 农户转向大规模、公司式或非家庭式的生产方式,面向市场生产且专职 事农。

The argument 2 争论 2

- This neglects what farmers do; what pays them; empirical work since 1950; and Green Revolution experience. Such policies don't work. With proper policy, the Four No's are Yes's. They secure agricultural growth and trade. They can mitigate climate change, water shortage, and employment squeeze.
- 没有看到农民做了什么、得到了什么;1950年代以来的经验研究;绿色革命的经验。这些政策并没有起作用。如果政策得当,这"四不"可以变成"四要"。它们可以保障农业增长和贸易。它们可以减缓气候变化和水资源短缺问题,缓解就业压力

Structure of the talk 1 讲座内容1

The **situation** re small, family, subsistence, part-time *operated* farms; **trends**; **causes**; private and social **impact**; hence **meaning/role** of farming; **futures**.

小规模、家庭式、生计型、兼业性农业的现状;发展趋势;成因;对个体和社会的影响;农业的作用和意义;未来。

Structure of the talk 2 讲座内容 2

Small farms [Lowder et al. 2016 World Dev], predominate in area and labour. Except in richest countries & despite land grab, farmers increasingly *choose* smallness. The reasons are understood; the crucial links of smallness to subsistence, family and part-timeness are not.

就面积和劳动力而言,世界上的农场主要还是小规模农场 [Lowder et al. 2016 World Dev]。除了最富裕的国家,哪怕有土地攫取,越来越多的事农者还是选择了小规模经营。原因很容易理解;而生计型农场、家庭式农场和兼业性农场与小规模之间的重要联系不容易理解。

Structure of the talk 2 讲座内容 2

<u>Subsistence farms</u> thrive despite transport bias. Weak knowledge base.

生计型农场发展得不错,尽管它们面临运输的屏障,知识基础薄弱。

Family farms [Graeub et al. 2016 World Dev] have most farmland & employment. Huge spread and resilience.

家庭式农场[Graeub et al. 2016 World Dev]所占的耕地最多,从业者也最多。它们广泛存在而且生命力顽强。

<u>Part-time farms</u>: very weak evidence; little sign of dwindling.

兼业性农场:数据很少;没有什么证据证明它正在萎缩。

Farm size: the situation 农场规模现状

Household surveys (LSMS plus) undercount bigger farms; ag censuses don't explore IR; farm (cost) surveys miss family facts. Best overall source: FAO ag censuses (Lowder 2016). They show, for 106 countries with 450m farms (80% of world farms, 85% of farmwork, 80% of population, 60% of farmland), that:

家庭调查(生活水平测量研究+)对较大规模的农场调查不足;农业普查并不深究(面积和产出的)反比关系问题;农业(成本)调查又容易忽略家庭情况。最好的统计资源是联合国粮农组织的农业普查数据(Lowder 2016)。它们展示了106个国家4.5亿个农场的情况(占全球农场总数的80%,农业劳动的85%,人口的80%,耕地面积的60%):

- 84% of the farms ,are smaller than 2 ha; operate 12% of farmland (Figure 1). Otherwise stated, only 16% of the world's farms are larger than 2 ha, but they represent 88% of the world's farmland.
- 84%的农场面积小于2公顷,这些农场占耕地总面积的12%(图1)。换句话说,全球仅有16%的农场面积大于2公顷,但它们占有了耕地总面积的88%。

Farm size: the situation 农场规模现状

- (a) Low-/low middle-income countries (b) S & E Asia (inc. India, China), SSA: 70–80% of farms < 2 ha, working 30–40% of land. (c) High middle-& high-income countries (ex China), (d) LAC, MENA, North Africa: most farms < 2 ha, but operate < 10% of farmland.
- (a)低收入/中低收入国家,(b)东南亚(包括印度和中国)、撒哈拉以南非洲地区:70-80%的农场面积小于2公顷,占耕地总面积的30-40%;(c)中高收入国家和高收入国家(中国除外),(d)拉丁美洲、加勒比海、中东和北非国家:大多数农场规模小于2公顷,但占不到10%的耕地总面积。
- High-income: >50% farms, <1% farmland, <2ha. [>20ha: 70%: and 5%].
- 高收入国家:超过50%的农场规模小于2公顷,占据不超过1%的耕地总面积(农场面积超过20公顷:70%:5%)

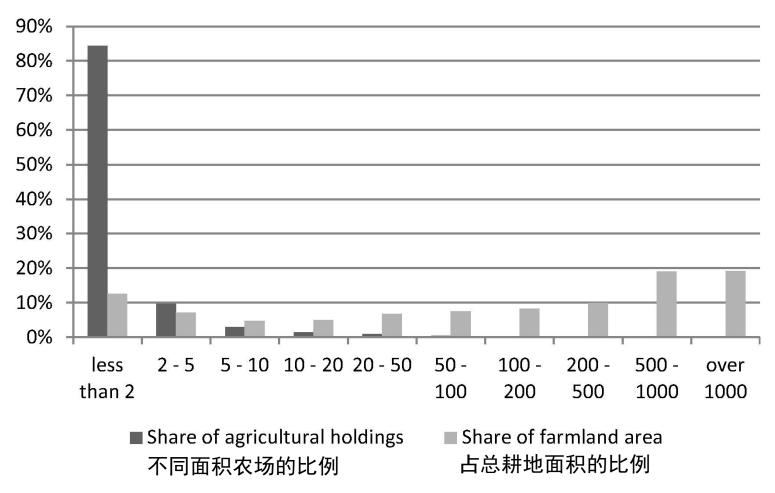


Figure 1. Distribution of farms and farmland area by land size classes, 106 country sample.

图1 不同规模农场及其占总耕地面积的情况(106个国家样本)

Mean farm size: trends 不同国家农场平均规模及其发展趋势 (Lowder et al 2016)

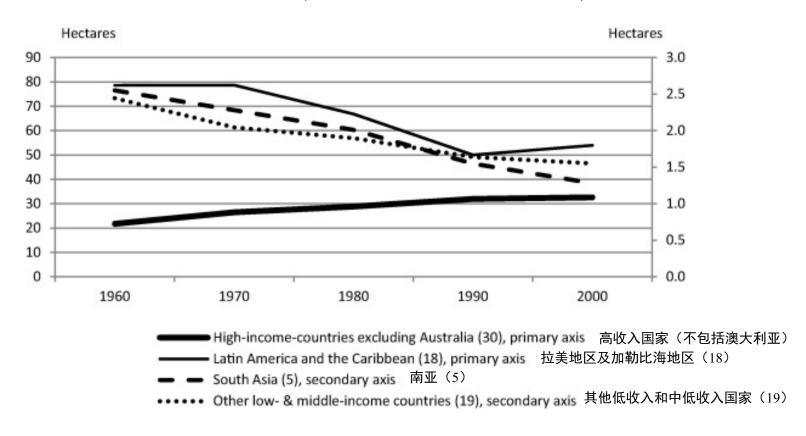


Figure 2. Average farm size, 1960–2000 图2 1960-2000年期间平均农场规模

Mean farm size country trends: comments 1 不同国家农场平均规模及其发展趋势: 评论 1

- Low/middle income: Clear average (mean) size fall 1960-2000: 55 country falls, 9 rises (7 LAC), 2 unclear. 2000-10 confirm, inc. China. Some big SSA countries missing, but all with data show falls
- 低收入/中等收入国家: 1960-2000年期间农场平均面积(平均数)明显下降——55个国家下降, 9个国家上升(7个拉美国家), 2个国家的趋势不明显。2000至2010年也是如此,包括中国。一些较大的撒哈拉以南国家的数据缺失,但是有数据的国家也显示下降。
- Upper-middle income: 19 falls, 5 rises (most LAC), 1 neither.
- 中高收入国家: 19个国家农场平均面积下降,5个国家(大多数拉美国家)上升,1个国家没有变化。
- In High-income: 7 falls, 26 rises, 4 neither. Even EU trend slow; most farms small: *mean* size 14.4 ha 2010, 16.1 2013 (EU Ag Briefs 2015)
- 高收入国家: 7个国家农场平均面积下降,26个国家上升,4个国家没有变化。 欧盟的 (上升)趋势也放缓了;大多数农场面积不大,2010年农场面积平均值为14.4公顷,2013年为16.1公顷(EU Ag Briefs 2015)

Mean farm size country trends: comments 1 不同国家农场平均规模及其发展趋势: 评论 1

- Notable are falls in Russia and Eastern Europe
- 俄罗斯和东欧的农场面积下降明显
- Trends in share of farms below 2ha etc, in median farm size, and in size of farm with median hectare more telling but less widely available: see Eastwood et all. 2010
- 若有面积低于2公顷的农场所占比例的发展趋势、农场的中等面积以及面积为中等的农场规模的变化等数据,那我们能说明更多问题,可惜数据不足(see Eastwood et all. 2010)

Farm size falling except in richest areas: why? 1 除了最富裕的国家, 其他国家的农场面积都变小了: 为什么? 1

- Mainly because many factors (workforce growth, land reform) spur response to **inverse relationship (IR)** of size to output per *hectare-year* (strong), profit, TFP (weak). If size *causes* IR, no efficiency case v. land reform. *If* IR reverses below 0.3ha, its case stronger.
- 主要是因为有很多因素(如劳动力增长、土地改革等)促使人们对规模与产出 (公顷·年)之间的反比关系、利润、全要素生产率等作出反应。其中反比关系 的影响作用更强,全要素生产率的影响作用较弱。如果面积(过大)导致反比关 系,那就会出现农场无效率和土地改革;而如果反比关系在0.3公顷以下的农场 遭到逆转,那只能更说明它的影响作用。

Farm size falling except in richest areas: why? 1 除了最富裕的国家,其他国家的农场面积都变小了: 为什么? 1

- IR more nonfallow, doublecropping, high-value crop-mix than crop-specific yields.
- 不休耕的、双季种植高价值作物的农田比种植单一作物的农田更能明显地体现反比关系。
- Why IR? Not small farms' land quality; nor changed demographics, land scarcity, ag-tech. Theory, facts: 2 paths from smallness to higher output per hectare-year.
- 为什么存在反比关系?不是因为小农场的地块质量,也不是因其人口变化、土地稀缺性或农业技术问题。理论、事实:小规模制造高产出(公顷·年)的两条路径。

Farm size falling except in richest areas: why? 2 除了最富裕的国家, 其他国家的农场面积都变小了: 为什么? 2

- Labour-linked TC (transaction cost) is lower on small/<u>family</u> farms.
- 小规模农场/家庭式农场的劳动力相关的交易成本较低。
- So is **output-disposal TC**. On *net-staples-deficit* (small/<u>subsistence</u> self-provisioning) farm more output cuts staples disposal cost & price risk, so *stimulates* output; on big farm more output raises cost (disposal=marketing) & price risk; & consumer price > farm-gate.
- 产出-处理的交易成本也是如此。小规模农场/生计型自给自足农场的产品基本上供自己食用,要么不够吃,要么就有些剩余,而剩余的产出就是纯收入。因此,产出更多实际上降低了产品的处理成本以及价格风险,因此刺激了它的增长;而大农场产出越多,意味着更高成本(处理=销售)及更多价格风险;消费者价格>农场交货价格。

Farm size falling except in richest areas: why? 2 除了最富裕的国家, 其他国家的农场面积都变小了: 为什么? 2

- Richest areas: trend to *rising* farm size: IR reversed, as importance of **capital**, **market-ing** (& saving of linked **TC**) displace **labour**, **self-provisioning** (& saving of linked **TC**).
- 最富裕的地区:农场面积有扩大的趋势:反比关系被逆转,因为资本、销售(以及节省下来的相关交易成本)取代了劳动力和自给自足(以及节省下来的相关交易成本)

Farm size: some problems, and a longer view 1 农场规模:一些问题和一个更长远的观点 1

- Though "smaller farms on better land" doesn't explain IR, it needs testing and size trends need reassessing with "size" weighted by land quality (e.g. "in LAC a few farms > 1000 ha [operate] half farmland" yes, but …). Research needed.
- "较小的农场占据更好的土地"并不能解释反比关系,这还有待验证;规模变化的趋势也需再评估,即"面积"还需要加上土地质量的权重(例如, "在拉美及加勒比海地区国家,一些面积大于1000公顷的农场占有一半的总耕地"-是这样,但是……)。需要更多的研究。
- *NO* IR in input provision, post-harvest, marketing; but scale economies avoidable, and complementarities of small and big farms feasible (sugar, tea; bulking-up).
- 在农业投入、采收后处理、销售环节不存在反比关系问题,但是规模经济是可以避免的,而且大农场和小农场之间的相互补充也是可行的(糖、茶;产品集散)

Farm size: some problems, and a longer view 2 农场规模:一些问题和一个更长远的观点 2

- But **historical view** robustly supports IR *outside richest areas*. Owners/controllers of big farms could manage labour only via slavery/servitude; *or* forced it out (& competed against small family farms) by poll/head-tax (and output subsidy/protection); *or* moved farm operation to smaller managers, tenants, labour tenants, sharecroppers; *or* failed (big-farm implants, Africa; big state/collective farms).
- 但是最富裕国家之外的其他地区的历史有力地证明了反比关系。大农场的所有者/控制者只能通过奴隶制或劳役方式管理劳动力;或通过计工/人头税强迫其劳动(同时依靠产出补贴/保护,来与小规模家庭式农场竞争);或将农场经营任务分包给小管理者、租地农场主、长工、佃农;或失败退出(非洲大农场;大型国有/集体农场)。
- Smallholder-based green revolution, often building on land reform.
- 以小规模农户为基础的绿色革命,通常需要和土地改革相结合。

Farm size: some problems, and a longer view 2 农场规模:一些问题和一个更长远的观点 2

- But do small farms or correlated family, subsistence, part-time farms "cause" IR?
- 但是,小规模农场或家庭式农场、生计型农场以及兼业性农场是否 "导致"了反比关系?
- IMPACT of smallness: good for poverty-reduction, employment (key: demography), distribution; good, but decliningly so, for growth, equity; environment-neutral?
- 小规模的**影响**:对减贫、就业(关键:人口)、分配都有利;对实现增长、平等有利,但是这方面作用越来越弱;对环境没有影响?

Family farms 家庭农场

- Graeub 2016: For 98 countries (85% world ag output) 98% farms have > half labour from farm family, on 53% ag area. Asia 99% (85% area); Africa 97% (67%); S Amer 82% (18%); Europe 98% (69%); N/Centl Amr 88% (68%)
- Graeub 2016: 在提供了全球85%的农业产出的98个国家里,有98%的农场一半以上的劳动力来自家庭,他们耕种着53%的总耕地面积。亚洲99%的农场(耕地面积占85%);非洲97%(67%);南美82%(18%);欧洲98%(69%);中北美洲88%(68%)
- Family farms meet 36-114% country calorie requirements: Europe 114%, Asia (112%), Africa (64%), N/Cent America (60%), S Amer 36%.
- 家庭农场满足了全国36%-114%的卡路里需求: 欧洲114%; 亚洲112%; 非洲64%; 中北美洲60%; 南美洲36%。

Family farms 家庭农场

- FF pluses: production-consumption-fungible time, space, cash, cart
- 家庭农场的其他方面:生产-消费-可替代的时间、空间、现金、推车
- Little known on FF trends but why expect decline? Corporate farms don't out-perform family farms, even in European Union and N America.
- 家庭农场的发展趋势少为人知,但为什么人们觉得它会减少呢?即使 在欧盟和北美地区,公司农场也并不比家庭农场做得更好。
- 'Family' complex, changing (size, extended, share ...) $\leftarrow \rightarrow$ 4 No's?
- "家庭"复合体,持续在变化(规模、扩展、份额) ←→ "四不"?
- Are family labour effects, not associated smallness, main "cause" of IR?
- 是家庭劳动力而不是与之相关的小规模"造成"了反比关系?

Subsistence (1) 生计型农场(1)

- Scrappy knowledge (Lipton 2017). 0.5 bn farms provide livelihoods for 2.2bn people relying substantially on self-provisioning (Quan 2007).
- 一些零散的信息(Lipton 2017)。22亿人在5亿个农场上自给自足,维持生计 (Quan 2007)。
- Uganda 2005-6: 42% farm output kept by growers. Tanzania 2002-3: 69% cassava kept. Malawi: c. half calories consumed by smallholders self-provisioned. *Rural* China 2003: >80% grains, beans, potatoes consumed were self-provisioned. India: <30% grains retained 2011-12 (70% c.1952). Russia 2003: *Over half farm output value, on 3% land* (?), grown for subsistence by 66% of Russian families (57% subsistence only). Half EU's 12m farms retained over half production.
- 2005-2006年乌干达: 42%的农产品由生产者保留。2002-2003坦桑尼亚: 生产者保留了60%的木薯。马拉维: 小生产者约有一半的卡路里源于自给自足的生产。2003年中国农村: 超过80%的谷物、豆类、土豆是自给自足的。印度: 2011-2012年少于30%的谷物被保存起来(这一比例在1952年约为70%)。2003年的俄罗斯: 全国3%(?)的土地上出产了全国过半的农业产出价值,由66%俄罗斯家庭(仅有57%是生计型农场)耕种,供自用。欧盟1200万个农场中,有半数农场保留了超过全区一半的农产品。

Subsistence (2) 生计型农场(2)

- Subsistence shares probably falling; still surprisingly large.
- 生计型农场的比例可能在下降,但仍然高得令人惊讶。
- Home gardens: most <0.2ha, efficient (low TC water, fertiliser), good for nutrition, but not all subsistence much veg for sale (Galhena 2013, Hanstad-Mitchell).
- 庭院种植:大多数小于0.2公顷,生产效率高(交易成本低、水、肥),有营养,但并不是只供自用——很多蔬菜供出售(Galhena 2013, Hanstad-Mitchell)
- <u>In general, subsistence staples form a securing bridge to trade and markets</u>
- 总之,*粮食的*自给自足搭建了一座连接贸易与市场的安全桥。
- Are subsistence staples effects, not associated smallness, main element of [lower output-disposal-linked TCs contributing to] causal IR? Research needed.
- 粮食自给自足的影响是否是反比关系产生的主要诱因? (因处理产出的相关交易成本更低)而非与之相关的小规模?需要更多研究。

Part-time farming 兼业农业

- Even scrappier knowledge, but no global evidence for either decline or general inefficiency 尽管这方面信息更加零散,但全球没有证据表明它在减少或效率低下
- Thailand, Ireland, Norway, Tennessee: no efficiency effect [refs] 泰国、爱尔兰、 挪威、美国田纳西州: 没有效率影响
- Haiguang 2013, Taipusi N China: part-time increasing share; older labour, more capital access, higher capital/labour ratio, so output less per ha, more per work-hour. Good for devel, bad for employment? Haiguang 2013, 中国北方的太仆寺旗: 兼业农场的数量越来越多; 老年劳动力,资本更易获得,更高的资本/劳动力比率,因此每公顷的产出降低,单位劳动小时的产出上升。有利于发展,但不利于就业?
- "By 2040 Indian ag [following] ongoing trends and other countries will be dominated by part-time [<50% income from ag] ... small, efficient, state-of-the-art technology" (Kohli and Sood 2013) "到2040年,印度农业(遵循)的发展趋势和其他国家一样,兼业经营将成为主流(农业收入比例低于50%)......小规模、高效率、最先进的技术" (Kohli and Sood 2013)

Attitudes: small, family, subsistence, part-time 1 态度: 小规模、家庭式、生计型、兼业性 1

- CAADP Maputo vs. ruralised fiscal squeeze. AGRA vs national research cash. Water. Data.
- 在马普托签订的非洲农业综合发展计划与农村化的金融挤压。非 洲绿色革命联盟与国家研究资金。水,数据。
- "Museveni singled out continued subsistence agriculture by [most] of the Ugandan population as a major factor that has made it difficult for the country to reap enough from its cherished agricultural potential" (Amia 2017). Few African leaders are as frank, but fewer show commitment to small/family/subsistence/part-time farming.
- "穆塞韦尼(乌干达总统)认为, (大多数)乌干达人进行的自 给自足农业使这个国家很难充分挖掘农业的宝贵潜力,并获得经 济效益"(Amia 2017)。很少有非洲领导人这么坦诚,但真正愿意 支持小规模、家庭式、生计型、兼业性农业的非洲领导人就更少 了。

Attitudes: small, family, subsistence, part-time 1 态度: 小规模、家庭式、生计型、兼业性 1

- For most leaders in politics (& macro-economics), small/family/subsistence/part-time are a hierarchy of worsening developmental sins.
- 对大多数政治(和宏观经济)领导人来说,小规模、家庭式、 生计型、兼业性农业是日益恶化的发展的罪魁祸首,且一个 比一个更甚。
- *Talk* of smallholder efficiency but *attitudes*, *actions* extracting "surplus", biasing prices, denying expertise and services: Asia until the 1965-75 turn; sub-Saharan Africa still?
- 嘴上表扬小规模生产的高效率,但态度和行动却是在攫取"剩余":价格剪刀差,否定他们的专门知识,不为其提供服务,亚洲直到1965-1975才发生转向;撒哈拉以南非洲地区仍然如此?

Attitudes: small, family, subsistence, part-time 2 态度: 小规模、家庭式、生计型、兼业性 2

- exclusive [Aunt Sally?] focus on smallholders as engines for growth and poverty reduction .. much of the focus on smallholders may hinder large scale poverty reduction." Wrong: employment, demographics? Right: "Smallholders are heterogeneous ... scope for large scale farmers ... often in interaction with smaller scale farmers using institutional frameworks that encourage vertical integration and scale economies in processing and marketing."
- "只关注小规模生产作为增长和减贫的推动力(众矢之的?)……对小规模生产的过多关注会成为大规模减贫的障碍"。 错误: 就业、人口? 正确: "小规模生产者千差万别……大规模农场主的机会……经常出现在他们利用鼓励加工和销售的纵向联合和鼓励规模经济的制度框架与较小规模农场主进行互动时。

The Four No's as *supports* for transformation 成为转型动力的"四不"

- It seems common sense that: advancing small farming disadvantages large; the more family, the less modern organisation; the more subsistence farming, the less marketing; the more part-time farming, the fewer the gains from specialisation.这似乎是一种常识:发展小农场,就不利于发展大农场;家庭农场越多,现代组织就越少;生计型农业越多,就越没有产品出售;兼业农场越多,从专业化经营中的获益就越少。
- Even if these things were true, they would run against the trends towards or at least not away from these Four Noes alongside green revolutions. Such trends show the wishes of farmers. It is unlikely that non-farmers know they are wrong.
- 即便这些情况属实,它们也与当前的趋势相背离。目前的趋势是(或者至少大致是)绿色革命与"四不"并行。这些趋势反映了事农者的愿望。不种田的人认为他们错了,这就贻笑大方了。

The Four No's as *supports* for transformation 成为转型动力的"四不"

- In fact the common sense is wrong. Trends to smallness, until quite late development, reflect efficient factor use and TC-saving. Family ...

 Subsistence ... Part-time ...
- 实际上,这些常识是错误的。小型化趋势,最近的发展情况,都表现出有效的要素使用,和交易成本的节约。家庭式农场.....生计型农场......兼业性农场......

The Four No's and the future of farming 1 "四不"与农业的未来 1

- Farming's greater labour-intensity & asset equality \rightarrow farm growth good for equity. Farm GDP: *growth* is more poverty-reducing; **but** *share* falls with economic growth. So farms' equity contribution increasingly depends on keeping the Four No's. And, into quite late development, they help efficient growth. But sentimentality should be avoided, e.g.:
- 农业的劳动力密集程度更高&资产均等→为了公平的农业增长。农业GDP: 增长会减缓贫困; 但是所占份额会随着经济增长而下降。所以,农业对公平的贡献越来越依靠这"四不"。并且,如果从最近的发展来看,它们可以促进有效的增长。但还是要避免感情用事,例如:

The Four No's and the future of farming 2 "四不"与农业的未来 2

- Four No's not anti- (or pro-) depletion/pollution/climate change. E.g.: (1) In using increasingly scarce/risky water, low labour/water/transport TCs favour *small* farms; *big* ones cut cost/risk of collective action. (2) *Self-pro-visioners* → incentive to cut pesticide; *marketers* cheaper to monitor. Farm groups need different policies also to help 'Four No's' work with grain of new social structures, issues, technology, services, & farm types.
- "四不"并非反(或亲)资源耗竭/污染/气候变化。例如: (1) 在利用越来越稀缺/有风险的水资源方面,以及低劳动力、水和 运输交易成本方面,小规模农场都更有利;大农场减少集体行动 的耗费和风险。(2)自给自足的生产者→他们有动力减少农药的 使用;是监督成本更低的卖家。不同的农场需要不同的政策—— 帮助"四不"适应新的社会结构、社会问题、技术、服务与农场 类型。

'Four No's', farm futures, and new issues 1 "四不"、农业未来及其他新问题 1

- Thinking outside boxes/silos & dichotomies. Small, family, subsistence, part-time can *complement/secure/stimulate* trade, markets, scale. E.g.: (1) Arithmetic /statics, output = self-consumed + sold; economic-psychology /dynamics, self-provisioned staples secure/induce risk-taking in new crops/tech-niques → sales. (2) Small-large *complements*:
- 不能坐井观天,要跳出盒子思考——要跳出二元对立。小规模、家庭式、生计型、 兼业性农场可以补充/保障/刺激贸易、市场、规模等。例如: (1)数学统计,产 出=自我消费产品+售卖产品;经济-心理/动力,自给自足的产品保障/诱使他们冒 险种植新作物/采用新技术→销售。(2)小规模和大规模之间的相互补充:
- Supermarkets, bulk-up, processing, "mentoring" ...
- 超市、集散,加工、"传帮带"……
- New social structures: demographics, Four No's and complementarity
- 新的社会结构:人口、"四不"以及互补性
- New issues: health transition, exercise, urbanisation, family/farm types
- 新问题:健康转型、践行、城镇化、家庭/农场类型

'Four No's', farm futures, and new issues 2 "四不"、农业未来及其他新问题 2

- New technology: smartphones, robots, 'transitions from' subsistence
- 新技术:智能手机、机器人、从自给自足"转型"
- New services: supermarkets, standards, local/globalisation
- 新服务:超市、标准、本土化/全球化
- In much of the world, demographics make the Four No's into essential Yes's for employment and so happiness, & political/economic manageability
- 在世界的大部分地方,人口问题使"四不"变成至关重要的"四要", 对就业问题如此,对幸福、政治/经济的可管理性亦是如此
- Chinese and Indian successes (and errors) crucial for African progress
- 中国和印度的成功(与错误)对非洲发展有重要意义

References and abbreviations 参考文献与缩写

- Amia 2017 at http://www.chimpreports.com/subsistence-farming-stifling-realization-of-agricultural-potential-museveni/ 18 July
- Collier & Dercon 2014: 'African agriculture in a rapidly changing world'. World <u>Development Nov: 92-101</u>
- Eastwood, Lipton & Newell 2010: 'Farm Size'. <u>Handbook of Dev. Econ</u>. Vol. 4, ed. Evenson and Pingali
- EU Ag Briefs 2015 at https://ec.europa.eu/agriculture/sites/agriculture/files/rural-area-economics pdf
- Kohli and Sood 2013: 'Vision of indian ag in 2040' in <u>Transforming Indian</u> <u>Agriculture</u>, ed. Ferroni
- Galhena et al 2013 (citing Hanstad & Mitchell): 'Home gardens', at https://agricultureandfoodsecurity.biomedcentral.com/articles/10.1186/2048-7010-2-8
- Graeub, Chappell et al 2016: World Development 87 (Nov): 1-16
- Haiguang, Xiubin and Jiping 2013: <u>Journal of Resources and Ecology</u> 4 (1): 70-79
- Lipton 2010: <u>Land Reform in Developing Countries: property rights & property wrongs</u>

References and abbreviations 参考文献与缩写

- Lipton 2017: 'Staples production and 'efficient' smallholders' in <u>Agriculture and Rural Development in a Globalizing</u>, ed. Pingali & Feder
- Lowder, Skeet & Raney 2016: World Development 87 (Nov): 16-29
- Part-time farms: Chalamwong et al at https://kb.osu.edu/dspace/bitstream/handle/1811/67532/
 CFAESESO979.pdf?sequence=1_Lien et al, EAAE 2008; Singh & Williamson 1981 at http://ageconsearch.umn.edu/bitstream/30129/1/13020061.pdf; OECD 2011; O' Neill et al http://www.teagasc.ie/research/reports/ruraldevelopment/4498/eopr-4498.pdf
- Quan 2007: 'A future for small-scale farming' Foresight Project (London), Science Review SR25.
- AGRA: Alliance for a Green Revolution in Africa. CAADP: Comprehensive Africa Agricultural Development Programme. IR: inverse relationship. GDP: gross domestic product. LAC: Latin America and Caribbean. MENA: Middle E & N Africa. TC: transaction cost.